3R – 466

2014 AGWMR

04 / 16 / 2015

John F. (Rick) Greiner, CPG, P.G.
ConocoPhillips Company
Risk Management & Remediation
Program Manager/Director Corp.
Waste Management Program
600 N. Dairy Ashford, MA 1004
Houston, TX 77079
Phone: 281-293-3264
E-mail: Rick.Greiner@conocophillips.com

ConocoPhillips

Mr. Glenn von Gonten
New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

April 16, 2015

Re: API No. 30-039-05565, 2014 Annual Groundwater Monitoring Report

Dear Mr. von Gonten:

Enclosed is the 2014 Annual Groundwater Monitoring Report for the Northeast Haynes No. 1 site. This report, prepared by Conestoga-Rovers & Associates (CRA), contains the results of the site assessment and groundwater monitoring events conducted during 2014 at the referenced site.

Please let me know if you have any questions.

Sincerely,

Rick Greiner

Enc

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **ConocoPhillips Company**	Contact **Lindsay Dumas**
Address 3401 East 30th St, Farmington, NM	Telephone No.(505) 599-4089
Facility Name: **Northeast Haynes 1**	Facility Type: **Gas**

Surface Owner **Jicarilla**	Mineral Owner **Jicarilla Apache (36)**	API No.**3003905565**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	**9**	**24N**	**05W**	**1850**	**South**	**790**	**West**	**Rio Arriba**

Latitude 36.32465 Longitude -107.37175

NATURE OF RELEASE

Type of Release **Hydrocarbons**	Volume of Release **unknown**	Volume Recovered **0**
Source of Release **Production Tank**	Date and Hour of Occurrence **Unknown**	Date and Hour of Discovery **10/28/13**
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.	

RCVD JAN 29 '14
OIL CONS. DIV.
DIST. 3

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Contaminated soil was associated with a historical release was discovered during an equipment reset, on October 28, 2013. Third party environmental was contracted for an assessment.

Describe Area Affected and Cleanup Action Taken.*
The historical release was discovered during equipment reset on location.
Excavation was 35' x 45' x 25' Deep. 868 c/yds of soil was transported to TNT Land Farm and 868 c/yds of clean soil was transported from TNT, and placed in the excavation site. Analytical results were not below the regulatory standards – further remedial action will follow in coordinationg with NMOCD State Office. The soil sampling report is attached for review.

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

Signature: Lindsay Dumas

Printed Name: **Lindsay Dumas**

Title: **Field Environmental Specialist**

E-mail Address: **Lindsay.Dumas@conocophillips.com**

Date: 1/28/14 Phone: (505) 599-4089

OIL CONSERVATION DIVISION

Approved by Environn

DENIED

Approval Date:

BY: Cory Smith 9/4/14

DATE: (505) 334-6178 Ext. 115

Conditions of Approva

Attached ☐

* COPC Has 90 DAYS to Return to site to Further Dilineate Release. Contamination Above Regulatory STANDARDS.

(42)

* Attach Additional Sheets If Necessary

#NCS 1424743236

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 ConocoPhillips Company	Contact Rick Greiner
Address 600 N. Dairy Ashford, MA 1004, Houston, TX 77079	Telephone No. 281-293-3264
Facility Name Northeast Haynes No. 1	Facility Type Natural Gas Well

Surface Owner Jicarilla Apache	Mineral Owner Jicarilla Apache	API No. 3003905565

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	9	24N	5W	1850	South	790	West	Rio Arriba

Latitude 36.32465 **Longitude** -107.37175

NATURE OF RELEASE

Type of Release Hydrocarbons	Volume of Release unknown	Volume Recovered 0
Source of Release Production Tank	Date and Hour of Occurrence unknown	Date and Hour of Discovery 10/28/13
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	OIL CONS. DIV DIST. 3
By Whom?	Date and Hour	JUN 10 2015
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.* Contaminated soil associated with an historical release was discovered during equipment reset 10/28/2013. A third party environmental contractor conducted site assessment

Describe Area Affected and Cleanup Action Taken.* Excavation was 35' x 45' x 25' Deep. 868 c/yds of soil was transported to TNT Land Farm and 868 c/yds of clean soil was transported from TNT, and placed in the excavation site. Laboratory analytical results indicated confirmation composite sidewall TPH concentrations were below above the regulatory standards for all four sidewalls. The lab sample collected at the bottom (total excavated depth) was above the regulatory standard for TPH. Four soil borings were drilled at the site Nov. 10-12, 2014. Soils were field screened and samples were collected for laboratory analysis of BTEX and TPH. One sample, from the boring placed in the center of the previous excavation displayed a detectable laboratory result but below regulatory action levels. The borings were completed as groundwater monitoring wells and analyzed for BTEX constituents. All groundwater results were below the laboratory detection limits for BTEX constituents.

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: Jeff Walker	OIL CONSERVATION DIVISION Approved by Environmental Specialist:	
Printed Name: Jeff Walker		
Title: Sr. Project Manager	Approval Date: 7/17/15	Expiration Date:
E-mail Address: jwalker@craworld.com	Conditions of Approval:	Attached ☐
Date: 6/9/2015 Phone: 505-884-0672		

* Attach Additional Sheets If Necessary

#NCS1424743236

CONESTOGA-ROVERS & ASSOCIATES

www.CRAworld.com

Report

2014 Site Assessment Report

ConocoPhillips Northeast Haynes No. 1
Rio Arriba County, New Mexico
API# 30-039-05565

Prepared for: ConocoPhillips Company

Conestoga-Rovers & Associates
6121 Indian School Road, NE Suite 200
Albuquerque, New Mexico 87110

February 2015 • 084272-2AS00/01 • Report No. 2

Partners in Sustainability

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Section 1.0 Introduction

Subsurface assessment activities were performed at the ConocoPhillips Company (COP) Northeast Haynes No. 1 site from November 10, 2014 to November 12, 2014 and on December 16, 2014. The Northeast Haynes No. 1 site (hereafter referred to as the "Site"), is located on land owned by the Jicarilla Apache Nation in the NW ¼, SW ¼, Section 9, Township 24N, Range 5W, within Rio Arriba County, New Mexico (36.32514N, 107.37221W, see **Figure 1**).

Conestoga-Rovers and Associates (CRA) performed project management, general oversight of the remediation activities, soil and groundwater sampling, and documentation of the field work. Drilling and monitoring well installation was performed by National Exploration, Wells, and Pumps (National EWP) of Peralta, New Mexico. The agreed upon scope of services included:

- Obtaining site specific training, permits, and involving appropriate stakeholders needed to complete the scope of work;
- Installing four monitoring wells to assess the extent of hydrocarbons in the groundwater (see **Figure 2**); and
- Conducting an initial groundwater monitoring and sampling event.

Section 2.0 Site History

Impacts to soil are believed to be associated with a historical release discovered beneath site storage tanks during an October 2013 construction project. An excavation to remove and dispose of impacted soils with dimensions 31 feet (ft) by 32 ft by 25 ft deep was completed by a COP San Juan Business Unit (SJBU) contractor in November 2013. Hydrocarbon-impacted soils were confirmed by Animas Environmental Services, LLC (AES) at the total depth of excavation of 25 ft during the November excavation. A concentration of total petroleum hydrocarbons (TPH) of 1370 milligrams per kilogram (parts per million-ppm) was detected. The appearance of saturated soil conditions at the 25 ft below ground surface (bgs) prevented the SJBU from further excavation and the excavation was backfilled with clean soils in November 2013. The AES Site assessment is summarized in their January 23, 2014 Initial Release Assessment and Excavation Report and is included as **Appendix A**.

A previous excavation was conducted in 1998 to remove hydrocarbon impacted soils from beneath and surrounding a closed dehydrator pit. Site information obtained from the New Mexico Oil Conservation Division (NMOCD) website indicates the excavation had dimensions of 21 ft by 24 ft by 17 ft deep. Laboratory data associated with the excavation indicates a concentration of 1,090 milligrams per kilogram (parts per million, ppm) of total petroleum hydrocarbons (TPH) was detected from a side wall sample collected at a depth of 12 ft bgs. The December 1, 1998 Pit Remediation and Closure Report

from the Jicarilla Apache Tribe Environmental Protection Office indicated that 317 cubic yards of soil was excavated and land-farmed on site.

The center of the 63 ft by 110 ft land-farmed area was located 216 ft northwest of the Site wellhead. A subsequent report by this office, dated June 3, 1999, summarizes final closure sampling and deems the on-site remediation to be complete.

The depth to groundwater at the Site was unknown during initial site assessments. However, documentation from the 1998 pit closure report indicated a depth of less than 50 ft bgs was used in Jicarilla Apache Nation Oil and Gas Administration (JANOGA) ranking to assign soil contaminant threshold values. This JANOGA Site ranking is consistent with the NMOCD ranking method. The distance to the nearest ephemeral stream, lake, playa or watering pond was listed as greater than 100 ft. The release Site was listed as being greater than 200 ft. from a private, domestic water source and greater than 1000 feet from all other water sources. The horizontal distance to the nearest perennial surface water body is greater than 1000 ft. The resulting Site ranking score of 20 points specifies recommended remediation action levels (RRALs) of 10 ppm for benzene, 50 ppm for total BTEX (benzene, toluene, ethylbenzene, xylenes) and 100 ppm for TPH.

Section 3.0 Monitoring Well Installation

Between November 10, 2014 and November 12, 2014, National EWP installed four groundwater monitoring wells, MW-1, MW-2, MW-3, and MW-4, under CRA oversight. All boring locations were marked and cleared for subsurface utilities using the New Mexico One Call system and pre-drilled to a depth of 5 ft bgs by hydroexcavation. Borings were advanced using a CME-85 drill rig using hollow stem augers. Monitoring well MW-1 was installed at the approximate center of the November 2013 excavation, where a confirmation sample during the November 2013 excavation indicated impacted soils. Monitoring wells MW-2 and MW-3 were located in the presumptive down-gradient direction-in the direction of surface water flow in the adjacent ephemeral arroyo, or wash. Monitoring well MW-4 was installed in the presumptive up-gradient direction (please refer to **Figure 2)**. Soil samples were collected in five ft increments using a 2-inch diameter by 24-inch long split spoon sampler. Samples were logged by CRA personnel according to the Unified Soil Classification System. One sample from each boring was submitted for laboratory analysis (see Section 3.1 below). All cuttings generated during monitoring well installation were screened using a calibrated photo-ionization detector for appropriate disposal determination.

The soils mainly consisted of tan or brown, fine-grained, silty and poorly-graded sands. The sands were observed to be mostly non-cemented and contained varying concentrations of silt. A faint petroleum odor was observed in soil samples from the MW-1 boring above the water table at approximately 25 ft bgs and some staining was observed at 30 ft bgs. There were no soil cuttings or recovered split-spoon soil samples, however, that exceeded the 100 ppm RRAL threshold concentration and therefore cuttings

were thin spread across the site. Boring logs from monitoring well installation activities are presented as **Appendix B**.

Saturated soils, indicating the apparent water table, were encountered at approximately 30 to 32 ft bgs. Monitoring wells MW-1, MW-2, MW-3, and MW-4 were installed at a total depth of approximately 40 ft bgs. Each well was constructed of 2-in diameter, schedule 40 PVC casing and screen. The monitoring wells consist of a 0.5-ft long, threaded PVC bottom plug and 15 feet of slotted (0.020-inch) well screen. The annular space around the well screen was filled with 10/20 gradation silica sand to approximately two feet above the well screen, followed by approximately 3 feet of 3/8-in hydrated bentonite pellets. A 95% cement/ 5% bentonite grout mix was placed from the top of the bentonite pellets to ground surface. Each monitoring well was completed with an above-ground locking well vault placed within a 24-in by 24-in by 4-in thick concrete pad and protected by steel bollards.

After installation, each well was developed by National EWP using a decontaminated stainless steel bailer until turbidity significantly decreased and/or the well was purged dry.

3.1 Soil Analytical Results

Soil samples were placed in laboratory-supplied containers, placed on ice, and transported under chain of custody documentation via overnight delivery. Soil samples were submitted to Pace Analytical (Pace) of Lenexa, Kansas for analysis of BTEX constituents and TPH-gasoline range organics by EPA Method 8260, and for TPH-diesel range organics by EPA Method 8015. Soil samples returned analytical results below JANOGA/NMOCD RRALs for all analytes (see **Table 1**) with the only detected concentration of 69.7 ppm in the boring 1 (MW-1) at 25 ft bgs sample-below the 100 ppm RRAL. Laboratory analytical results are presented in **Appendix C**.

Section 4.0 Groundwater Monitoring and Sampling

CRA returned to the site on December 16, 2014 to conduct groundwater sampling and to establish wellhead top-of-casing elevations to generate a potentiometric surface map.

4.1 Groundwater Monitoring Methodology

Prior to collection of groundwater samples, depth to groundwater in each well was measured using an oil/water interface probe (see **Table 2**). During groundwater monitoring events, Site monitoring wells were purged of at least three casing volumes of groundwater using a 1.5-inch diameter, polyethylene, dedicated bailer. While purging each well, groundwater parameters were recorded using a YSI 556 multi-parameter sonde.

Groundwater samples were placed in laboratory-supplied containers, labeled, placed on ice, and transported via overnight delivery under chain of custody documentation. Groundwater samples were sent to Pace for analysis of TPH using EPA method 8015B, benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA method 8260. A summary of analytical results is presented as **Table 3** and complete laboratory analytical reports are present in **Appendix B**.

4.2 Groundwater Monitoring Analytical Results

The New Mexico Water Quality Control Commission (NMWQCC) mandates that groundwater quality in New Mexico be protected, and has issued groundwater quality standards in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). Results of the groundwater monitoring event are discussed below:

December 2014

- Data collected during December 2014 indicate that the local groundwater gradient is to the – west southwest. Depth to groundwater was found to be approximately 30 feet bgs in Site monitor wells. The groundwater gradient was approximately 0.007 feet per foot. A groundwater potentiometric surface map reflecting December 2014 groundwater elevations is presented as **Figure 3**.
- BTEX: The NMWQCC domestic water supply groundwater quality standards for benzene, toluene, ethylbenzene, and xylenes are 0.01 mg/L, 0.75 mg/L, 0.75 mg/L, and 0.62 mg/L, respectively. In December 2014, all Site groundwater monitoring wells returned analytical results that were below laboratory detection limits for all BTEX constituents.

Section 5.0 Conclusion and Recommendations

Hydrocarbon impacted soils above the JANOGA/NMOCD RRALs were noted in a composite sample collected November 7, 2013 (sample SC-5, Figure 4-AES summary report, **Appendix A**) at the base of the approximately 918 cubic foot excavation. Soils from this excavation were transported to a regional land farming facility by the SJBU for remediation and the excavation was backfilled with clean soils.

CRA in November 2014 installed a groundwater monitoring well (MW-1) located in the approximate center of the November 2013 excavation, where the previous confirmation sample collected by AES indicated above standard concentrations of TPH. The 25 ft bgs sample submitted to the analytical laboratory by CRA during the monitoring well installation was below the JANOGA/NMOCD RRAL for TPH. Groundwater samples collected from MW-1, from the two down-gradient wells (MW-2 and MW-3) and from the up-gradient well (MW-4) were analyzed for BTEX constituents. Groundwater laboratory

analytical results indicated that all monitoring well samples were non-detect for these constituents with concentrations below the laboratory detection limits for EPA Method 8260.

The results of the November 2014 CRA Site soil and groundwater assessment indicate there are no impacts to groundwater at the Site and no remaining hydrocarbon impacts above JANOGA/NMOCD action levels in subsurface soils. CRA therefore recommends the Site be granted a No Further Action status by JANOGA and NMOCD.

Please feel free to contact the CRA Albuquerque office if there are any questions or additional information is required.

