



**HRL**  
**COMPLIANCE**  
**SOLUTIONS**

P.O. Box 1708 • Artesia, NM 88211  
[www.hrlcomp.com](http://www.hrlcomp.com)

September 24, 2020

Mr. Tom Bynum  
Devon Energy  
6488 Seven Rivers Highway  
Artesia, New Mexico 88211  
Email: tom.bynum@dvn.com

**Subject: Site Characterization and Closure Report  
Paloma Blanco 17 Fed Com #002 (January 2018)  
nOY1802252498  
Lea County, New Mexico**

Dear Mr. Bynum:

HRL Compliance Solutions, Inc. (HRL) is pleased to submit this site characterization and closure report for the January 22, 2018 release at the former Paloma Blanco 17 Fed Com #002 facility (Site). The Site is at latitude 32.2992134 and longitude -103.4942169 in Lea County, New Mexico (Figure 1).

### **Site Background**

On January 7, 2018, an oil tank overflowed, releasing 14 barrels of oil into the lined secondary containment structure. A vacuum truck recovered 14 barrels of oil from the lined containment. Visual inspection of the liner after all fluids were removed indicated the lined secondary containment should have had the ability to retain the oil. However, prior to a certified liner inspection report with photographs being completed, the tank battery was disassembled. Devon Energy has requested HRL to collect soil samples from the location of the former tank battery for laboratory analysis to evaluate impacts, if any, due to this release.

Because the volume released was greater than 5 barrels but less than 25 barrels, this is considered a minor release according to the New Mexico Oil Conservation Division (NMOCD). On January 19, 2018, Devon reported the release to the NMOCD on a Release Notification and Corrective Action Form (Form C-141) (Attachment B). The release was assigned incident number nOY1802252498.

### **Scope of Work**

Devon has requested HRL to provide the following deliverables:

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**INNOVATIVE SOLUTIONS DELIVERED**



Mr. Tom Bynum  
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- Research the information as specified in the Site Characterization on the New Mexico Oil and Conservation Division (NMOCD) Form C-141
- Prepare a map with sample points labeled
- Prepare a table summarizing the results obtained during the site characterization activities
- Prepare a site characterization report including a remediation plan per NMOCD closure requirements and related cost estimates

### **New Mexico Administrative Code (NMAC) Site Characterization Criteria**

Title 19, Chapter 15, Part 29, Section 11 of the New Mexico Administrative Code (NMAC) provides requirements for release characterization once the free liquids and recoverable materials have been removed from the Site.

#### *Depth to groundwater*

Depth to groundwater at the release was estimated by evaluating data from the New Mexico Office of the State Engineer (NMOSE) and the United States Geological Survey (USGS) (Figure 2). The nearest groundwater well was approximately 0.7 miles from the Site; the depth to water in this well was 345 feet below ground surface.

#### *Wellhead Protection Area*

There are no sources of water, including springs, wells, or other sources of fresh water, within one-half mile of the release (Figure 2).

#### *Distance to Nearest Significant Watercourse*

A significant watercourse is defined as "...a watercourse with a defined bed and bank either named or identified by a dashed blue line on a USGS 7.5-minute quadrangle map or the next lower order tributary with a defined bed and bank" (19.15.17.7 NMAC) (Figure 2). There are no significant watercourses within one-half mile of the lateral extents of the release.

#### *Additional Site Characterization Criteria*

The following is additional information related to characterization of the Site.

<b>Site Characterization</b>	<b>Response/Discussion</b>
What is the shallowest depth to groundwater beneath the area affected by the release?	Greater than 100 feet
Did the release impact groundwater or surface water?	No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or other significant watercourse?	No

Paloma Blanco 17 Fed Com #002  
September 24, 2020



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Site Characterization	Response/Discussion
Are the lateral extents of the release within 200 feet of a lakebed, sinkhole, or playa lake?	No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital institution, or church?	No
Are the lateral extents of the release within 500 feet of a spring or private, domestic fresh water well used by less than five households for domestic or stock watering purposes?	No
Are the lateral extents of the release within 1,000 feet of any fresh water well or spring?	No
Are the lateral extents of the release within any incorporated municipal boundaries?	No
Are the lateral extents of the release within a defined municipal fresh water well field?	No
Are the lateral extents of the release within 300 feet of a wetland?	No
Are the lateral extents of the release overlying a subsurface mine?	No
Are the lateral extents of the release overlying an unstable area such as karst geology?	The Site is in an area of low potential for karst topography
Are the lateral extents of the release within the 100-year floodplain?	No
Did the release impact areas not on an exploration, development, production, or storage site?	No