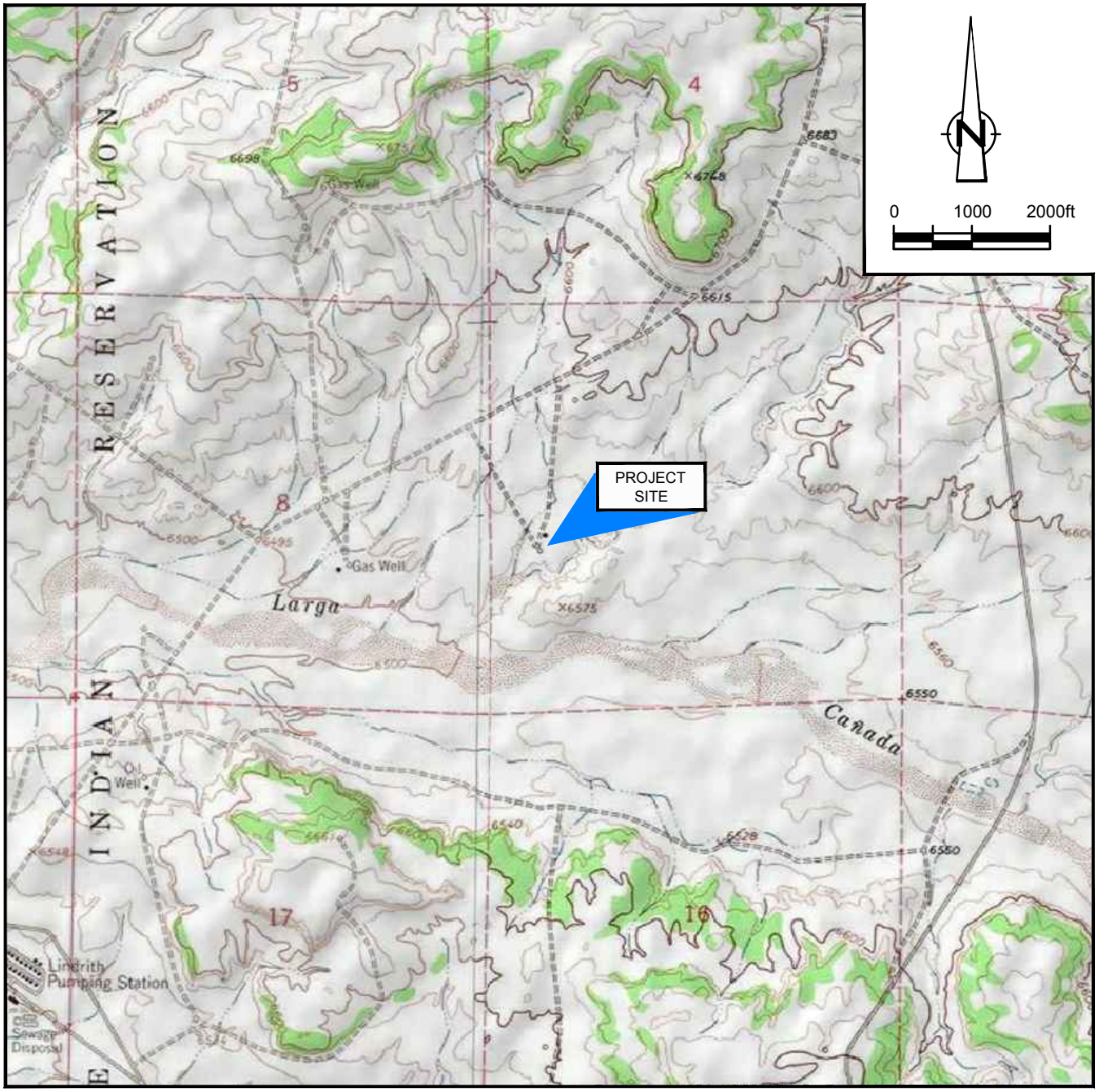
Respectfully,

CONESTOGA ROVERS & ASSOCIATES

Cale Kanack
Staff Scientist

Jeff Walker, C.P.G, PMP
Sr. Project Manager

Figures



SOURCE: USGS 7.5 MINUTE QUAD
"TAFOYA CANYON AND OTERO STORE, NEW MEXICO"

LAT/LONG: 36.3251° NORTH, 107.3722° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO CENTRAL

Figure 1

SITE LOCATION MAP
NORTHEAST HAYNES No.1
SECTION 9, T24N, R5W, RIO ARRIBA COUNTY, NEW MEXICO
ConocoPhillips Company

084272-00(000)GN-DL001 JAN 22/2015

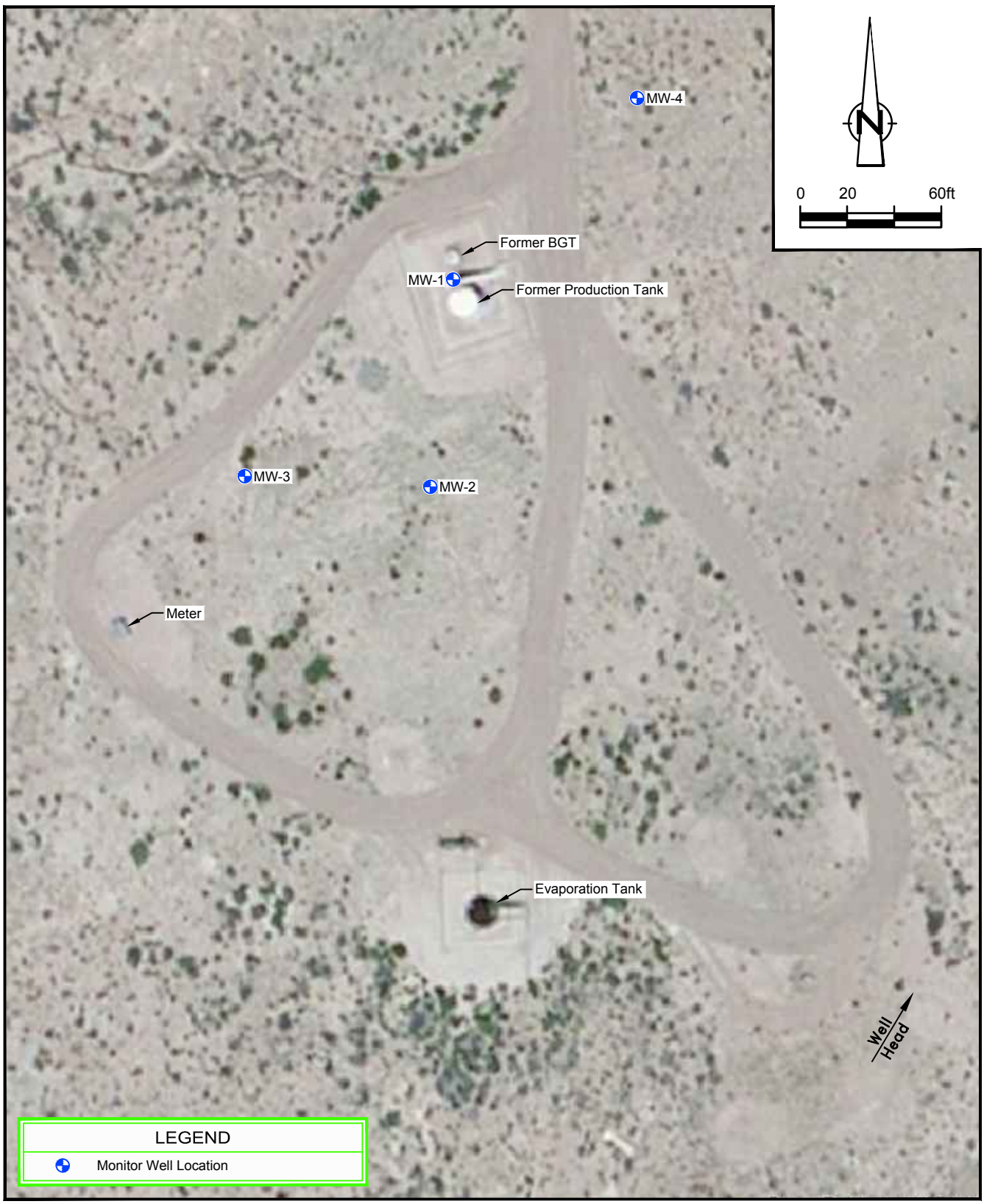


Figure 2

MONITOR WELL LOCATIONS
NORTHEAST HAYNES No.1
SECTION 9, T24N, R5W, RIO ARRIBA COUNTY, NEW MEXICO
ConocoPhillips Company

084272-00(000)GN-DL001 JAN 26/2015

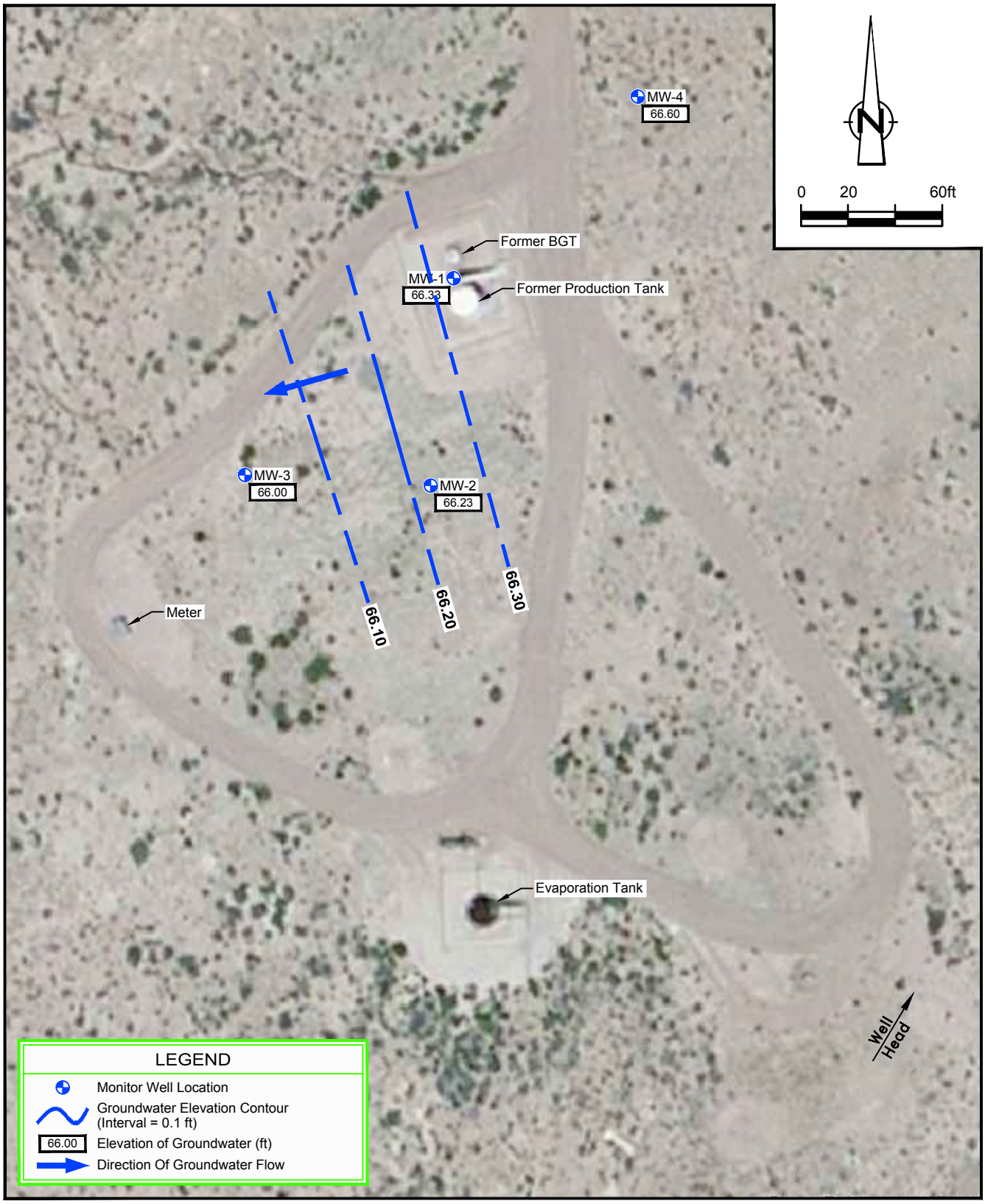


Figure 3

GROUNDWATER CONTOUR MAP - DECEMBER 2014
NORTHEAST HAYNES No.1
SECTION 9, T24N, R5W, RIO ARRIBA COUNTY, NEW MEXICO
ConocoPhillips Company

084272-00(000)GN-DL001 FEB 4/2015

Tables

Table 1
Soil Analytical Summary
Northeast Haynes No. 1
Rio Arriba County, New Mexico

Well ID	*Sample ID*	*Sample Date*	*Benzene (mg/kg)*	*Toluene (mg/kg)*	*Ethylbenzene (mg/kg)*	*Xylenes (mg/kg)*	*Total BTEX (mg/kg)*	*TPH-GRO (mg/kg)*	*TPH-DRO (mg/kg)*
MW-1	SS-084272-11102014-B1-25-JW	11/10/2014	< 0.0051	< 0.0051	< 0.0051	< 0.01	< 0.0253	< 0.51	69.7
MW-2	SS-084272-11102014-B2-25-JW	11/10/2014	< 0.0052	< 0.0052	< 0.0052	< 0.01	< 0.0256	< 0.52	< 10.3
MW-3	SS-084272-11112014-B3-25-JW	11/11/2014	< 0.0051	< 0.0051	< 0.0051	< 0.01	< 0.0253	< 0.51	< 10.3
MW-4	SS-084272-11112014-B4-25-JW	11/11/2014	< 0.0052	< 0.0052	< 0.0052	< 0.01	< 0.0256	< 0.52	< 10.5
NMOCD RRAL			**10**	--	--	--	**50**	--	--

Notes:

TPH = Total petroleum hydrocarbons

GRO/DRO/ORO = Gasoline/diesel/oil organics

NMOCD RRAL = New Mexico Oil Conservation Division Recommended Remedial Action Limit

mg/kg = milligrams per kilogram (parts per million)

< 10.4 = Below Laboratory Detection Limit of 10.4 mg/kg

< = Below Laboratory Detection Limit

BOLD = Concentrations that exceed the NMWQCC groundwater quality standard

Table 2
Monitoring Well Specifications and Groundwater Elevations
Northeast Haynes No. 1
Rio Arriba County, New Mexico

Well ID	*Total Depth (ft below TOC)*	*Top of Casing Elevation**	*Screen Interval (ft bgs)*	*Date Measured*	*Depth to Groundwater (ft below TOC)*	*Relative Water Level (ft)*
MW-1	43.64	100.00	25-40	12/16/2014	33.67	66.33
MW-2	42.97	99.26	25-40	12/16/2014	33.03	66.23
MW-3	43.46	99.34	25-40	12/16/2014	33.34	66.00
MW-4	43.73	101.64	25-40	12/16/2014	35.04	66.60

Table 3
Groundwater Analytical Summary
Northeast Haynes No. 1
Rio Arriba County, New Mexico

Well ID	*Sample ID*	*Sample Date*	*Benzene (mg/L)*	*Toluene (mg/L)*	*Ethylbenzene (mg/L)*	*Xylenes (mg/L)*
MW-1	GW-084272-121614-JWMW-1	12/16/2014	< 0.001	< 0.001	< 0.001	< 0.003
MW-2	GW-084272-121614-JWMW-2	12/16/2014	< 0.001	< 0.001	< 0.001	< 0.003
MW-3	GW-084272-121614-JWMW-3	12/16/2014	< 0.001	< 0.001	< 0.001	< 0.003
MW-4	GW-084272-121614-JWMW-4	12/16/2014	< 0.001	< 0.001	< 0.001	< 0.003
NMWQCC Groundwater Quality Standards			**0.01**	**0.75**	**0.75**	**0.62**

Notes:
NMWQCC = New Mexico Water Quality Control Commission
mg/L = milligrams per liter (parts per million)
< 0.001 = Below Laboratory Detection Limit of 0.001 mg/L
< = Below Laboratory Detection Limit

Appendix A

AES Initial Release Assessment and Excavation Report, January 23, 2014

Animas Environmental Services, LLC
www.animasenvironmental.com
624 E. Comanche
Farmington, NM 87401
505-564-2281
Durango, Colorado
970-403-3084

January 23, 2014

Lindsay Dumas
ConocoPhillips
San Juan Business Unit
Office 214-07
5525 Hwy 64
Farmington, New Mexico 87401

Via electronic mail to:
SJBUE-Team@ConocoPhillips.com

RE: Initial Release Assessment and Excavation Report
Northeast Haynes #1
Rio Arriba County, New Mexico

Dear Ms. Dumas:

On October 28, 2013 and November 7, 8, and 11, 2013, Animas Environmental Services, LLC (AES) completed an initial release assessment and evaluation of the excavation limits at the ConocoPhillips (CoP) Northeast Haynes #1, located in Rio Arriba County, New Mexico. The historic release was discovered during facility reset activities at the location. The initial release assessment was completed by AES on October 28, 2013, and the excavation was completed by CoP contractors prior to AES' arrival at the location on November 11, 2013.

1.0 Site Information

1.1 Location

Location – NW¼ SW¼, Section 9, T24N, R5W, Rio Arriba County, New Mexico
Well Head Latitude/Longitude – N36.32514 and W107.37221, respectively
Release Location Latitude/Longitude – N36.32595 and W107.37266, respectively
Land Jurisdiction – Jicarilla Apache Nation
Figure 1. Topographic Site Location Map
Figure 2. Aerial Site Map

1.2 Risk Ranking

The Northeast Haynes #1 is located on Jicarilla Apache Nation lands, and soil remediation action levels are determined by the Jicarilla Apache Nation Oil and Gas Administration (JANOGA). JANOGA action levels for soils currently follow the New

Mexico Oil Conservation Division (NMOCD) *Guidelines for Remediation of Leaks, Spills, and Releases* (August 1993). Per JANOGA, all locations within Jicarilla Apache Nation lands receive a ranking score of 20:

- 100 ppm volatile organic compounds (VOCs) or 10 mg/kg benzene and 50 mg/kg total BTEX (benzene, toluene, ethylbenzene, and xylenes); and
- 100 mg/kg total petroleum hydrocarbons (TPH).

1.3 Assessment

AES was initially contacted by Lisa Hunter of CoP on October 28, 2013, and on the same day, Kelsey Christiansen and Corwin Lameman of AES completed the release assessment field work. The assessment included collection and field screening of 30 soil samples from 8 assessment trenches (TH-1 to TH-8) in and around the release area. Based on the field screening results, AES recommended excavation of the release area. Sample locations are shown on Figure 3.

On November 7, 2013, AES returned to the location to collect confirmation soil samples of the excavation. The field screening activities included collection of five confirmation soil samples from the walls and base of the excavation. Based on field screening results, the excavation was extended an additional 5 feet in depth to a total of 18 feet below ground surface (bgs) followed by additional excavation which extended the final base of the excavation to 25 feet bgs. The final dimensions of the excavation were approximately 32 feet by 31 feet by 25 feet in depth. Sample locations and final excavation extents are presented on Figure 4.

2.0 Soil Sampling

A total of 30 soil samples from 8 assessment trenches (TH-1 through TH-8) and 5 composite samples (SC-1 through SC-5) were collected during the assessments. All soil samples were field screened for volatile organic compounds (VOCs), and selected samples were also analyzed for total petroleum hydrocarbons (TPH). Two samples (TH-3 and TH-5) collected during the initial assessment and five composite samples (SC-1 to SC-5) collected during the excavation clearance were submitted for confirmation laboratory analysis.

2.1 Field Screening

2.1.1 Volatile Organic Compounds

Field screening for VOC vapors was conducted with a photo-ionization detector (PID) organic vapor meter (OVM). Before beginning field screening, the PID-OVM was first calibrated with 100 parts per million (ppm) isobutylene gas.

2.1.2 Total Petroleum Hydrocarbons

Field TPH samples were analyzed per USEPA Method 418.1 using a Buck Scientific Model HC-404 Total Hydrocarbon Analyzer Infrared Spectrometer (Buck). A 3-point calibration was completed prior to conducting soil analyses. Field analytical protocol followed AES's *Standard Operating Procedure: Field Analysis Total Petroleum Hydrocarbons per EPA Method 418.1*.

2.2 Laboratory Analyses

The soil samples collected for laboratory analysis were placed into new, clean, laboratory-supplied containers, which were then labeled, placed on ice, and logged onto a sample chain of custody record. Samples were maintained on ice until delivery to the analytical laboratory, Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico. All soil samples were laboratory analyzed for:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) per U.S. Environmental Protection Agency (USEPA) Method 8021B; and
- TPH for gasoline range organics (GRO) and diesel range organics (DRO) per USEPA Method 8015D.

2.3 Field Screening and Laboratory Analytical Results

On October 28, 2013, initial assessment field screening results for VOCs via OVM showed concentrations ranging from 0.3 ppm in TH-6 up to 4,165 ppm in TH-2. Field TPH concentrations ranged from 43.3 mg/kg in TH-4 up to 1,330 mg/kg in TH-3.

Excavation field screening results for VOCs via OVM ranged from 0.5 ppm in SC-1 and SC-4 up to 2,621 ppm in SC-5. Field TPH concentrations ranged from 20.3 mg/kg in SC-4 up to 2,430 mg/kg in SC-5. Results are included below in Table 1 and on Figures 3 and 4. The AES Field Screening Reports are attached.

Table 1. Field Screening VOCs and TPH Results
Northeast Haynes #1 Initial Release Assessment and Excavation
October and November 2013

Sample ID	Date Sampled	Sample Depth (ft bgs)	VOCs via OVM (ppm)	Field TPH (mg/kg)
*JANOGA Action Level**			*100*	*100*
TH-1	10/28/13	3	18.0	72.9
		5	7.3	NA
		7	23.2	NA
		9	30.8	71.5

Sample ID	Date Sampled	Sample Depth (ft bgs)	VOCs via OVM (ppm)	Field TPH (mg/kg)
*JANOGA Action Level**			*100*	*100*
TH-2	10/28/13	3	**2,148**	**1,260**
		5	**4,165**	NA
		7	12.1	**112**
		9	22.2	NA
TH-3	10/28/13	3	**4,147**	**1,330**
		5	**989**	NA
		7	20.1	**163**
		9	19.1	NA
		12	6.3	**914**
TH-4	10/28/13	3	5.7	43.3
		5	2.1	NA
		7	40.3	NA
		9	1.2	NA
TH-5	10/28/13	0	1.2	NA
		3	80.3	**172**
		5	1.5	NA
		8	0.6	NA
TH-6	10/28/13	3	0.6	NA
		5	0.4	NA
		8	0.3	NA
TH-7	10/28/13	3	3.8	NA
		5.5	**879**	**364**
		9	5.9	NA
TH-8	10/28/13	3	1.6	NA
		5.5	0.8	NA
		9	0.9	NA
SC-1	11/7/13	1 to 18	0.5	73.4
SC-2	11/7/13	1 to 18	128	**156**
SC-3	11/7/13	1 to 18	0.6	85.6
SC-4	11/7/13	1 to 18	0.5	20.3

Sample ID	Date Sampled	Sample Depth (ft bgs)	VOCs via OVM (ppm)	Field TPH (mg/kg)
*JANOGA Action Level**			*100*	*100*
SC-5	11/7/13	13	**1,028**	**2,430**
	11/8/13	18	**2,621**	**953**
	11/11/13	25	**2,577**	**317**

NA – Not Analyzed
*Action level determined by JANOGA (Ref. NMOCD ranking score of 20 per *NMOCD Guidelines for Remediation of Leaks, Spills, and Releases* (August 1993).

Laboratory analyses for TH-3 and TH-5 were used to confirm field screening results of the initial release assessment. Benzene concentrations were reported below laboratory detection limits in both samples. Total BTEX concentrations were reported below laboratory detection limits in TH-3 and at 0.856 mg/kg in TH-5. TPH concentrations as GRO/DRO were detected in TH-3 (1,200 mg/kg) and TH-5 (262 mg/kg).

Laboratory analyses for SC-1 through SC-5 were used to confirm field screening results of the final excavation. Benzene concentrations were reported below laboratory detection limits in each sample. Total BTEX concentrations were reported below laboratory detection limits for samples SC-1 through SC-4, and at 17 mg/kg in SC-5. TPH concentrations as GRO/DRO were reported in SC-2 (19 mg/kg) and SC-5 (1,370 mg/kg). Results are presented in Table 2 and on Figure 4. The laboratory analytical reports are attached.

Table 2. Laboratory Analytical Results – Benzene, Total BTEX, and TPH
Northeast Haynes #1 Initial Release Assessment and Excavation
October and November 2013

Sample ID	Date Sampled	Sample Depth (ft bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)
*JANOGA Action Level**			*10*	*50*	*100*	
TH-3	10/28/13	12	<0.12	<1.12	**<25**	**1,200**
TH-5	10/28/13	3	<0.050	0.856	**12**	**250**
SC-1	11/7/13	1 to 18	<0.050	<0.25	<5.0	<10
SC-2	11/7/13	1 to 18	<0.050	<0.25	<5.0	19
SC-3	11/7/13	1 to 18	<0.050	<0.25	<5.0	<10
SC-4	11/7/13	1 to 18	<0.050	<0.25	<5.0	<10
SC-5	11/11/13	25	<0.12	17	**490**	**880**

NA – Not Analyzed
*Action level determined by JANOGA (Ref. NMOCD ranking score of 20 per *NMOCD Guidelines for Remediation of Leaks, Spills, and Releases* (August 1993).

3.0 Conclusions and Recommendations

On October 28, 2013, AES conducted an initial assessment of petroleum contaminated soils associated with a historic release at the Northeast Haynes #1. Action levels for releases are determined by JANOGA and currently reflect a site ranking of 20 per *NMOCD Guidelines for Remediation of Leaks, Spills, and Releases* (August 1993).

Initial assessment field screening results above the JANOGA (NMOCD) action level of 100 ppm VOCs and 100 mg/kg TPH were reported in TH-2, TH-3, TH-5, and TH-7. The highest VOC concentration was reported in TH-2 with 4,165 ppm, and the highest field TPH concentration was reported in TH-3 with 1,330 mg/kg.

Laboratory analyses for TH-3 and TH-5 were used to confirm field screening results. Benzene and total BTEX concentrations were reported below the JANOGA action levels of 10 mg/kg and 50 mg/kg, respectively, in each sample. TPH concentrations as GRO/DRO exceeded the JANOGA action level of 100 mg/kg in TH-3 (1,200 mg/kg) and TH-5 (262 mg/kg).

On November 11, 2013, assessment of the excavation area was completed. Field screening results of the excavation extents showed that VOC concentrations were below applicable JANOGA action levels for the final walls of the excavation; however, the base exceeded JANOGA action levels with 2,577 ppm. Field TPH concentrations were below the applicable JANOGA action level of 100 mg/kg for three of the final walls of the excavation; however, JANOGA action levels were exceeded in SC-2 (south wall) with 156 mg/kg and SC-5 (base) with 317 mg/kg. Laboratory analytical results reported benzene and total BTEX concentrations in all samples to be below JANOGA action levels. TPH concentrations as GRO/DRO were reported below the applicable JANOGA action level in SC-1 through SC-4 but were above the action level in SC-5 with 1,370 mg/kg.

Based on the final field screening and laboratory analytical results of the excavation of petroleum contaminated soils at the Northeast Haynes #1, benzene, total BTEX, and TPH concentrations were below the applicable JANOGA (NMOCD) action levels for the final sidewalls. However, the base of the excavation exceeded applicable JANOGA (NMOCD) action levels for TPH (as GRO/DRO). Additional remedial actions are recommended for the Northeast Haynes #1 release location.

If you have any questions about this report or site conditions, please do not hesitate to contact Deborah Watson at (505) 564-2281.

Sincerely,

David J. Reese
Environmental Scientist

Elizabeth McNally, PE

Attachments:

- Figure 1. Topographic Site Location Map
- Figure 2. Aerial Site Map
- Figure 3. Initial Assessment Sample Locations and Results, October 2013
- Figure 4. Final Excavation Sample Locations and Results, November 2013
- AES Field Screening Report 102813
- AES Field Screening Report 110713
- AES Field Screening Report 110813
- AES Field Screening Report 111113
- Hall Laboratory Analytical Report 1310D74
- Hall Laboratory Analytical Report 1311312
- Hall Laboratory Analytical Report 1311431

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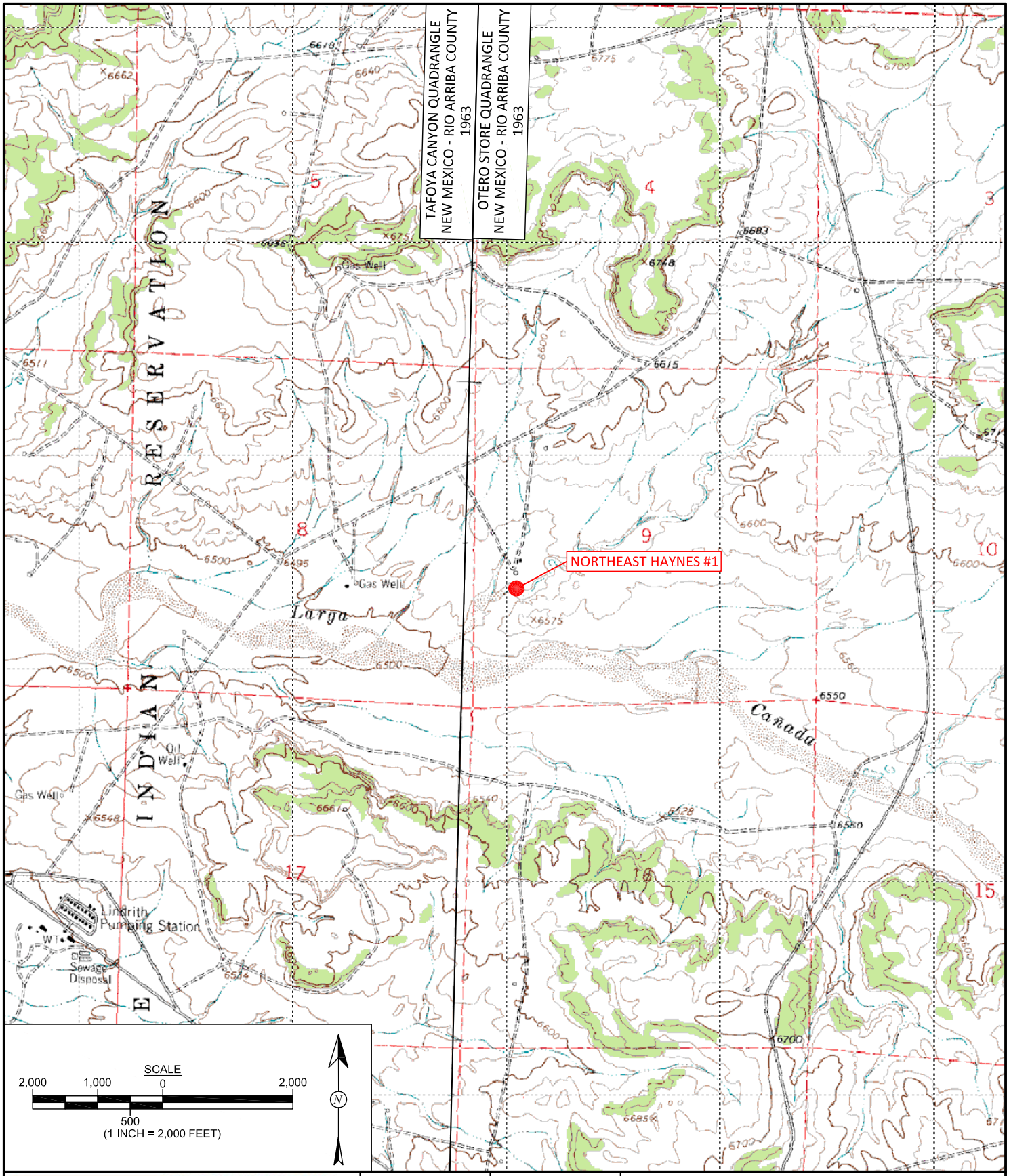


DRAWN BY: S. Glasses	**DATE DRAWN:** November 18, 2013
REVISIONS BY: C. Lameman	**DATE REVISED:** November 18, 2013
CHECKED BY: D. Watson	**DATE CHECKED:** January 23, 2014
APPROVED BY: E. McNally	**DATE APPROVED:** January 23, 2014

FIGURE 1

TOPOGRAPHIC SITE LOCATION MAP
ConocoPhillips
NORTHEAST HAYNES #1
NW¼ SW¼, SECTION 9, T24N, R5W
RIO ARRIBA COUNTY, NEW MEXICO
N36.32514, W107.37221

Animas Environmental Services, LLC

Animas Environmental Services, LLC

DRAWN BY: S. Glasses	**DATE DRAWN:** November 18, 2013
REVISIONS BY: C. Lameman	**DATE REVISED:** November 18, 2013
CHECKED BY: D. Watson	**DATE CHECKED:** January 23, 2014
APPROVED BY: E. McNally	**DATE APPROVED:** January 23, 2014