### Site Delineation

Prior to initiating field activities, HRL submitted a Mechanical Excavation Permit to Devon Energy and had subsurface utilities located at the Site. On August 12, 2020, HRL mobilized to the Site. Soil samples were collected at 11 locations (SB1 through SB11). Samples were collected at depths varying from four inches below ground surface (bgs) to 14 inches bgs.

Samples were immediately placed on ice and kept under strict chain of custody protocol prior to submission to Hall Environmental Analysis Laboratory, Inc. of Albuquerque, New Mexico for analysis of:

- Chloride by United States Environmental Protection Agency (US EPA) Method 300.0
- Benzene, toluene, ethyl benzene, and total xylenes (BTEX) by US EPA Method 8021B
- Total petroleum hydrocarbons (TPH) – gasoline range organics (GRO), diesel range organics (DRO), and oil range organics (ORO) by US EPA Method 8015M

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### Closure Criteria

Based on the NMAC Site Characterization Criteria, HRL recommends the following NMOCD Closure Criteria to the Site:

Depth to Groundwater	Parameter	Closure Criteria in milligrams per kilogram (mg/kg)
Greater than 100 feet below ground surface	Chloride	20,000 mg/kg or natural background, whichever is greater
	Total Petroleum Hydrocarbons (TPH) [ <i>Gasoline Range Organics (GRO) + Diesel Range Organics (DRO) + Oil Range Organics (ORO)</i> ]	2,500 mg/kg
	Gasoline Range Organics (GRO) + Diesel Range Organics (DRO)	1,000 mg/kg
	Benzene	10 mg/kg
	Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX)	50 mg/kg

### Sample Results

A scaled diagram depicting nearby significant features, such as roads, site infrastructure, location of borings, sample points, monitoring wells (if present) and subsurface features has been prepared (Figure 3). HRL utilized a Trimble GeoXT global positioning system (GPS) unit to collect latitude and longitude data for the sample locations. Based on evaluation of the laboratory results, it is likely the lined secondary containment did contain the release and the soil was not impacted by the released oil. Remediation under 19.15.29.12 NMAC is not necessary because the concentrations of chloride, TPH, and BTEX in soil do not exceed the recommended closure criteria applicable to the site.

### Scope and Limitations

The scope of HRL's services consists of performing site characterization and preparation of this site characterization and closure report. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin.

### Conclusions and Recommendations

Soil analytical results have shown the lined secondary containment retained the 14 barrels of oil released from the oil tank on January 22, 2018. Concentrations of chloride, TPH, and BTEX do not exceed the recommended closure criteria applicable to the Site. HRL recommends closure of this incident.

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September 24, 2020

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We appreciate the opportunity to work with Devon on this project. If you have any questions or concerns, please do not hesitate to contact me at (970) 243-3271 or via email at [jlinn@hrlcomp.com](mailto:jlinn@hrlcomp.com).

Sincerely,

**HRL Compliance Solutions, Inc.**

A handwritten signature in blue ink that reads "Julie Linn".

Julie Linn, PG, RG  
Project Manager

**Figures:**

- Figure 1: Site Location
- Figure 2: Depth to Groundwater
- Figure 3: Sample Location and Results