FIGURE 2

AERIAL SITE MAP

ConocoPhillips
NORTHEAST HAYNES #1
NW¼ SW¼, SECTION 9, T24N, R5W
RIO ARRIBA COUNTY, NEW MEXICO
N36.32514, W107.37221

FIGURE 3

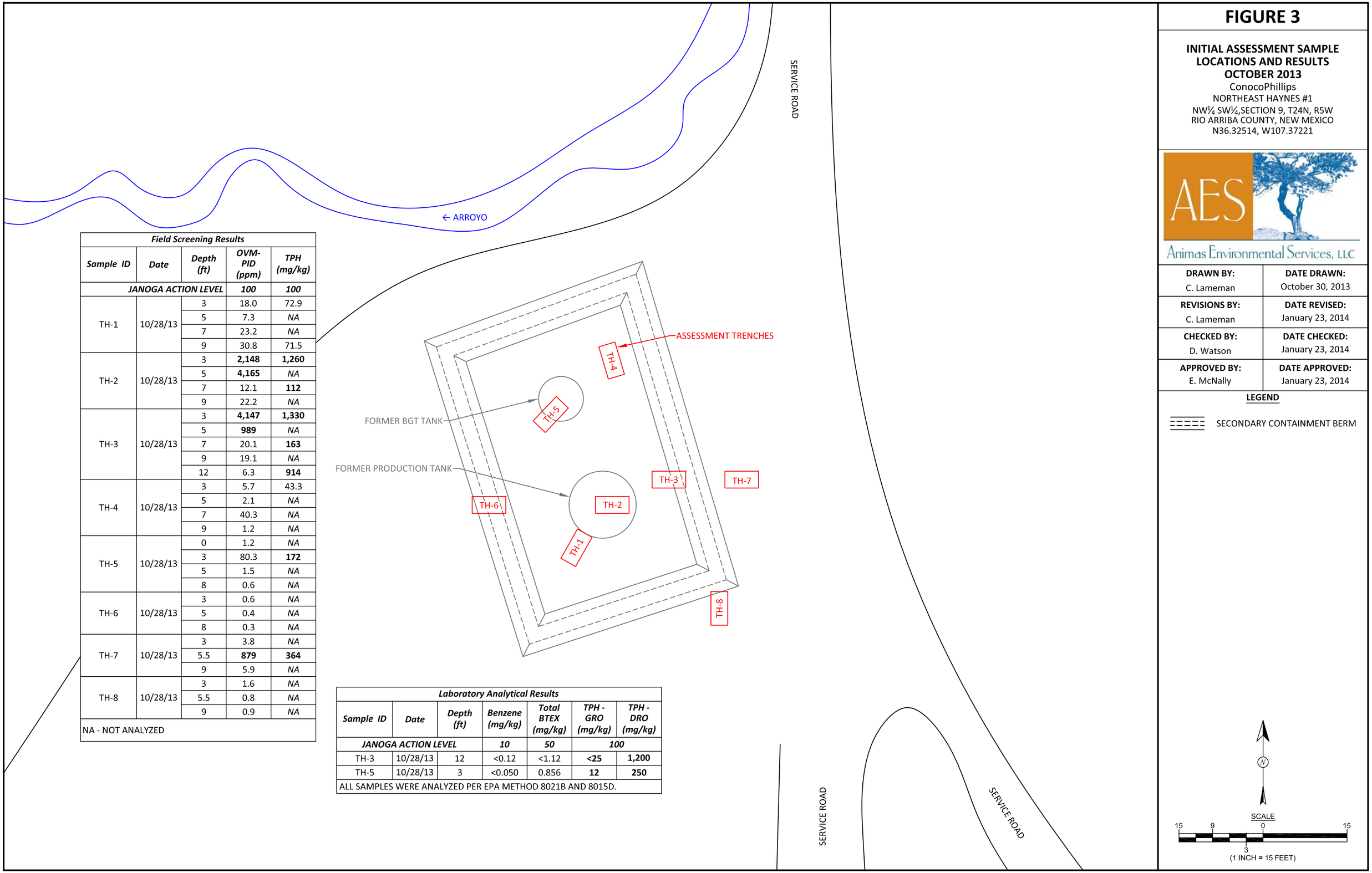
INITIAL ASSESSMENT SAMPLE LOCATIONS AND RESULTS
OCTOBER 2013
ConocoPhillips
NORTHEAST HAYNES #1
NW¼ SW¼,SECTION 9, T24N, R5W
RIO ARRIBA COUNTY, NEW MEXICO
N36.32514, W107.37221

Animas Environmental Services, LLC

DRAWN BY:	DATE DRAWN:
C. Lameman	October 30, 2013
REVISIONS BY:	**DATE REVISED:**
C. Lameman	January 23, 2014
CHECKED BY:	**DATE CHECKED:**
D. Watson	January 23, 2014
APPROVED BY:	**DATE APPROVED:**
E. McNally	January 23, 2014

LEGEND

SECONDARY CONTAINMENT BERM



Field Screening Results				
Sample ID	***Date***	***Depth (ft)***	***OVM-PID (ppm)***	***TPH (mg/kg)***
JANOGA ACTION LEVEL			***100***	***100***
TH-1	10/28/13	3	18.0	72.9
		5	7.3	*NA*
		7	23.2	*NA*
		9	30.8	71.5
TH-2	10/28/13	3	**2,148**	**1,260**
		5	**4,165**	*NA*
		7	12.1	**112**
		9	22.2	*NA*
TH-3	10/28/13	3	**4,147**	**1,330**
		5	**989**	*NA*
		7	20.1	**163**
		9	19.1	*NA*
		12	6.3	**914**
TH-4	10/28/13	3	5.7	43.3
		5	2.1	*NA*
		7	40.3	*NA*
		9	1.2	*NA*
TH-5	10/28/13	0	1.2	*NA*
		3	80.3	**172**
		5	1.5	*NA*
		8	0.6	*NA*
TH-6	10/28/13	3	0.6	*NA*
		5	0.4	*NA*
		8	0.3	*NA*
TH-7	10/28/13	3	3.8	*NA*
		5.5	**879**	**364**
		9	5.9	*NA*
TH-8	10/28/13	3	1.6	*NA*
		5.5	0.8	*NA*
		9	0.9	*NA*

NA - NOT ANALYZED

Laboratory Analytical Results						
Sample ID	***Date***	***Depth (ft)***	***Benzene (mg/kg)***	***Total BTEX (mg/kg)***	***TPH - GRO (mg/kg)***	***TPH - DRO (mg/kg)***
JANOGA ACTION LEVEL			***10***	***50***	***100***	
TH-3	10/28/13	12	<0.12	<1.12	**<25**	**1,200**
TH-5	10/28/13	3	<0.050	0.856	**12**	**250**
ALL SAMPLES WERE ANALYZED PER EPA METHOD 8021B AND 8015D.						

FIGURE 4

EXCAVATION SAMPLE LOCATIONS AND RESULTS NOVEMBER 2013

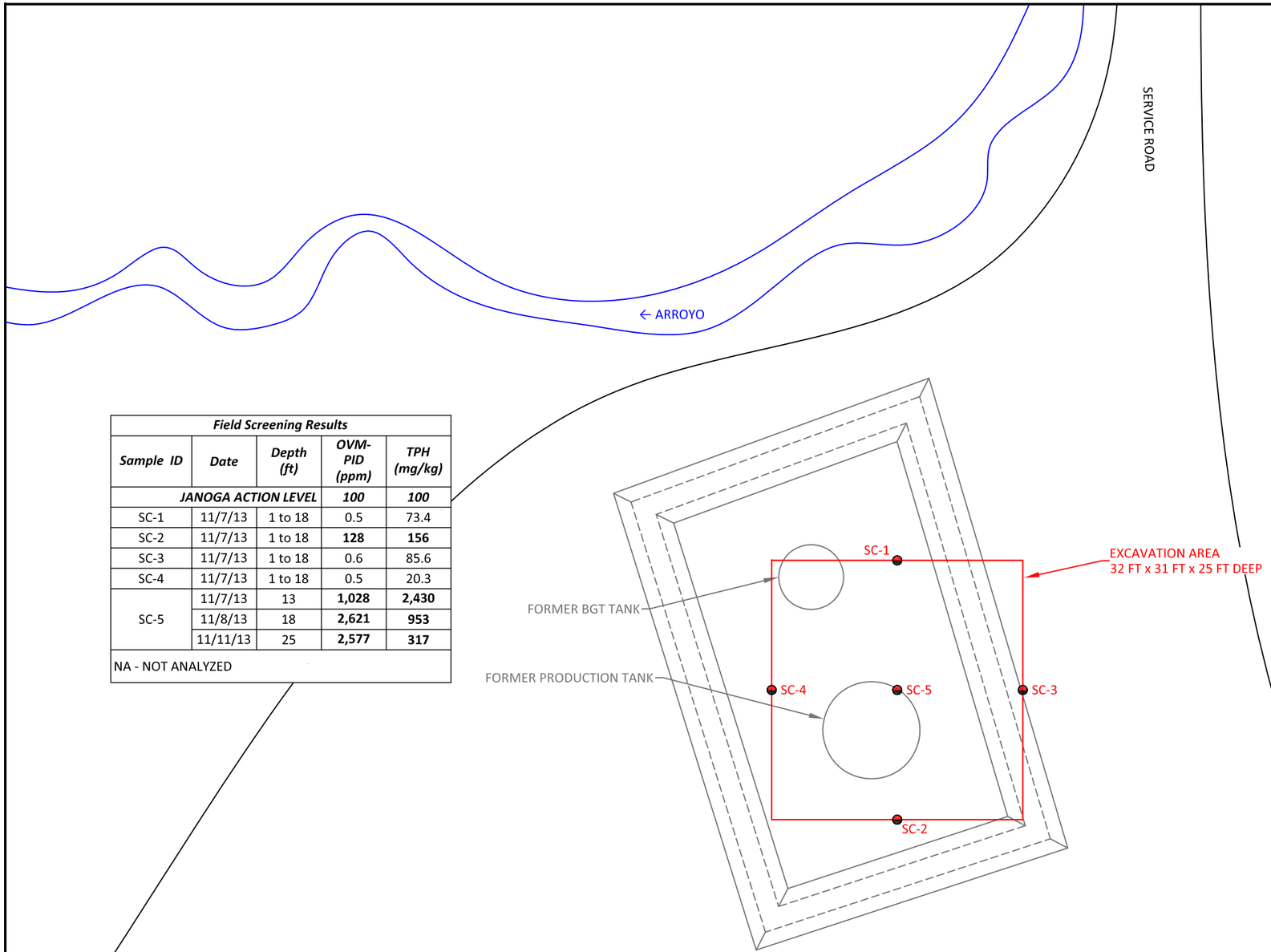
ConocoPhillips
NORTHEAST HAYNES #1
NW¼ SW¼,SECTION 9, T24N, R5W
RIO ARRIBA COUNTY, NEW MEXICO
N36.32514, W107.37221

Animas Environmental Services, LLC

DRAWN BY:	DATE DRAWN:
C. Lameman	November 18, 2013
REVISIONS BY:	**DATE REVISED:**
C. Lameman	January 23, 2014
CHECKED BY:	**DATE CHECKED:**
D. Watson	January 23, 2014
APPROVED BY:	**DATE APPROVED:**
E. McNally	January 23, 2014

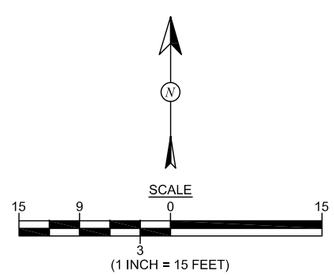
LEGEND

- SAMPLE LOCATIONS
- SECONDARY CONTAINMENT BERM



Field Screening Results				
Sample ID	***Date***	***Depth (ft)***	***OVM-PID (ppm)***	***TPH (mg/kg)***
JANOGA ACTION LEVEL			***100***	***100***
SC-1	11/7/13	1 to 18	0.5	73.4
SC-2	11/7/13	1 to 18	**128**	**156**
SC-3	11/7/13	1 to 18	0.6	85.6
SC-4	11/7/13	1 to 18	0.5	20.3
SC-5	11/7/13	13	**1,028**	**2,430**
	11/8/13	18	**2,621**	**953**
	11/11/13	25	**2,577**	**317**
NA - NOT ANALYZED				

Laboratory Analytical Results						
Sample ID	***Date***	***Depth (ft)***	***Benzene (mg/kg)***	***Total BTEX (mg/kg)***	***TPH - GRO (mg/kg)***	***TPH - DRO (mg/kg)***
JANOGA ACTION LEVEL			***10***	***50***	***100***	
SC-1	11/7/13	1 to 18	<0.050	<0.25	<5.0	<10
SC-2	11/7/13	1 to 18	<0.050	<0.25	<5.0	19
SC-3	11/7/13	1 to 18	<0.050	<0.25	<5.0	<10
SC-4	11/7/13	1 to 18	<0.050	<0.25	<5.0	<10
SC-5	11/11/13	25	<0.12	17	**490**	**880**
ALL SAMPLES WERE ANALYZED PER EPA METHOD 8021B AND 8015D.						



AES Field Screening Report

Animas Environmental Services, LLC
www.animasenvironmental.com
624 E. Comanche
Farmington, NM 87401
505-564-2281
Durango, Colorado
970-403-3084

Client: ConocoPhillips

Project Location: Northeast Haynes #1

Date: 10/28/2013

Matrix: Soil

Sample ID	Collection Date	Collection Time	OVM (ppm)	Field TPH* (mg/kg)	Field TPH Analysis Time	TPH PQL (mg/kg)	DF	TPH Analysts Initials
TH-1 @ 3'	10/28/2013	10:38	18.0	72.9	11:08	20.0	1	KC
TH-1 @ 5'	10/28/2013	11:00	7.3	*Not Analyzed for TPH*				
TH-1 @ 7'	10/28/2013	11:05	23.2	*Not Analyzed for TPH*				
TH-1 @ 9'	10/28/2013	11:08	30.8	71.5	11:20	20.0	1	KC
TH-2 @ 3'	10/28/2013	10:40	2,148	1,260	11:11	20.0	1	KC
TH-2 @ 5'	10/28/2013	11:11	4,165	*Not Analyzed for TPH*				
TH-2 @ 7'	10/28/2013	11:14	12.1	112	12:44	20.0	1	KC
TH-2 @ 9'	10/28/2013	11:15	22.2	*Not Analyzed for TPH*				
TH-3 @ 3'	10/28/2013	10:43	4,147	1,330	11:14	20.0	1	KC
TH-3 @ 5'	10/28/2013	11:19	989	*Not Analyzed for TPH*				
TH-3 @ 7'	10/28/2013	11:21	20.1	163	12:46	20.0	1	KC
TH-3 @ 9'	10/28/2013	11:23	19.1	*Not Analyzed for TPH*				
TH-3 @ 12'	10/28/2013	11:25	6.3	914	12:37	20.0	1	KC
TH-4 @ 3'	10/28/2013	10:45	5.7	43.3	11:17	20.0	1	KC
TH-4 @ 5'	10/28/2013	11:30	2.1	*Not Analyzed for TPH*				
TH-4 @ 7'	10/28/2013	11:33	40.3	*Not Analyzed for TPH*				
TH-4 @ 9'	10/28/2013	11:34	1.2	*Not Analyzed for TPH*				
TH-5 @ surface	10/28/2013	11:40	1.2	*Not Analyzed for TPH*				
TH-5 @ 3'	10/28/2013	11:42	80.3	172	12:35	20.0	1	KC
TH-5 @ 5'	10/28/2013	11:44	1.5	*Not Analyzed for TPH*				
TH-5 @ 8'	10/28/2013	11:45	0.6	*Not Analyzed for TPH*				
TH-6 @ 3'	10/28/2013	11:50	0.6	*Not Analyzed for TPH*				
TH-6 @ 5'	10/28/2013	11:52	0.4	*Not Analyzed for TPH*				

Report Finalized: 10/28/13

Sample ID	Collection Date	Collection Time	OVM (ppm)	Field TPH* (mg/kg)	Field TPH Analysis Time	TPH PQL (mg/kg)	DF	TPH Analysts Initials
TH-6 @ 8'	10/28/2013	11:54	0.3	*Not Analyzed for TPH*				
TH-7 @ 3'	10/28/2013	11:57	3.8	*Not Analyzed for TPH*				
TH-7 @ 5.5'	10/28/2013	11:59	879	364	12:41	20.0	1	KC
TH-7 @ 9'	10/28/2013	12:01	5.9	*Not Analyzed for TPH*				
TH-8 @ 3'	10/28/2013	12:03	1.6	*Not Analyzed for TPH*				
TH-8 @ 5.5'	10/28/2013	12:05	0.8	*Not Analyzed for TPH*				
TH-8 @ 9'	10/28/2013	12:09	0.9	*Not Analyzed for TPH*				

Total Petroleum Hydrocarbons - USEPA 418.1

DF	Dilution Factor
NA	Not Analyzed
ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit

Analyst: 

**Field TPH concentrations recorded may be below PQL.*

AES Field Screening Report

Animas Environmental Services, LLC
www.animasenvironmental.com
624 E. Comanche
Farmington, NM 87401
505-564-2281
Durango, Colorado
970-403-3084

Client: ConocoPhillips

Project Location: Northeast Haynes #1

Date: 11/7/2013

Matrix: Soil

Sample ID	Collection Date	Time of Sample Collection	Sample Location	OVM (ppm)	Field TPH Analysis Time	Field TPH* (mg/kg)	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SC-1	11/7/2013	10:40	North Wall	0.5	11:22	73.4	20.0	1	DAW
SC-2	11/7/2013	12:20	South Wall	128	12:52	156	20.0	1	DAW
SC-3	11/7/2013	11:45	East Wall	0.6	12:14	85.6	20.0	1	DAW
SC-4	11/7/2013	10:42	West Wall	0.5	11:31	20.3	20.0	1	DAW
SC-5	11/7/2013	13:30	Base @ 13'	1,028	13:55	2,430	20.0	1	DAW