**Tables:**

- Table 1: Analytical Laboratory Results

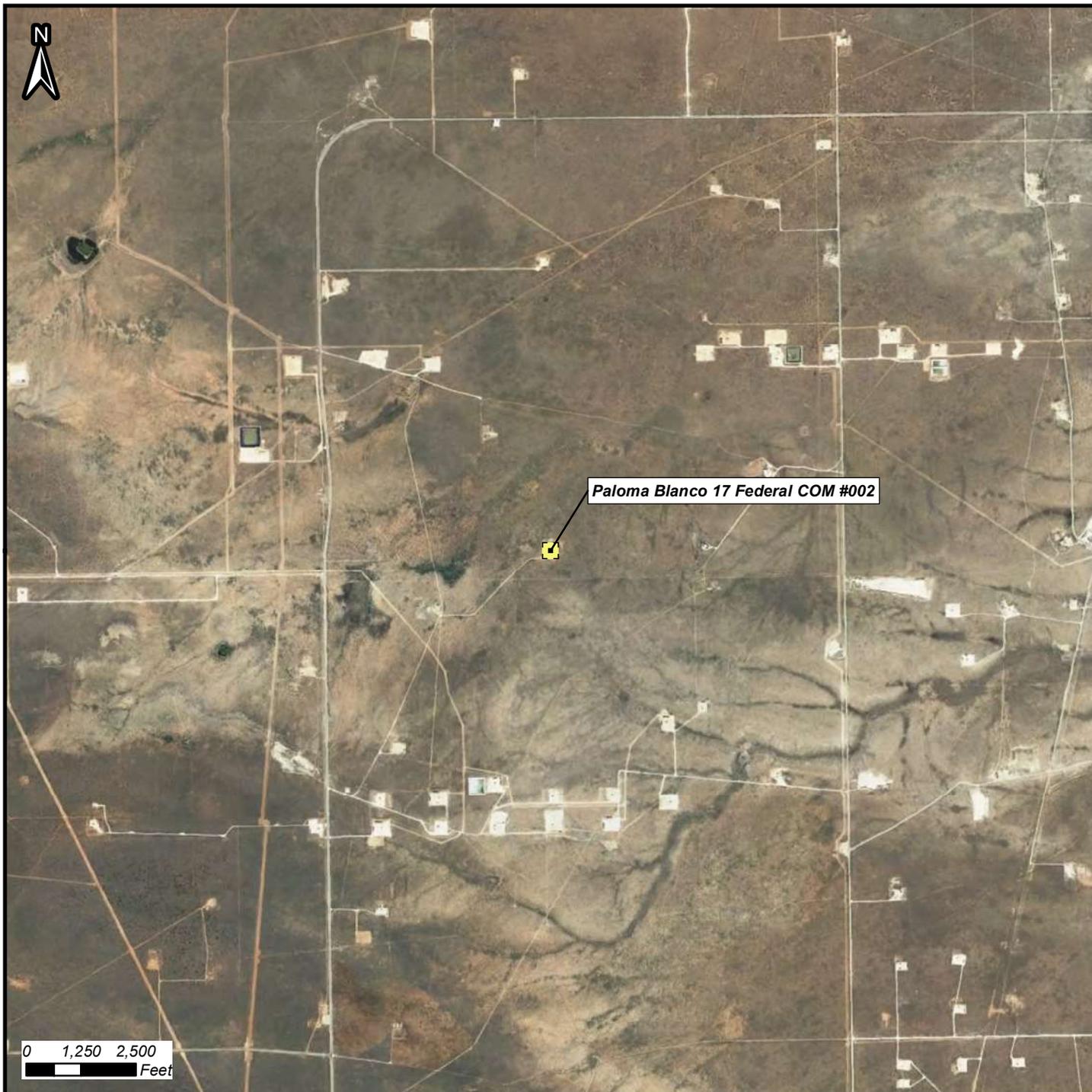
**Attachments:**

- Attachment A: NMOCD Form C-141
- Attachment B: Analytical Laboratory Report

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September 24, 2020

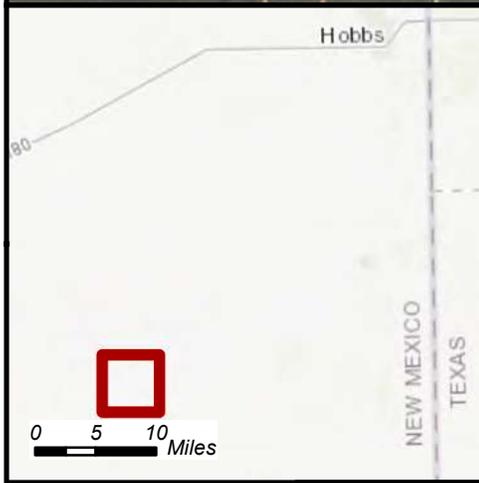


## Figures



Paloma Blanco 17 Federal COM #002

0 1,250 2,500 Feet



**Figure 1: Site Location Map**  
 Paloma Blanco 17 Federal COM #002  
 January 2018 Release  
 32.2992134, -103.4942169  
 Section 17, Township 23 South, Range 34 East

NOTES / COMMENTS:

**Mapped Features**

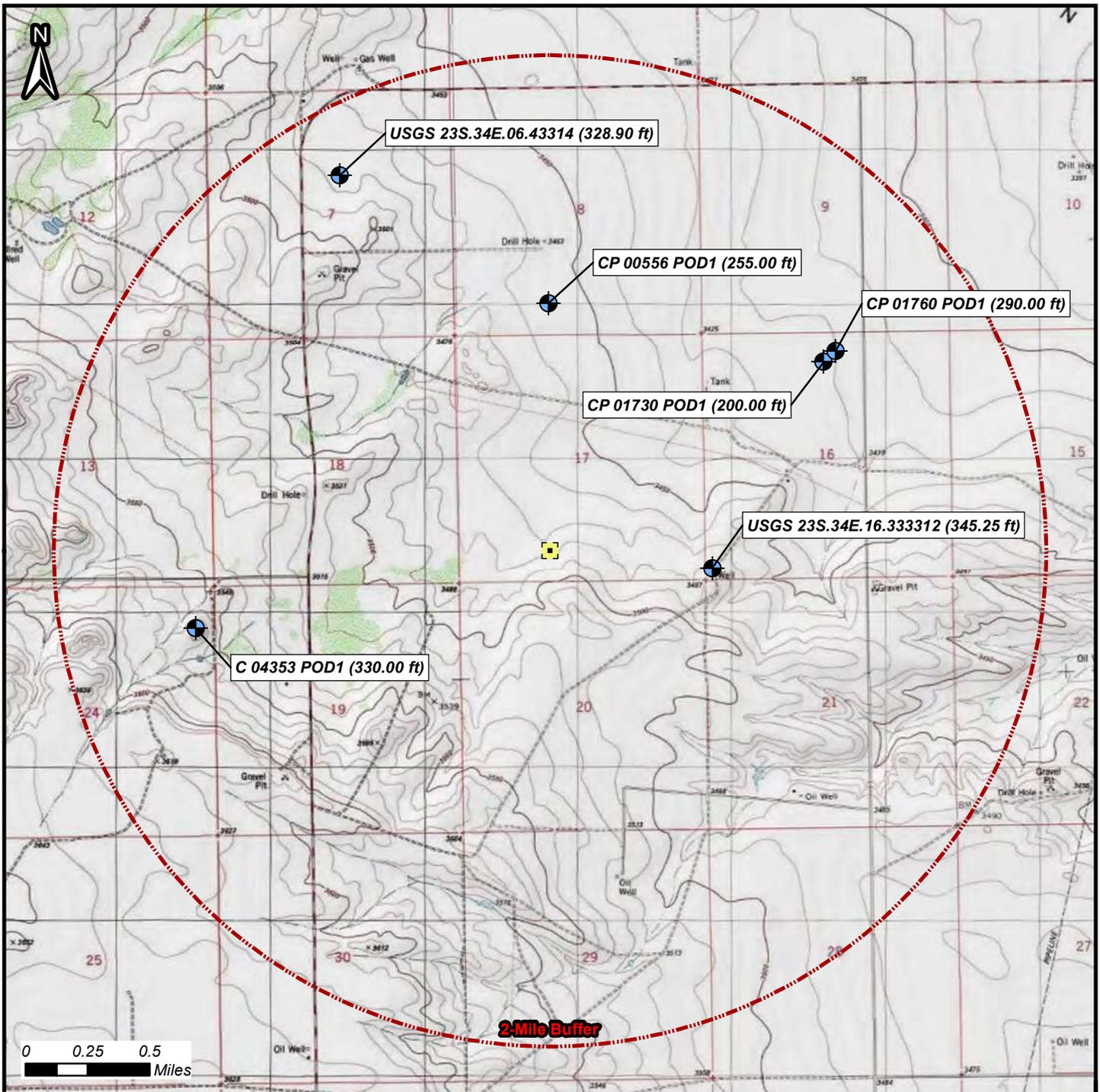
Facility Location

DISCLAIMER: This representation and the Geographic Information System (GIS) used to create it are designed as a source of reference and not intended to replace official records and/or legal surveys. HRL assumes no responsibility for any risks, dangers, or liabilities that may result from its use and makes no guarantees as to the quality or accuracy of the underlying data.