Total Petroleum Hydrocarbons - USEPA 418.1

DF Dilution Factor
NA Not Analyzed
ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit
**Field TPH concentrations recorded may be below PQL.*

Analysts:

Deborah Watson

Report Finalized: 11/07/13

AES Field Screening Report

Animas Environmental Services, LLC
www.animasenvironmental.com
624 E. Comanche
Farmington, NM 87401
505-564-2281
Durango, Colorado
970-403-3084

Client: ConocoPhillips

Project Location: Northeast Haynes #1

Date: 11/8/2013

Matrix: Soil

Sample ID	Collection Date	Time of Sample Collection	Sample Location	OVM (ppm)	Field TPH Analysis Time	Field TPH* (mg/kg)	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SC-5	11/8/2013	11:07	Base @ 18'	2,621	11:39	953	20.0	1	DAW

Total Petroleum Hydrocarbons - USEPA 418.1

DF Dilution Factor

NA Not Analyzed

ND Not Detected at the Reporting Limit

PQL Practical Quantitation Limit

**Field TPH concentrations recorded may be below PQL.*

Analyst: Deborah Watson

Report Finalized: 11/08/13

AES Field Screening Report

Animas Environmental Services, LLC
www.animasenvironmental.com
624 E. Comanche
Farmington, NM 87401
505-564-2281
Durango, Colorado
970-403-3084

Client: ConocoPhillips

Project Location: Northeast Haynes #1

Date: 11/11/2013

Matrix: Soil

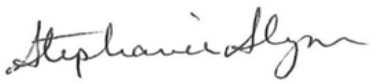
Sample ID	Collection Date	Time of Sample Collection	Sample Location	OVM (ppm)	Field TPH Analysis Time	Field TPH* (mg/kg)	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SC-5	11/11/2013	12:25	Base @ 25'	2,577	12:56	317	20.0	1	SL

Total Petroleum Hydrocarbons - USEPA 418.1

DF Dilution Factor
NA Not Analyzed
ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit

**Field TPH concentrations recorded may be below PQL.*

Analyst:



Report Finalized: 11/11/13

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

January 24, 2014

Debbie Watson

Animas Environmental Services
624 East Comanche
Farmington, NM 87401
TEL: (505) 486-4071
FAX (505) 324-2022

RE: CoP NE Haynes #1 OrderNo.: 1310D74

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/29/2013 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued November 14, 2013.

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

Analytical Report
Lab Order **1310D74**
Date Reported: **1/24/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: TH-3 @ 12'
Project: CoP NE Haynes #1
Collection Date: 10/28/2013 11:25:00 AM
Lab ID: 1310D74-001
Matrix: MEOH (SOIL)
Received Date: 10/29/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	1200	100		mg/Kg	10	10/31/2013 12:30:34 PM	10100
Surr: DNOP	0	66-131	S	%REC	10	10/31/2013 12:30:34 PM	10100
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	25		mg/Kg	5	10/30/2013 4:32:32 PM	R14452
Surr: BFB	96.1	74.5-129		%REC	5	10/30/2013 4:32:32 PM	R14452
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12		mg/Kg	5	10/30/2013 4:32:32 PM	R14452
Toluene	ND	0.25		mg/Kg	5	10/30/2013 4:32:32 PM	R14452
Ethylbenzene	ND	0.25		mg/Kg	5	10/30/2013 4:32:32 PM	R14452
Xylenes, Total	ND	0.50		mg/Kg	5	10/30/2013 4:32:32 PM	R14452
Surr: 4-Bromofluorobenzene	101	80-120		%REC	5	10/30/2013 4:32:32 PM	R14452

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Client Sample ID: TH-5 @ 3'
Project: CoP NE Haynes #1
Collection Date: 10/28/2013 11:45:00 AM
Lab ID: 1310D74-002
Matrix: MEOH (SOIL)
Received Date: 10/29/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	250	9.9		mg/Kg	1	10/31/2013 12:52:38 PM	10100
Surr: DNOP	97.3	66-131		%REC	1	10/31/2013 12:52:38 PM	10100
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	12	5.0		mg/Kg	1	10/30/2013 5:36:15 PM	R14452
Surr: BFB	173	74.5-129	S	%REC	1	10/30/2013 5:36:15 PM	R14452
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	10/30/2013 5:36:15 PM	R14452
Toluene	ND	0.050		mg/Kg	1	10/30/2013 5:36:15 PM	R14452
Ethylbenzene	0.066	0.050		mg/Kg	1	10/30/2013 5:36:15 PM	R14452
Xylenes, Total	0.79	0.10		mg/Kg	1	10/30/2013 5:36:15 PM	R14452
Surr: 4-Bromofluorobenzene	108	80-120		%REC	1	10/30/2013 5:36:15 PM	R14452

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1310D74**

24-Jan-14

Client: Animas Environmental Services

Project: CoP NE Haynes #1

Sample ID	**MB-10100**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**10100**		RunNo:	**14468**				
Prep Date:	**10/30/2013**	Analysis Date:	**10/31/2013**		SeqNo:	**415904**	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	9.1		10.00		91.4	66	131			

Sample ID	**LCS-10100**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**10100**		RunNo:	**14468**				
Prep Date:	**10/30/2013**	Analysis Date:	**10/31/2013**		SeqNo:	**416005**	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	93.2	77.1	128			
Surr: DNOP	4.4		5.000		88.7	66	131			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1310D74**

24-Jan-14

Client: Animas Environmental Services

Project: CoP NE Haynes #1

Sample ID	**MB-10085 MK**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID:	**R14452**	RunNo:	**14452**					
Prep Date:		Analysis Date:	**10/30/2013**	SeqNo:	**415568**	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	950		1000		95.3	74.5	129			

Sample ID	**LCS-10085 MK**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID:	**R14452**	RunNo:	**14452**					
Prep Date:		Analysis Date:	**10/30/2013**	SeqNo:	**415570**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.9	74.5	126			
Surr: BFB	1000		1000		105	74.5	129			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1310D74**

24-Jan-14

Client: Animas Environmental Services

Project: CoP NE Haynes #1

Sample ID	**MB-10085 MK**	SampType: **MBLK**		TestCode: **EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID: **R14452**		RunNo: **14452**					
Prep Date:		Analysis Date: **10/30/2013**		SeqNo: **415590**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

Sample ID	**LCS-10085 MK**	SampType: **LCS**		TestCode: **EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID: **R14452**		RunNo: **14452**					
Prep Date:		Analysis Date: **10/30/2013**		SeqNo: **415591**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.050	1.000	0	93.2	80	120			
Toluene	0.94	0.050	1.000	0	93.7	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.6	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.8	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

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: 1310D74 RcptNo: 1

Received by/date: AG 10/29/13

Logged By: Anne Thorne 10/29/2013 10:00:00 AM Anne Thorne

Completed By: Anne Thorne 10/29/2013 Anne Thorne

Reviewed By: 10/30/13

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	2.4	Good	Yes			

Chain-of-Custody Record

Client: Animas Environmental Services

Mailing Address: 624 E. Comanche Farmington NM 87401

Phone #: 505-564-2281

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ~~☐ Rush~~ Standard per Debbie KMS 10/29/13 Same Day

Project Name: CoP NE Haynes #1

Project #:

Project Manager: D. Watson

Sampler: KC/CL

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.4

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. 1310074	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)
10-28-13	1125	Soil	TH-3@ 12'	4oz jar	non	-001	X		X												
10-28-13	1145	Soil	TH-5@ 3'	4oz jar	non	-002	X		X												

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/29/13	1630		Chris Walls	10/29/13	630
10/29/13	1637	Chris Walls		10/29/13	1000

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.

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

January 24, 2014

Debbie Watson

Animas Environmental
624 East Comanche
Farmington, NM 87401
TEL: (505) 486-4071
FAX

RE: COP Northeast Haynes #1 OrderNo.: 1311312

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 11/8/2013 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued November 11, 2013.

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

Analytical Report
Lab Order **1311312**
Date Reported: **1/24/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental
Client Sample ID: SC-1
Project: COP Northeast Haynes #1
Collection Date: 11/7/2013 10:40:00 AM
Lab ID: 1311312-001
Matrix: MEOH (SOIL)
Received Date: 11/8/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/8/2013 1:39:50 PM	10249
Surr: DNOP	100	66-131		%REC	1	11/8/2013 1:39:50 PM	10249
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/8/2013 11:59:02 AM	R14664
Surr: BFB	97.1	74.5-129		%REC	1	11/8/2013 11:59:02 AM	R14664
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	11/8/2013 11:59:02 AM	R14664
Toluene	ND	0.050		mg/Kg	1	11/8/2013 11:59:02 AM	R14664
Ethylbenzene	ND	0.050		mg/Kg	1	11/8/2013 11:59:02 AM	R14664
Xylenes, Total	ND	0.10		mg/Kg	1	11/8/2013 11:59:02 AM	R14664
Surr: 4-Bromofluorobenzene	115	80-120		%REC	1	11/8/2013 11:59:02 AM	R14664

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
O	RSD is greater than RSDlimit
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2 for VOA and TOC only.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental
Client Sample ID: SC-2
Project: COP Northeast Haynes #1
Collection Date: 11/7/2013 12:20:00 PM
Lab ID: 1311312-002
Matrix: MEOH (SOIL)
Received Date: 11/8/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	19	9.9		mg/Kg	1	11/8/2013 2:10:53 PM	10249
Surr: DNOP	95.1	66-131		%REC	1	11/8/2013 2:10:53 PM	10249
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/8/2013 12:27:30 PM	R14664
Surr: BFB	93.9	74.5-129		%REC	1	11/8/2013 12:27:30 PM	R14664
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	11/8/2013 12:27:30 PM	R14664
Toluene	ND	0.050		mg/Kg	1	11/8/2013 12:27:30 PM	R14664
Ethylbenzene	ND	0.050		mg/Kg	1	11/8/2013 12:27:30 PM	R14664
Xylenes, Total	ND	0.10		mg/Kg	1	11/8/2013 12:27:30 PM	R14664
Surr: 4-Bromofluorobenzene	111	80-120		%REC	1	11/8/2013 12:27:30 PM	R14664

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental
Client Sample ID: SC-3
Project: COP Northeast Haynes #1
Collection Date: 11/7/2013 11:45:00 AM
Lab ID: 1311312-003
Matrix: MEOH (SOIL)
Received Date: 11/8/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/8/2013 3:14:23 PM	10249
Surr: DNOP	98.0	66-131		%REC	1	11/8/2013 3:14:23 PM	10249
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/8/2013 12:56:10 PM	R14664
Surr: BFB	93.6	74.5-129		%REC	1	11/8/2013 12:56:10 PM	R14664
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	11/8/2013 12:56:10 PM	R14664
Toluene	ND	0.050		mg/Kg	1	11/8/2013 12:56:10 PM	R14664
Ethylbenzene	ND	0.050		mg/Kg	1	11/8/2013 12:56:10 PM	R14664
Xylenes, Total	ND	0.10		mg/Kg	1	11/8/2013 12:56:10 PM	R14664
Surr: 4-Bromofluorobenzene	111	80-120		%REC	1	11/8/2013 12:56:10 PM	R14664

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental
Client Sample ID: SC-4
Project: COP Northeast Haynes #1
Collection Date: 11/7/2013 10:42:00 AM
Lab ID: 1311312-004
Matrix: MEOH (SOIL)
Received Date: 11/8/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/8/2013 3:12:20 PM	10249
Surr: DNOP	104	66-131		%REC	1	11/8/2013 3:12:20 PM	10249
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/8/2013 1:24:49 PM	R14664
Surr: BFB	91.9	74.5-129		%REC	1	11/8/2013 1:24:49 PM	R14664
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	11/8/2013 1:24:49 PM	R14664
Toluene	ND	0.050		mg/Kg	1	11/8/2013 1:24:49 PM	R14664
Ethylbenzene	ND	0.050		mg/Kg	1	11/8/2013 1:24:49 PM	R14664
Xylenes, Total	ND	0.10		mg/Kg	1	11/8/2013 1:24:49 PM	R14664
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	11/8/2013 1:24:49 PM	R14664

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1311312**

24-Jan-14

Client: Animas Environmental

Project: COP Northeast Haynes #1

Sample ID **MB-10249**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **10249**	RunNo: **14634**
Prep Date: **11/8/2013**	Analysis Date: **11/8/2013**	SeqNo: **421930** 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	8.8		10.00		87.6	66	131			

Sample ID **LCS-10249**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **10249**	RunNo: **14634**
Prep Date: **11/8/2013**	Analysis Date: **11/8/2013**	SeqNo: **421931** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.4	62.1	127			
Surr: DNOP	4.8		5.000		95.8	66	131			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1311312**

24-Jan-14

Client: Animas Environmental

Project: COP Northeast Haynes #1

Sample ID	**MB-10237 MK**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**
Client ID:	**PBS**	Batch ID:	**R14664**	RunNo:	**14664**
Prep Date:		Analysis Date:	**11/8/2013**	SeqNo:	**422498** 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	950		1000		94.8	74.5	129			

Sample ID	**LCS-10237 MK**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**
Client ID:	**LCSS**	Batch ID:	**R14664**	RunNo:	**14664**
Prep Date:		Analysis Date:	**11/8/2013**	SeqNo:	**422499** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.4	74.5	126			
Surr: BFB	1000		1000		102	74.5	129			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1311312**

24-Jan-14

Client: Animas Environmental

Project: COP Northeast Haynes #1

Sample ID **MB-10237 MK**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **R14664**	RunNo: **14664**
Prep Date:	Analysis Date: **11/8/2013**	SeqNo: **422527** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

Sample ID **LCS-10237 MK**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **R14664**	RunNo: **14664**
Prep Date:	Analysis Date: **11/8/2013**	SeqNo: **422528** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	102	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.0	0.050	1.000	0	105	80	120			
Xylenes, Total	3.2	0.10	3.000	0	106	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

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: 1311312 RcptNo: 1

Received by/date: ML 11/8/13

Logged By: **Lindsay Mangin** 11/8/2013 10:00:00 AM

Completed By: **Lindsay Mangin** 11/8/2013 10:19:47 AM

Reviewed By: MS 11/08/13

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: Animas Environmental Services LLC

Mailing Address: 624 E Comanche Farmington NM 87401

Phone #: 505 564 2281

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☒ Rush Same day

Project Name: CoP Northeast Haynes #1

Project #:

Project Manager: D Watson

Sampler: D Watson

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. 1311312	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)				
11-7-13	1040	soil	SC-1	Thea H Kit 4oz	Thea H	-001	X		X												
"	1220	"	SC-2	"	"	-002	X		X												
"	1145	"	SC-3	"	"	-003	X		X												
"	1042	"	SC-4	"	"	-004	X		X												

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/8/13	1630	Deborah Watson	Christa Waele	11/8/13	1630
11/8/13	1645	Christa Waele	Michelle Gee	11/08/13	1000

Remarks: Bill to ConocoPhillips

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.

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

January 24, 2014

Debbie Watson

Animas Environmental
624 East Comanche
Farmington, NM 87401
TEL: (505) 486-4071
FAX

RE: CoP NE Haynes #1 OrderNo.: 1311431

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/12/2013 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued November 13, 2013.