*Author:* A. Asay  
*Revision:* 0  
*Date:* 8/31/2020

T:\CLIENTS\DEVON ENERGY\2020\Paloma Blanco 17 Federal COM #002\Maps\Paloma Blanco 17 Federal COM #002 Site Location Map (January 2020 Split) 083120.mxd



**Figure 2: Depth to Groundwater Map**  
 Paloma Blanco 17 Federal COM #002  
 January 2018 Release  
 32.2992134, -103.4942169  
 Section 17, Township 23 South, Range 34 East



**Mapped Features**

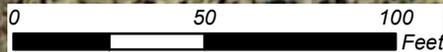
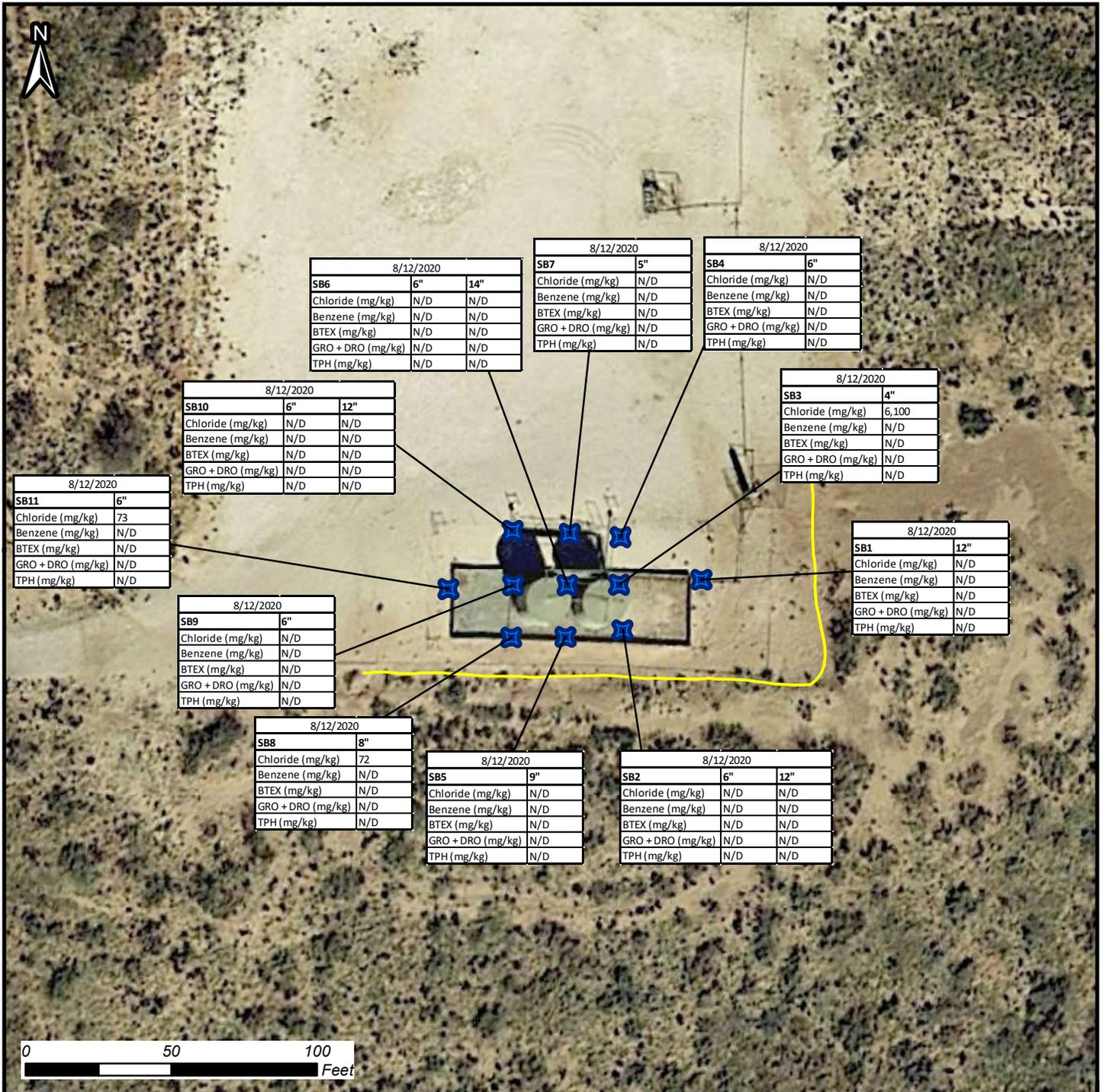
-  Point of Release
-  Groundwater Well
-  2-Mile Buffer

Well Number	Water Level Below Ground Surface (ft)	Distance from Source (mi)
USGS 23S.34E.16.333312	345.25	0.66
USGS 23S.34E.06.43314	328.90	1.74
CP 00556 POD1	255.00	1.00
CP 01730 POD1	200.00	1.34
CP 01760 POD1	290.00	1.41
C 04353 POD1	330.00	1.46

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Author: A. Asay  
 Revision: 0  
 Date: 8/31/2020



**Figure 3: Sample Location and Results Map**  
 Paloma Blanco 17 Federal COM #002  
 January 2018 Release  
 32.2992134, -103.4942169  
 Section 17, Township 23 South, Range 34 East

NOTES / COMMENTS:  
 Results in red exceed closure criteria.

**Mapped Features**

- Sample Location (Submitted for Analysis)
- Edge of Pad

DISCLAIMER: This representation and the Geographic Information System (GIS) used to create it are designed as a source of reference and not intended to replace official records and/or legal surveys. HRL assumes no responsibility for any risks, dangers, or liabilities that may result from its use and makes no guarantees as to the quality or accuracy of the underlying data.



Author: A. Asay  
 Revision: 0  
 Date: 8/31/2020

T:\CLIENTS\DEVON ENERGY\2020\Paloma Blanco 17 Federal COM #002\Maps\Paloma Blanco 17 Federal COM #002 Sample Location and Results Map (January 2018 Split) 083120.mxd



## Tables



**Table 1**  
**Site Characterization Soil Sample Results**  
**Devon Energy**  
**Paloma Blanco 17 Fed Com #002 (January 2018)**  
**Lea County, New Mexico**

Sample ID	Depth (inches)	Sample Date	Chloride	Benzene	BTEX	GRO + DRO	TPH
			<i>Values are in milligrams per kilogram (mg/kg)</i>				
NMOCD Closure Criteria (Groundwater greater than 100 feet) *			20,000	10	50	1,000	2,500
SB1-12	12	8/12/2020	ND	ND	ND	ND	ND
SB2-6	6	8/12/2020	ND	ND	ND	ND	ND
SB2-12	12	8/12/2020	ND	ND	ND	ND	ND
SB3-4	4	8/12/2020	6,100	ND	ND	ND	ND
SB4-6	6	8/12/2020	ND	ND	ND	ND	ND
SB5-9	9	8/12/2020	ND	ND	ND	ND	ND
SB6-6	6	8/12/2020	ND	ND	ND	ND	ND
SB6-14	14	8/12/2020	ND	ND	ND	ND	ND
SB7-5	5	8/12/2020	ND	ND	ND	ND	ND
SB8-8	8	8/12/2020	72	ND	ND	ND	ND
SB9-6	6	8/12/2020	ND	ND	ND	ND	ND
SB10-6	6	8/12/2020	ND	ND	ND	ND	ND
SB10-12	12	8/12/2020	ND	ND	ND	ND	ND
SB11-6	6	8/12/2020	73	ND	ND	ND	ND

*Notes:*

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, Total Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

TPH: Total Petroleum Hydrocarbons

**Bold** results exceed closure criteria

\* Closure Criteria specified in 19.15.29.12 NMAC



**Attachment A**  
**NMOCD Form C-141**

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

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised April 3, 2017

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

**Release Notification and Corrective Action** Initial only

**OPERATOR**  Initial Report  Final Report

Name of Company	Devon Energy Production Company	Contact	Hub Perry, Production Foreman
Address	6488 Seven Rivers Hwy Artesia, NM 88210	Telephone No.	575-513-9637
Facility Name	Paloma Blanco 17 Fed Com 2	Facility Type	Gas

Surface Owner	Federal	Mineral Owner	Federal	API No.	30-025-38024
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	17	23S	34E					Lea