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

Analytical Report
Lab Order **1311431**
Date Reported: **1/24/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental
Client Sample ID: SC-5 @ 25'
Project: CoP NE Haynes #1
Collection Date: 11/11/2013 12:25:00 PM
Lab ID: 1311431-001
Matrix: MEOH (SOIL)
Received Date: 11/12/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **BCN**	
Diesel Range Organics (DRO)	880	99		mg/Kg	10	11/12/2013 1:00:12 PM	10292
Surr: DNOP	0	66-131	S	%REC	10	11/12/2013 1:00:12 PM	10292
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	490	25		mg/Kg	5	11/12/2013 12:55:54 PM	R14740
Surr: BFB	993	74.5-129	S	%REC	5	11/12/2013 12:55:54 PM	R14740
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.12		mg/Kg	5	11/12/2013 12:55:54 PM	R14740
Toluene	ND	0.25		mg/Kg	5	11/12/2013 12:55:54 PM	R14740
Ethylbenzene	ND	0.25		mg/Kg	5	11/12/2013 12:55:54 PM	R14740
Xylenes, Total	17	0.50		mg/Kg	5	11/12/2013 12:55:54 PM	R14740
Surr: 4-Bromofluorobenzene	153	80-120	S	%REC	5	11/12/2013 12:55:54 PM	R14740

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1311431**

24-Jan-14

Client: Animas Environmental

Project: CoP NE Haynes #1

Sample ID	**MB-10292**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**10292**		RunNo:	**14724**				
Prep Date:	**11/12/2013**	Analysis Date:	**11/12/2013**		SeqNo:	**424197**	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	8.8		10.00		87.6	66	131			

Sample ID	**LCS-10292**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**10292**		RunNo:	**14724**				
Prep Date:	**11/12/2013**	Analysis Date:	**11/12/2013**		SeqNo:	**424198**	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	94.4	62.1	127			
Surr: DNOP	4.7		5.000		94.1	66	131			

Sample ID	**1311337-001AMS**	SampType:	**MS**		TestCode:	**EPA Method 8015D: Diesel Range Organics**				
Client ID:	**BatchQC**	Batch ID:	**10292**		RunNo:	**14753**				
Prep Date:	**11/12/2013**	Analysis Date:	**11/13/2013**		SeqNo:	**425368**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.20	0	86.8	47.4	148			
Surr: DNOP	5.4		5.020		108	66	131			

Sample ID	**1311337-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Diesel Range Organics**				
Client ID:	**BatchQC**	Batch ID:	**10292**		RunNo:	**14753**				
Prep Date:	**11/12/2013**	Analysis Date:	**11/13/2013**		SeqNo:	**425394**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	49.80	0	85.6	47.4	148	2.25	22.7	
Surr: DNOP	5.1		4.980		103	66	131	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1311431**

24-Jan-14

Client: Animas Environmental

Project: CoP NE Haynes #1

Sample ID	**MB-10281 MK**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**
Client ID:	**PBS**	Batch ID:	**R14740**	RunNo:	**14740**
Prep Date:		Analysis Date:	**11/12/2013**	SeqNo:	**424557** 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		92.4	74.5	129			

Sample ID	**LCS-10281 MK**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**
Client ID:	**LCSS**	Batch ID:	**R14740**	RunNo:	**14740**
Prep Date:		Analysis Date:	**11/12/2013**	SeqNo:	**424558** 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	99.9	74.5	126			
Surr: BFB	980		1000		98.2	74.5	129			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1311431**

24-Jan-14

Client: Animas Environmental

Project: CoP NE Haynes #1

Sample ID	**MB-10281 MK**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**R14740**	RunNo:	**14740**					
Prep Date:		Analysis Date:	**11/12/2013**	SeqNo:	**424628**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

Sample ID	**LCS-10281 MK**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**R14740**	RunNo:	**14740**					
Prep Date:		Analysis Date:	**11/12/2013**	SeqNo:	**424629**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	99.7	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

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: 1311431 RcptNo: 1

Received by/date: 11/12/13

Logged By: **Michelle Garcia** 11/12/2013 10:00:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 11/12/2013 10:07:43 AM Michelle Garcia

Reviewed By: 11/12/13

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: Animas Environmental Services, LLC

Mailing Address: 624 E. Comanche
Farmington, NM 87401

Phone #: 505-564-2281

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☒ Rush Same day

Project Name:
CoP NE Haynes #1

Project #:

Project Manager:
D. Watson

Sampler: S. Lynn
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. 1311431	BTEX + ~~MBE~~ + ~~TBA~~'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)
11/11/13	12:25	Soil	SC-@5 @ 25'	MeOH Kit 1-4oz	MeOH non	-001	X		X													

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/11/13	1716	Stephanie Alyn	Christy Walton	11/11/13	1716
11/11/13	1740	Christy Walton		11/12/13	1000

Remarks: Bill to Conoco Phillips

Added MRO per Debbie Watson.
KMS 11/12/13.

Appendix B

Boring Logs/Well Completion Diagrams

PROJECT NAME: Northeast Haynes No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): 32' bgs
REMARKS: Located in center of excavated area
COORDINATES: 36.325936, -107.372677

SOIL BORING NO: MW-1
DRILL TYPE: CME-85
Hollow Stem Auger
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 11/10/2014
DATE/TIME HOLE COMPLETED: 11/10/2014

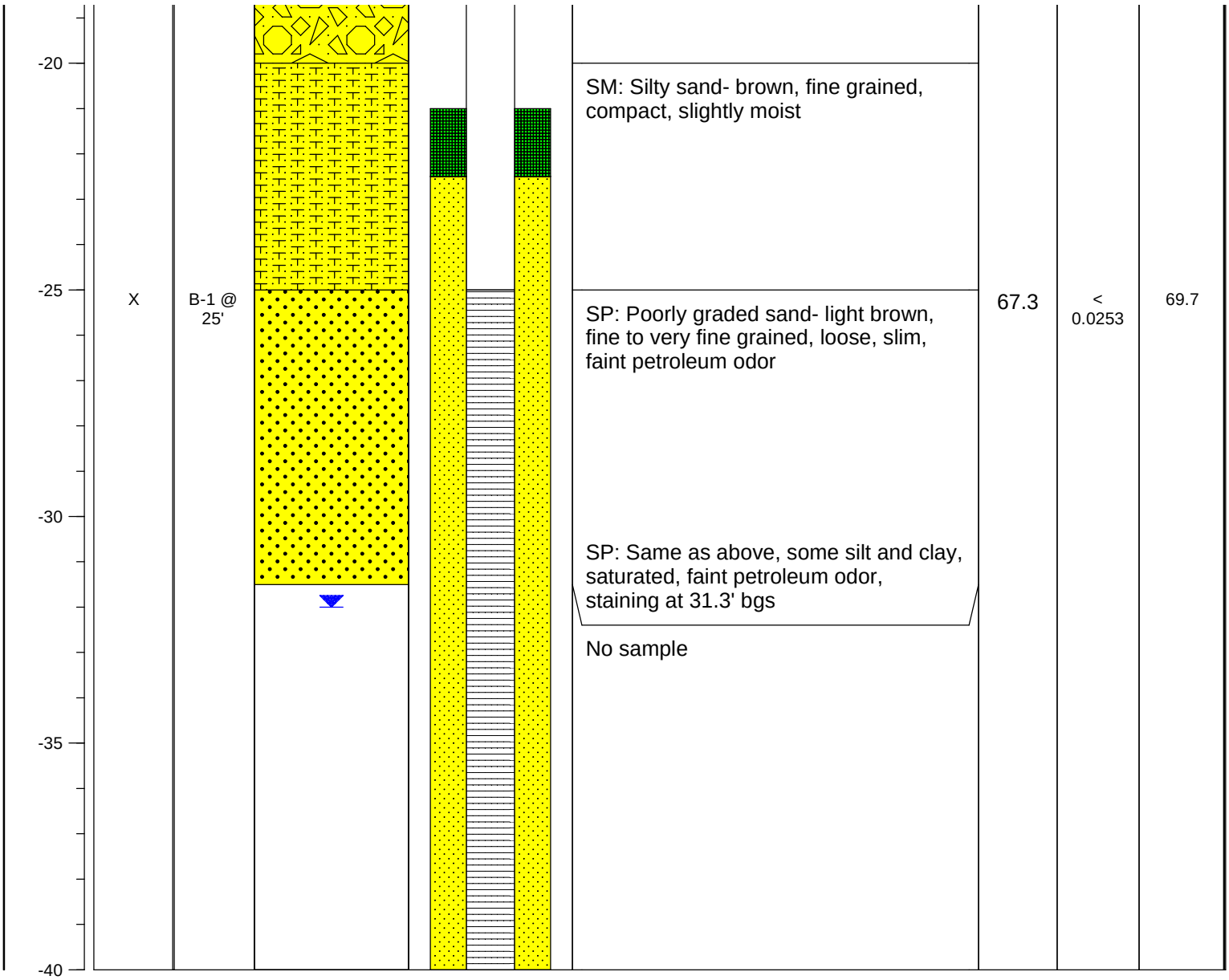
DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
0				Well completed with 3' casing stick up and locking well cap				
					Fill: Silty sand- light brown, fine grained, dry to slightly moist			
-5								
-10								
-15								

PROJECT NAME: Northeast Haynes No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): 32' bgs
REMARKS: Located in center of excavated area

COORDINATES: 36.325936, -107.372677

SOIL BORING NO: MW-1
DRILL TYPE: CME-85
Hollow Stem Auger
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 11/10/2014
DATE/TIME HOLE COMPLETED: 11/10/2014

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
-20					SM: Silty sand- brown, fine grained, compact, slightly moist			
-25	X	B-1 @ 25'			SP: Poorly graded sand- light brown, fine to very fine grained, loose, slim, faint petroleum odor	67.3	< 0.0253	69.7
-30					SP: Same as above, some silt and clay, saturated, faint petroleum odor, staining at 31.3' bgs			
-35					No sample			
-40								



TD = 40 feet

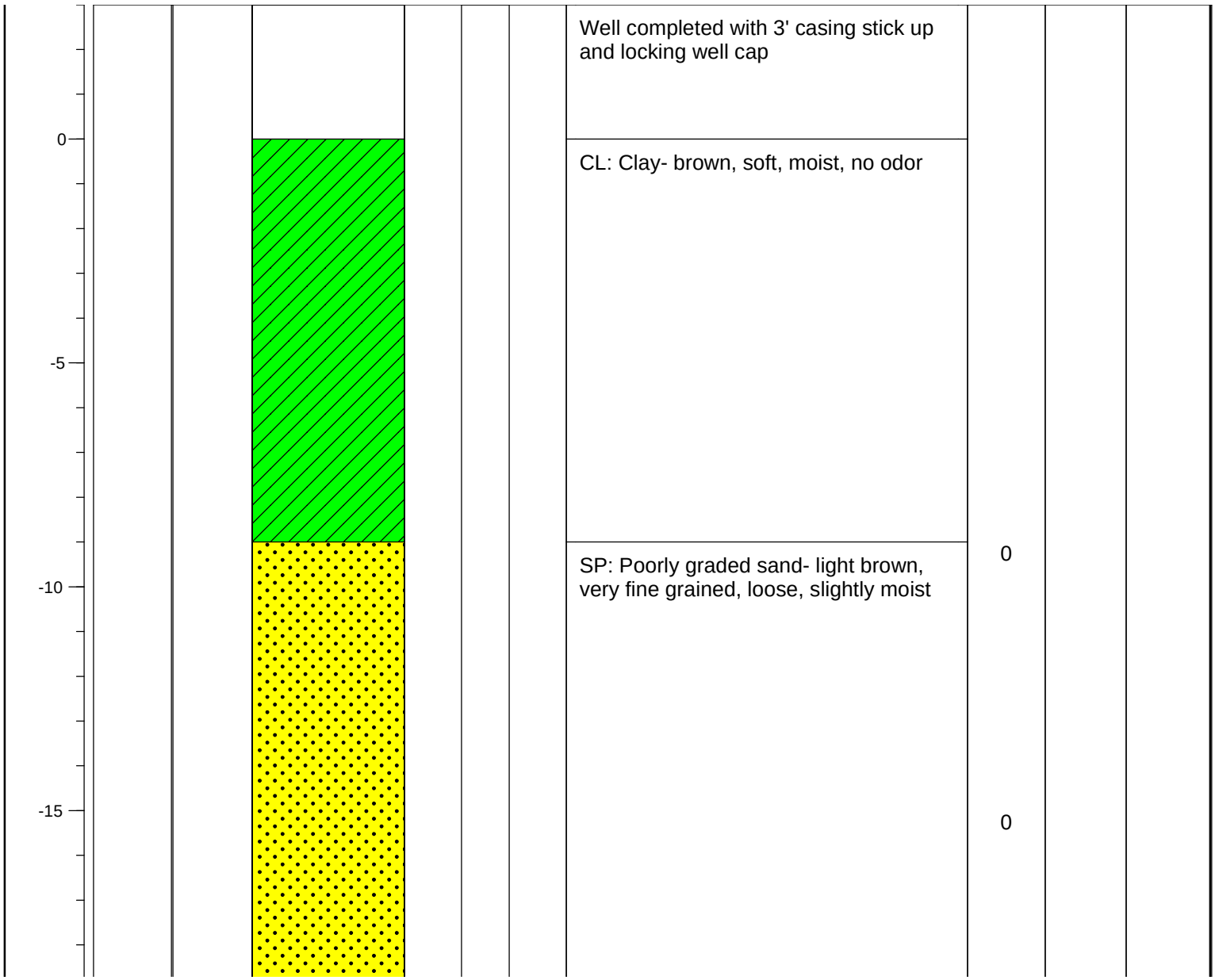
CONESTOGA-ROVERS & ASSOCIATES

BORING LOG AND WELL COMPLETION FORM

PROJECT NAME: Northeast Haynes No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): 31.5' bgs
REMARKS: Located in presumptive down-gradient direction
COORDINATES: 36.325641, -107.372780

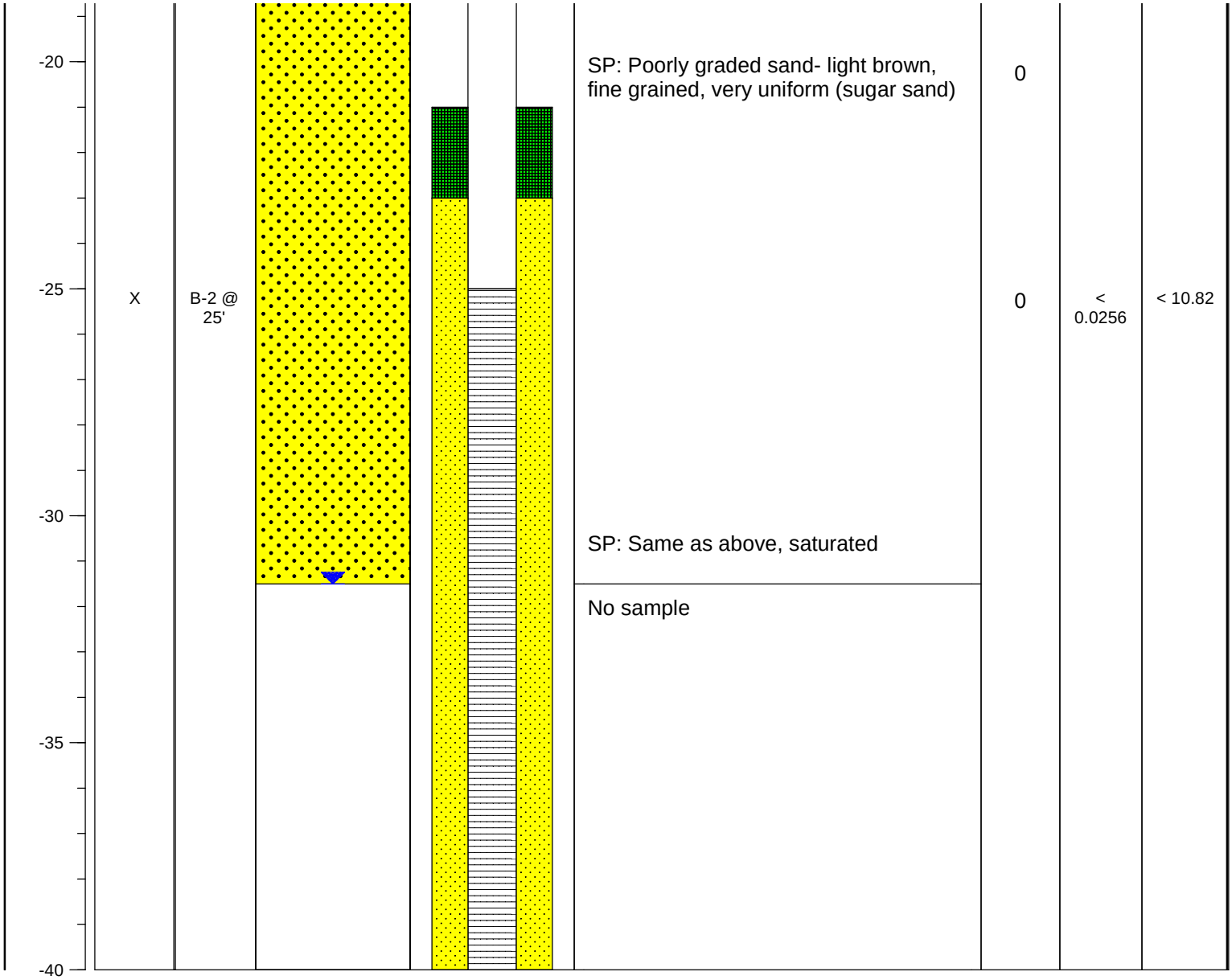
SOIL BORING NO: MW-2
DRILL TYPE: CME-85
Hollow Stem Auger
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 11/10/2014
DATE/TIME HOLE COMPLETED: 11/10/2014

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
0					Well completed with 3' casing stick up and locking well cap			
					CL: Clay- brown, soft, moist, no odor			
-5								
-10					SP: Poorly graded sand- light brown, very fine grained, loose, slightly moist	0		
-15						0		