Latitude\_32.29880\_ Longitude\_-103.49431\_ NAD83

**NATURE OF RELEASE**

Type of Release	Oil	Volume of Release	14bbbs	Volume Recovered	14bbbs
Source of Release	Oil tank	Date and Hour of Occurrence	January 7, 2018 @ 11:00 AM MST	Date and Hour of Discovery	January 7, 2018 @ 11:00 AM MST
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Shelly Tucker, BLM Olivia Yu, OCD		
By Whom?	Michael Shoemaker, EHS Professional	Date and Hour	January 8, 2018 @ 10:15 AM		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	N/A		
If a Watercourse was Impacted, Describe Fully.*	N/A				

**RECEIVED**  
By Olivia Yu at 2:27 pm, Jan 22, 2018

Describe Cause of Problem and Remedial Action Taken.\*  
The oil tank ran over. The back valve was immediately opened to lower the tank levels and the tank was switched out of to stop any further release.

Describe Area Affected and Cleanup Action Taken.\*  
Approximately 14bbbs of oil was released into the lined SPCC containment ring. A vacuum truck was dispatched and recovered approximately 14bbbs of oil from lined containment. All fluid stayed inside the lined SPCC containment. Once fluids were removed the liner was visually inspected by Devon field staff for any pinholes or punctures and none were found. Based on this inspection there is no evidence that the spill fluids left containment.

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: <i>Tamala Robison</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Tamala Robison	Approved by Environmental Specialist:	
Title: Field Admin Support	Approval Date: <span style="border: 1px solid red; padding: 2px;">1/22/2018</span>	Expiration Date:
E-mail Address: Tamala.Robison@dvn.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 1/19/18 Phone: 575.748.0181	Please inspect liner in question. Provide NMOCD with a concise report of the inspection with affirmation the liner has and will continue to contain liquids.	

nOY1802252498

\* Attach Additional Sheets If Necessary

Received by OCD: 10/19/2020 8:24:54 AM

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Paloma Blanco 17 Fed Com 2

14bbbs oil\_1.7.18



This map is for illustrative purposes only and is neither a legally recorded map nor survey and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

WGS\_1984\_Web\_Mercator\_Auxiliary\_Sphere  
Prepared by: Sheila Fisher  
Map is current as of: 08-Jan-2018



Miles  
0 0.01 0.02 0.04 1: 1,779



23S - R4E - 20  
X SW

Incident ID	NOY1802252498
District RP	
Facility ID	
Application ID	

## Site Assessment/Characterization

*This information must be provided to the appropriate district office no later than 90 days after the release discovery date.*

What is the shallowest depth to groundwater beneath the area affected by the release?	>100 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

**Characterization Report Checklist:** *Each of the following items must be included in the report.*

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico  
Oil Conservation Division

Incident ID	NOY1802252498
District RP	
Facility ID	
Application ID	

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

Printed Name: Tom Bynum Title: EHS Consultant

Signature: *Tom Bynum* Date: 9/25/2020

email: tom.bynum@dvn.com Telephone: 575-748-2663

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	NOY1802252498
District RP	
Facility ID	
Application ID	

## Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

**Closure Report Attachment Checklist: Each of the following items must be included in the closure report.**

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Tom Bynum Title: EHS Consultant  
 Signature: *Tom Bynum* Date: 9/25/2020  
 email: tom.bynum@dvn.com Telephone: 575-748-2663

**OCD Only**

Received by: Chad Hensley Date: 04/20/2021

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

Closure Approved by: *Chad Hensley* Date: 04/20/2021  
 Printed Name: Chad Hensley Title: Environmental Specialist Advanced



**Attachment B**  
**Analytical Laboratory Results**



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [clients.hallenvironmental.com](http://clients.hallenvironmental.com)

August 24, 2020

Tom Bynum

Devon Energy

6488 Seven Rivers Highway

Artesia, NM 88210

TEL: (505) 350-1336

FAX:

RE: Paloma Blanco 17 Fed Com 002

OrderNo.: 2008840

Dear Tom Bynum:

Hall Environmental Analysis Laboratory received 14 sample(s) on 8/15/2020 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

**Analytical Report**

Lab Order **2008840**

Date Reported: **8/24/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Devon Energy