PROJECT NAME: Northeast Haynes No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): 31.5' bgs
REMARKS: Located in presumptive down-gradient direction
COORDINATES: 36.325641, -107.372780

SOIL BORING NO: MW-2
DRILL TYPE: CME-85
Hollow Stem Auger
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 11/10/2014
DATE/TIME HOLE COMPLETED: 11/10/2014



DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
-20					SP: Poorly graded sand- light brown, fine grained, very uniform (sugar sand)	0		
-25	X	B-2 @ 25'				0	< 0.0256	< 10.82
-30					SP: Same as above, saturated			
-35					No sample			
-40								

PROJECT NAME: Northeast Haynes No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): 30' bgs
REMARKS: Located in presumptive down-gradient direction
COORDINATES: 36.325722, -107.373027

SOIL BORING NO: MW-3
DRILL TYPE: CME-85
Hollow Stem Auger
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 11/11/2014
DATE/TIME HOLE COMPLETED: 11/11/2014

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
					Well completed with 3' casing stick up and locking well cap			
0					SC: Sandy clay- brown, soft, moist, no odor			
-5								
-10					SP: Poorly graded sand, light brown, very fine grained, loose, slightly moist SP: Same as above, with silt	0		
-15					SP: Poorly graded sand- light brown, very fine grained, loose, slightly moist	0		

PROJECT NAME: Northeast Haynes No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): 30' bgs
REMARKS: Located in presumptive down-gradient direction
COORDINATES: 36.325722, -107.373027

SOIL BORING NO: MW-3
DRILL TYPE: CME-85
Hollow Stem Auger
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 11/11/2014
DATE/TIME HOLE COMPLETED: 11/11/2014

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
-20						0		
-25	X	B-3 @ 25'			SP: Same as above, saturated	0	< 0.0253	< 10.81
-30					No sample			
-35								
-40								

PROJECT NAME: Northeast Haynes No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): 30' bgs
REMARKS: Located in presumptive up-gradient direction
COORDINATES: 36.326138, -107.372438

SOIL BORING NO: MW-4
DRILL TYPE: CME-85
Hollow Stem Auger
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 11/11/2014
DATE/TIME HOLE COMPLETED: 11/11/2014

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
0					Well completed with 3' casing stick up and locking well cap			
					SM: Silty sand- light brown, very fine grained, loose, dry			
-5								
-10						0		
					SP: Poorly graded sand- light brown, very fine grained, loose, dry			
-15						0		
					ML: Silt- light brown, stiff, very lightly			

TD = 40 feet

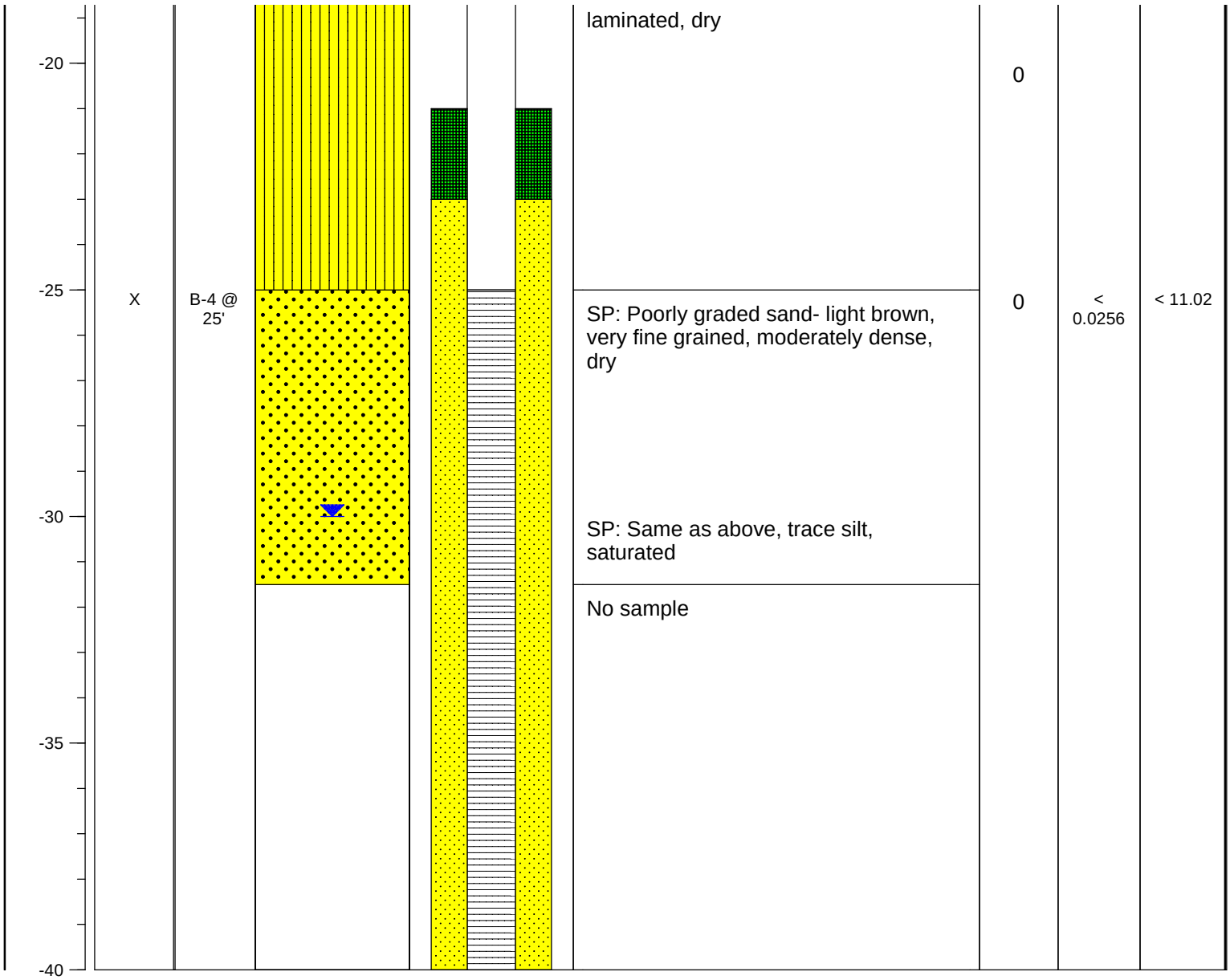
CONESTOGA-ROVERS & ASSOCIATES

BORING LOG AND WELL COMPLETION FORM

PROJECT NAME: Northeast Haynes No. 1
LOCATION: Rio Arriba County, New Mexico
FIELD LOGGED BY: Jeff Walker
SURFACE ELEVATION (msl): No Survey Data Available
GROUNDWATER ELEVATION (msl): 30' bgs
REMARKS: Located in presumptive up-gradient direction
COORDINATES: 36.326138, -107.372438

SOIL BORING NO: MW-4
DRILL TYPE: CME-85
Hollow Stem Auger
BORE HOLE DIAMETER: 7 7/8"
DRILLED BY: National EWP
DATE/TIME HOLE STARTED: 11/11/2014
DATE/TIME HOLE COMPLETED: 11/11/2014

DEPTH (bgs) - ft	SAMPLE TO LAB	SAMPLE ID	STRATAGRAPHIC SEQUENCE	COMPLETION INFORMATION	CLASSIFICATION AND DESCRIPTION	PID (ppm)	Total BTEX (mg/kg)	Total TPH (mg/kg)
-20					laminated, dry	0		
-25	X	B-4 @ 25'			SP: Poorly graded sand- light brown, very fine grained, moderately dense, dry	0	< 0.0256	< 11.02
-30					SP: Same as above, trace silt, saturated			
					No sample			
-35								
-40								



TD = 40 feet

CONESTOGA-ROVERS & ASSOCIATES

BORING LOG AND WELL COMPLETION FORM

Appendix C

Analytical Results

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

November 25, 2014

Christine Mathews
CRA
6121 Indian School Rd NE
Suite 200
Albuquerque, NM 87110

RE: Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on November 13, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Alice Flanagan
alice.flanagan@pacelabs.com
Project Manager

Enclosures

cc: Angela Bown, COP Conestoga-Rovers & Associa
Angela Bown, Conestoga Rovers & Associates
Chris Fetters, COP Conestoga-Rovers & Associa
Jeff Walker, COP Conestoga-Rovers & Associa

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(913)599-5665

CERTIFICATIONS

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021

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SAMPLE SUMMARY

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60182536001	**SS-084272-11102014-B1-25-JW**	Solid	11/10/14 12:25	11/13/14 08:20
60182536002	**SS-084272-11102014-B2-25-JW**	Solid	11/10/14 14:45	11/13/14 08:20
60182536003	**SS-084272-11102014-B3-25-JW**	Solid	11/11/14 10:15	11/13/14 08:20
60182536004	**SS-084272-11102014-B4-25-JW**	Solid	11/11/14 11:20	11/13/14 08:20

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SAMPLE ANALYTE COUNT

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60182536001	**SS-084272-11102014-B1-25-JW**	EPA 8015B	JDE	3
		EPA 5035A/8260	JKL	8
		ASTM D2974	DWC	1
60182536002	**SS-084272-11102014-B2-25-JW**	EPA 8015B	JDE	3
		EPA 5035A/8260	JKL	8
		ASTM D2974	DWC	1
60182536003	**SS-084272-11102014-B3-25-JW**	EPA 8015B	JDE	3
		EPA 5035A/8260	JKL	8
		ASTM D2974	DWC	1
60182536004	**SS-084272-11102014-B4-25-JW**	EPA 8015B	JDE	3
		EPA 5035A/8260	JKL	8
		ASTM D2974	DWC	1

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PROJECT NARRATIVE

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

Method: **EPA 8015B**
Description: 8015B Diesel Range Organics
Client: CRA Conoco New Mexico
Date: November 25, 2014

General Information:
4 samples were analyzed for EPA 8015B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

Method: **EPA 5035A/8260**
Description: 8260 MSV GRO and Oxygenates
Client: CRA Conoco New Mexico
Date: November 25, 2014

General Information:
4 samples were analyzed for EPA 5035A/8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

Sample: SS-084272-11102014-B1-25-JW **Lab ID: 60182536001** Collected: 11/10/14 12:25 Received: 11/13/14 08:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	**69.7**	mg/kg	10.3	1	11/14/14 00:00	11/18/14 13:55		
Surrogates								
n-Tetracosane (S)	98	%	35-147	1	11/14/14 00:00	11/18/14 13:55	646-31-1	
p-Terphenyl (S)	95	%	37-138	1	11/14/14 00:00	11/18/14 13:55	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.0051	1		11/18/14 14:44	71-43-2	
Ethylbenzene	ND	mg/kg	0.0051	1		11/18/14 14:44	100-41-4	
Toluene	ND	mg/kg	0.0051	1		11/18/14 14:44	108-88-3	
TPH-GRO	ND	mg/kg	0.51	1		11/18/14 14:44		
Xylene (Total)	ND	mg/kg	0.010	1		11/18/14 14:44	1330-20-7	
Surrogates								
Toluene-d8 (S)	99	%	80-120	1		11/18/14 14:44	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123	1		11/18/14 14:44	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	75-129	1		11/18/14 14:44	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**3.4**	%	0.50	1		11/14/14 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

Sample: SS-084272-11102014-B2-25-JW **Lab ID: 60182536002** Collected: 11/10/14 14:45 Received: 11/13/14 08:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	ND	mg/kg	10.3	1	11/14/14 00:00	11/18/14 14:03		
Surrogates								
n-Tetracosane (S)	84	%	35-147	1	11/14/14 00:00	11/18/14 14:03	646-31-1	
p-Terphenyl (S)	88	%	37-138	1	11/14/14 00:00	11/18/14 14:03	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.0052	1		11/18/14 15:30	71-43-2	
Ethylbenzene	ND	mg/kg	0.0052	1		11/18/14 15:30	100-41-4	
Toluene	ND	mg/kg	0.0052	1		11/18/14 15:30	108-88-3	
TPH-GRO	ND	mg/kg	0.52	1		11/18/14 15:30		
Xylene (Total)	ND	mg/kg	0.010	1		11/18/14 15:30	1330-20-7	
Surrogates								
Toluene-d8 (S)	100	%	80-120	1		11/18/14 15:30	2037-26-5	
4-Bromofluorobenzene (S)	99	%	76-123	1		11/18/14 15:30	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	75-129	1		11/18/14 15:30	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**2.6**	%	0.50	1		11/14/14 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

Sample: SS-084272-11102014-B3-25-JW **Lab ID: 60182536003** Collected: 11/11/14 10:15 Received: 11/13/14 08:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	ND	mg/kg	10.3	1	11/14/14 00:00	11/18/14 14:10		
Surrogates								
n-Tetracosane (S)	82	%	35-147	1	11/14/14 00:00	11/18/14 14:10	646-31-1	
p-Terphenyl (S)	86	%	37-138	1	11/14/14 00:00	11/18/14 14:10	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.0051	1		11/18/14 15:45	71-43-2	
Ethylbenzene	ND	mg/kg	0.0051	1		11/18/14 15:45	100-41-4	
Toluene	ND	mg/kg	0.0051	1		11/18/14 15:45	108-88-3	
TPH-GRO	ND	mg/kg	0.51	1		11/18/14 15:45		
Xylene (Total)	ND	mg/kg	0.010	1		11/18/14 15:45	1330-20-7	
Surrogates								
Toluene-d8 (S)	99	%	80-120	1		11/18/14 15:45	2037-26-5	
4-Bromofluorobenzene (S)	98	%	76-123	1		11/18/14 15:45	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	75-129	1		11/18/14 15:45	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**3.6**	%	0.50	1		11/14/14 00:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

Sample: SS-084272-11102014-B4-25-JW **Lab ID: 60182536004** Collected: 11/11/14 11:20 Received: 11/13/14 08:20 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015B Diesel Range Organics	Analytical Method: EPA 8015B Preparation Method: EPA 3546							
TPH-DRO	ND	mg/kg	10.5	1	11/14/14 00:00	11/18/14 14:18		
Surrogates								
n-Tetracosane (S)	80	%	35-147	1	11/14/14 00:00	11/18/14 14:18	646-31-1	
p-Terphenyl (S)	82	%	37-138	1	11/14/14 00:00	11/18/14 14:18	92-94-4	
8260 MSV GRO and Oxygenates	Analytical Method: EPA 5035A/8260							
Benzene	ND	mg/kg	0.0052	1		11/18/14 16:01	71-43-2	
Ethylbenzene	ND	mg/kg	0.0052	1		11/18/14 16:01	100-41-4	
Toluene	ND	mg/kg	0.0052	1		11/18/14 16:01	108-88-3	
TPH-GRO	ND	mg/kg	0.52	1		11/18/14 16:01		
Xylene (Total)	ND	mg/kg	0.010	1		11/18/14 16:01	1330-20-7	
Surrogates								
Toluene-d8 (S)	99	%	80-120	1		11/18/14 16:01	2037-26-5	
4-Bromofluorobenzene (S)	100	%	76-123	1		11/18/14 16:01	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	75-129	1		11/18/14 16:01	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**5.4**	%	0.50	1		11/14/14 00:00		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

QC Batch: MSV/65822 Analysis Method: EPA 5035A/8260
QC Batch Method: EPA 5035A/8260 Analysis Description: 8260 MSV GRO and Oxygenates
Associated Lab Samples: 60182536001, 60182536002, 60182536003, 60182536004

METHOD BLANK: 1480564 Matrix: Solid
Associated Lab Samples: 60182536001, 60182536002, 60182536003, 60182536004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	mg/kg	ND	0.0050	11/18/14 14:29	
Ethylbenzene	mg/kg	ND	0.0050	11/18/14 14:29	
Toluene	mg/kg	ND	0.0050	11/18/14 14:29	
TPH-GRO	mg/kg	ND	0.50	11/18/14 14:29	
Xylene (Total)	mg/kg	ND	0.010	11/18/14 14:29	
1,2-Dichloroethane-d4 (S)	%	99	75-129	11/18/14 14:29	
4-Bromofluorobenzene (S)	%	99	76-123	11/18/14 14:29	
Toluene-d8 (S)	%	99	80-120	11/18/14 14:29	

LABORATORY CONTROL SAMPLE: 1480565

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	.1	0.096	96	80-120	
Ethylbenzene	mg/kg	.1	0.093	93	80-120	
Toluene	mg/kg	.1	0.094	94	79-120	
TPH-GRO	mg/kg	4	3.8	94	63-121	
Xylene (Total)	mg/kg	.3	0.29	96	79-120	
1,2-Dichloroethane-d4 (S)	%			98	75-129	
4-Bromofluorobenzene (S)	%			100	76-123	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1480566 1480567

Parameter	Units	60182536001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	mg/kg	ND	.1	.1	0.074	0.074	72	71	22-144	1	38	
Ethylbenzene	mg/kg	ND	.1	.1	0.075	0.073	73	71	10-154	3	42	
Toluene	mg/kg	ND	.1	.1	0.076	0.074	74	72	11-150	2	40	
Xylene (Total)	mg/kg	ND	.31	.31	0.23	0.23	76	74	10-154	1	41	
1,2-Dichloroethane-d4 (S)	%						101	100	75-129			
4-Bromofluorobenzene (S)	%						102	100	76-123			
Toluene-d8 (S)	%						100	100	80-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

QC Batch: OEXT/47119 Analysis Method: EPA 8015B
QC Batch Method: EPA 3546 Analysis Description: EPA 8015B
Associated Lab Samples: 60182536001, 60182536002, 60182536003, 60182536004

METHOD BLANK: 1478584 Matrix: Solid
Associated Lab Samples: 60182536001, 60182536002, 60182536003, 60182536004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH-DRO	mg/kg	ND	10	11/18/14 13:24	
n-Tetracosane (S)	%	82	35-147	11/18/14 13:24	
p-Terphenyl (S)	%	88	37-138	11/18/14 13:24	

LABORATORY CONTROL SAMPLE: 1478585

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TPH-DRO	mg/kg	83	73.5	89	66-120	
n-Tetracosane (S)	%			87	35-147	
p-Terphenyl (S)	%			90	37-138	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1478586 1478587

Parameter	Units	60182536001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH-DRO	mg/kg	69.7	86.2	85.1	161	161	106	108	22-152	0	43	
n-Tetracosane (S)	%						104	106	35-147			
p-Terphenyl (S)	%						99	100	37-138			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

QC Batch: PMST/10211 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60182536001, 60182536002, 60182536003, 60182536004

METHOD BLANK: 1478578 Matrix: Solid
Associated Lab Samples: 60182536001, 60182536002, 60182536003, 60182536004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	11/14/14 00:00	

SAMPLE DUPLICATE: 1478579

Parameter	Units	60182556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	16.7	16.7	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 084272 COP NE Haines No 1
Pace Project No.: 60182536

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60182536001	**SS-084272-11102014-B1-25-JW**	EPA 3546	OEXT/47119	EPA 8015B	GCSV/17975
60182536002	**SS-084272-11102014-B2-25-JW**	EPA 3546	OEXT/47119	EPA 8015B	GCSV/17975
60182536003	**SS-084272-11102014-B3-25-JW**	EPA 3546	OEXT/47119	EPA 8015B	GCSV/17975
60182536004	**SS-084272-11102014-B4-25-JW**	EPA 3546	OEXT/47119	EPA 8015B	GCSV/17975
60182536001	**SS-084272-11102014-B1-25-JW**	EPA 5035A/8260	MSV/65822		
60182536002	**SS-084272-11102014-B2-25-JW**	EPA 5035A/8260	MSV/65822		
60182536003	**SS-084272-11102014-B3-25-JW**	EPA 5035A/8260	MSV/65822		
60182536004	**SS-084272-11102014-B4-25-JW**	EPA 5035A/8260	MSV/65822		
60182536001	**SS-084272-11102014-B1-25-JW**	ASTM D2974	PMST/10211		
60182536002	**SS-084272-11102014-B2-25-JW**	ASTM D2974	PMST/10211		
60182536003	**SS-084272-11102014-B3-25-JW**	ASTM D2974	PMST/10211		
60182536004	**SS-084272-11102014-B4-25-JW**	ASTM D2974	PMST/10211		

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Sample Condition Upon Receipt
ESI Tech Spec Client

WO# : 60182536

60182536

Optional
Proj Due Date:
Proj Name:

Client Name: CoP CRA NM

Courier: Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: 6113 5281 9683 Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☒ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

Thermometer Used: ~~T-239~~ / T-194 **Type of Ice:** ~~Wet~~ Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 3.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JTO 11/13/14 1055

Chain of Custody present:	☒Yes	☐No	☐N/A	1.
Chain of Custody filled out:	☒Yes	☐No	☐N/A	2.
Chain of Custody relinquished:	☒Yes	☐No	☐N/A	3.
Sampler name & signature on COC:	☒Yes	☐No	☐N/A	4.
Samples arrived within holding time:	☒Yes	☐No	☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes	☒No	☐N/A	6.
Rush Turn Around Time requested:	☐Yes	☒No	☐N/A	7.
Sufficient volume:	☒Yes	☐No	☐N/A	8.
Correct containers used:	☒Yes	☐No	☐N/A	
Pace containers used:	☒Yes	☐No	☐N/A	9.
Containers intact:	☒Yes	☐No	☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes	☐No	☒N/A	12.
Sample labels match COC:	☒Yes	☐No	☐N/A	
Includes date/time/ID/analyses Matrix: ~~WT~~ Water Soil				13.
All containers needing preservation have been checked.	☐Yes	☐No	☒N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☒N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes	☒No		Initial when completed: N/A — Lot # of added preservative:
Trip Blank present:	☐Yes	☒No	☒N/A	
Pace Trip Blank lot # (if purchased): N/A				15.
Headspace in VOA vials (>6mm):	☐Yes	☐No	☒N/A	16.
Project sampled in USDA Regulated Area:	☐Yes	☒No	☐N/A	17. List State: NM

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AAF Date: 11/13/14

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.

Start:	1050	Start:	
End:	1055	End:	
Temp:		Temp:	

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: One of One

Section A Required Client Information:

Company:	CRA COP NM
Address:	6121 Indian School Rd NE, Ste 200
	Albequerque, NM 87110
Email To:	cmathews@craworld.com
Phone: (505)884-0672	Fax: (505)884-4932
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Christine Mathews
Copy To:	Jeff Walker, Angela Bown
Purchase Order No.:	
Project Name:	COP NE Haines No. 1
Project Number:	84272

Section C Invoice Information:

Attention:	CRA
Company Name:	Angela Bown
Address:	
Pace Quote Reference:	
Pace Project Manager:	Alice Flanagan
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NM

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SS
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8260 VOCs -TCL list	8270 SVOCs-TCL list	8015 TPH GRO/BTEX	8015 TPH DRO	6010/7471 Metals*	Alkalinity	9056 Br, Cl, F, SO4	9056 Nitrate/Nitrite	Orho-Phosphate	Spec.Conductance, pH	TDS	Hardness	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 6018 2536
1	SS-084272-11102014-B1-25-JW	SL	G	11/10/14	1225	11/10/14	1225		2	X											X	X										2(WGFU) 001
2	SS-084272-11102014-B2-25-JW	SL	G	11/10/14		11/10/14	1445		2	X											X	X										002
3	SS-084272-11112014-B3-25-JW	SL	G	11/10/14		11/11/14	1015		2	X											X	X										003
4	SS-084272-11112014-B4-25-JW	SL	G	11/11/14		11/11/14	1120		2	X											X	X										004
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Jeff Walker/CRA	11/12/14	1500		11/13/14	820	3.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jeff Walker

SIGNATURE of SAMPLER: Jeff Walker DATE Signed (MM/DD/YY): 11/12/14

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical Services, Inc.
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December 23, 2014

Christine Mathews
CRA
6121 Indian School Rd NE
Suite 200
Albuquerque, NM 87110

RE: Project: 084272 NE Haynes COP
Pace Project No.: 60185055

Dear Christine Mathews:
Enclosed are the analytical results for sample(s) received by the laboratory on December 19, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Alice Flanagan
alice.flanagan@pacelabs.com
Project Manager

Enclosures

cc: Angela Bown, COP Conestoga-Rovers & Associa
Angela Bown, Conestoga Rovers & Associates
Chris Fetters, COP Conestoga-Rovers & Associa
Jeff Walker, COP Conestoga-Rovers & Associa

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CERTIFICATIONS

Project: 084272 NE Haynes COP
Pace Project No.: 60185055

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407
Utah Certification #: KS00021

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SAMPLE SUMMARY

Project: 084272 NE Haynes COP
Pace Project No.: 60185055

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60185055001	**GW-084272-121614-JW-MW-1**	Water	12/16/14 11:25	12/19/14 10:00
60185055002	**GW-084272-121614-JW-MW-2**	Water	12/16/14 11:30	12/19/14 10:00
60185055003	**GW-084272-121614-JW-MW-3**	Water	12/16/14 11:20	12/19/14 10:00
60185055004	**GW-084272-121614-JW-MW-4**	Water	12/16/14 11:15	12/19/14 10:00
60185055005	**GW-084272-121614-JW-DUP**	Water	12/16/14 00:00	12/19/14 10:00

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SAMPLE ANALYTE COUNT

Project: 084272 NE Haynes COP
Pace Project No.: 60185055

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60185055001	**GW-084272-121614-JW-MW-1**	EPA 8260	RAB	8
60185055002	**GW-084272-121614-JW-MW-2**	EPA 8260	RAB	8
60185055003	**GW-084272-121614-JW-MW-3**	EPA 8260	RAB	8
60185055004	**GW-084272-121614-JW-MW-4**	EPA 8260	RAB	8
60185055005	**GW-084272-121614-JW-DUP**	EPA 8260	RAB	8

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 084272 NE Haynes COP
Pace Project No.: 60185055

Method: **EPA 8260**
Description: 8260 MSV GRO and Oxygenates
Client: CRA Conoco New Mexico
Date: December 23, 2014

General Information:
5 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/66640

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 084272 NE Haynes COP
Pace Project No.: 60185055

Sample: GW-084272-121614-JW-MW-1 **Lab ID: 60185055001** Collected: 12/16/14 11:25 Received: 12/19/14 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		12/22/14 09:44	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/22/14 09:44	100-41-4	
Toluene	ND	ug/L	1.0	1		12/22/14 09:44	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/22/14 09:44	1330-20-7	
Surrogates								
Toluene-d8 (S)	94	%	91-107	1		12/22/14 09:44	2037-26-5	
4-Bromofluorobenzene (S)	96	%	88-111	1		12/22/14 09:44	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	82-119	1		12/22/14 09:44	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/14 09:44		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 084272 NE Haynes COP
Pace Project No.: 60185055

Sample: GW-084272-121614-JW-MW-2 **Lab ID: 60185055002** Collected: 12/16/14 11:30 Received: 12/19/14 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		12/22/14 10:00	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/22/14 10:00	100-41-4	
Toluene	ND	ug/L	1.0	1		12/22/14 10:00	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/22/14 10:00	1330-20-7	
Surrogates								
Toluene-d8 (S)	94	%	91-107	1		12/22/14 10:00	2037-26-5	
4-Bromofluorobenzene (S)	94	%	88-111	1		12/22/14 10:00	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	82-119	1		12/22/14 10:00	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/14 10:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 084272 NE Haynes COP
Pace Project No.: 60185055

Sample: GW-084272-121614-JW-MW-3 **Lab ID: 60185055003** Collected: 12/16/14 11:20 Received: 12/19/14 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		12/22/14 10:16	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/22/14 10:16	100-41-4	
Toluene	ND	ug/L	1.0	1		12/22/14 10:16	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/22/14 10:16	1330-20-7	
Surrogates								
Toluene-d8 (S)	95	%	91-107	1		12/22/14 10:16	2037-26-5	
4-Bromofluorobenzene (S)	97	%	88-111	1		12/22/14 10:16	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	82-119	1		12/22/14 10:16	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/14 10:16		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 084272 NE Haynes COP
Pace Project No.: 60185055

Sample: GW-084272-121614-JW-MW-4 **Lab ID: 60185055004** Collected: 12/16/14 11:15 Received: 12/19/14 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		12/22/14 10:31	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/22/14 10:31	100-41-4	
Toluene	ND	ug/L	1.0	1		12/22/14 10:31	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/22/14 10:31	1330-20-7	
Surrogates								
Toluene-d8 (S)	94	%	91-107	1		12/22/14 10:31	2037-26-5	
4-Bromofluorobenzene (S)	95	%	88-111	1		12/22/14 10:31	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	82-119	1		12/22/14 10:31	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/14 10:31		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 084272 NE Haynes COP
Pace Project No.: 60185055

Sample: GW-084272-121614-JW-DUP **Lab ID: 60185055005** Collected: 12/16/14 00:00 Received: 12/19/14 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV GRO and Oxygenates	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		12/22/14 10:47	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/22/14 10:47	100-41-4	
Toluene	ND	ug/L	1.0	1		12/22/14 10:47	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/22/14 10:47	1330-20-7	
Surrogates								
Toluene-d8 (S)	94	%	91-107	1		12/22/14 10:47	2037-26-5	
4-Bromofluorobenzene (S)	95	%	88-111	1		12/22/14 10:47	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	82-119	1		12/22/14 10:47	17060-07-0	
Preservation pH	**1.0**		0.10	1		12/22/14 10:47		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 084272 NE Haynes COP
Pace Project No.: 60185055

QC Batch: MSV/66640 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV MO GRO Oxygenates
Associated Lab Samples: 60185055001, 60185055002, 60185055003, 60185055004, 60185055005

METHOD BLANK: 1498589 Matrix: Water
Associated Lab Samples: 60185055001, 60185055002, 60185055003, 60185055004, 60185055005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/22/14 08:41	
Ethylbenzene	ug/L	ND	1.0	12/22/14 08:41	
Toluene	ug/L	ND	1.0	12/22/14 08:41	
Xylene (Total)	ug/L	ND	3.0	12/22/14 08:41	
1,2-Dichloroethane-d4 (S)	%	114	82-119	12/22/14 08:41	
4-Bromofluorobenzene (S)	%	96	88-111	12/22/14 08:41	
Toluene-d8 (S)	%	96	91-107	12/22/14 08:41	

LABORATORY CONTROL SAMPLE: 1498590

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.3	91	87-114	
Ethylbenzene	ug/L	20	19.8	99	89-114	
Toluene	ug/L	20	17.1	85	85-112	
Xylene (Total)	ug/L	60	56.6	94	90-118	
1,2-Dichloroethane-d4 (S)	%			116	82-119	
4-Bromofluorobenzene (S)	%			95	88-111	
Toluene-d8 (S)	%			95	91-107	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: 084272 NE Haynes COP
Pace Project No.: 60185055

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/66640

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 084272 NE Haynes COP
Pace Project No.: 60185055

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60185055001	**GW-084272-121614-JW-MW-1**	EPA 8260	MSV/66640		
60185055002	**GW-084272-121614-JW-MW-2**	EPA 8260	MSV/66640		
60185055003	**GW-084272-121614-JW-MW-3**	EPA 8260	MSV/66640		
60185055004	**GW-084272-121614-JW-MW-4**	EPA 8260	MSV/66640		
60185055005	**GW-084272-121614-JW-DUP**	EPA 8260	MSV/66640		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60185055

60185055

Client Name: CRA NM

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: 7801 6199 6553 Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☒ None ☐ Other ☐

Thermometer Used: T-239 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 0.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JB 12/19

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☐Yes ☐No ☒N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☒N/A	14.
Exceptions (VOA) coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 12/8/14		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] Date: 12/19/14

CHAIN OF CUSTODY RECORD

COC NO.: 32792
PAGE 1 OF 1
(See Reverse Side for Instructi...)

CONESTOGA-ROVERS & ASSOCIATES

Address: 6121 INDIAN SCHOOL NE, STE 200, 87110
Phone: 505-884-0672 Fax:

60185055

Page 15 of 15

Project No/ Phase/Task Code: 084272	**Laboratory Name:** PACE - KS	**Lab Location:** LENEXA, KS	**SSOW ID:**
Project Name: NE HAYNES COP	**Lab Contact:** ALICE FLANAGAN	**Lab Quote No:**	**Cooler No:**
Project Location: RIO ARRIBA Co, NM			**Carrier:**
Chemistry Contact: ANGIE BOWN			**Airbill No:**
Sampler(s): CALE KANACK, JEFF WALKER			**Date Shipped:** 12/18/14

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Sample Type: Matrix Code (see back of COC)	Sample Type: Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested: 8260 BTEX	MS/MSD Request	Comments/ Special Instructions:
1	GW-084272-121614-JW-MW-1	12/16/14	1125	WG	G		3							3	X	001	
2	GW-084272-121614-JW-MW-2	12/16/14	1130	WG	G		3							3	X	002	ONLY ANALYZE FOR BTEX, NOT ALL VOCs
3	GW-084272-121614-JW-MW-3	12/16/14	1120	WG	G		3							3	X	003	
4	GW-084272-121614-JW-MW-4	12/16/14	1115	WG	G		3							3	X	004	
5	GW-084272-121614-JW-DUP	12/16/14	—	WG	G		3							3	X	005	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

(3) D6 4/14

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☒ Other: STD

Total Number of Containers: 15
All Samples in Cooler must be on COC

Notes/ Special Requirements:
BTEX ONLY !!
Temp 0.3°c

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	CRA	12/18/14	1100	1.	Pace	12/19	1000
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)