**Client Sample ID:** SB1-12

**Project:** Paloma Blanco 17 Fed Com 002

**Collection Date:** 8/12/2020 7:52:00 AM

**Lab ID:** 2008840-001

**Matrix:** SOIL

**Received Date:** 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/19/2020 4:02:13 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/19/2020 4:02:13 PM
Surr: DNOP	106	30.4-154		%Rec	1	8/19/2020 4:02:13 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/18/2020 3:06:14 PM
Surr: BFB	97.8	75.3-105		%Rec	1	8/18/2020 3:06:14 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	8/18/2020 3:06:14 PM
Toluene	ND	0.049		mg/Kg	1	8/18/2020 3:06:14 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/18/2020 3:06:14 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/18/2020 3:06:14 PM
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	8/18/2020 3:06:14 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	300	60		mg/Kg	20	8/20/2020 2:58:45 PM

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

**Analytical Report**

Lab Order **2008840**

Date Reported: **8/24/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Devon Energy

**Client Sample ID:** SB2-6

**Project:** Paloma Blanco 17 Fed Com 002

**Collection Date:** 8/12/2020 7:58:00 AM

**Lab ID:** 2008840-002

**Matrix:** SOIL

**Received Date:** 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/19/2020 4:26:19 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/19/2020 4:26:19 PM
Surr: DNOP	74.8	30.4-154		%Rec	1	8/19/2020 4:26:19 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/18/2020 3:29:49 PM
Surr: BFB	97.6	75.3-105		%Rec	1	8/18/2020 3:29:49 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	8/18/2020 3:29:49 PM
Toluene	ND	0.050		mg/Kg	1	8/18/2020 3:29:49 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/18/2020 3:29:49 PM
Xylenes, Total	ND	0.10		mg/Kg	1	8/18/2020 3:29:49 PM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/18/2020 3:29:49 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	89	60		mg/Kg	20	8/20/2020 3:11:06 PM

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

**Analytical Report**

Lab Order **2008840**

Date Reported: **8/24/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Devon Energy

**Client Sample ID:** SB2-12

**Project:** Paloma Blanco 17 Fed Com 002

**Collection Date:** 8/12/2020 8:03:00 AM

**Lab ID:** 2008840-003

**Matrix:** SOIL

**Received Date:** 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	8/19/2020 4:50:21 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	8/19/2020 4:50:21 PM
Surr: DNOP	116	30.4-154		%Rec	1	8/19/2020 4:50:21 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/18/2020 3:53:24 PM
Surr: BFB	96.3	75.3-105		%Rec	1	8/18/2020 3:53:24 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	8/18/2020 3:53:24 PM
Toluene	ND	0.048		mg/Kg	1	8/18/2020 3:53:24 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/18/2020 3:53:24 PM
Xylenes, Total	ND	0.096		mg/Kg	1	8/18/2020 3:53:24 PM
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	8/18/2020 3:53:24 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	99	60		mg/Kg	20	8/20/2020 3:23:27 PM

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

**Analytical Report**

Lab Order **2008840**

Date Reported: **8/24/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Devon Energy

**Client Sample ID:** SB3-4

**Project:** Paloma Blanco 17 Fed Com 002

**Collection Date:** 8/12/2020 8:14:00 AM

**Lab ID:** 2008840-004

**Matrix:** SOIL

**Received Date:** 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/20/2020 12:56:58 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/20/2020 12:56:58 PM
Surr: DNOP	93.8	30.4-154		%Rec	1	8/20/2020 12:56:58 PM
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/18/2020 4:17:06 PM
Surr: BFB	98.7	75.3-105		%Rec	1	8/18/2020 4:17:06 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	8/18/2020 4:17:06 PM
Toluene	ND	0.049		mg/Kg	1	8/18/2020 4:17:06 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/18/2020 4:17:06 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/18/2020 4:17:06 PM
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	8/18/2020 4:17:06 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>MRA</b>
Chloride	6100	300		mg/Kg	100	8/22/2020 5:34:19 PM

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

**Qualifiers:**

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

**Analytical Report**

Lab Order **2008840**

Date Reported: **8/24/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Devon Energy

**Client Sample ID:** SB4-6

**Project:** Paloma Blanco 17 Fed Com 002

**Collection Date:** 8/12/2020 8:20:00 AM

**Lab ID:** 2008840-005

**Matrix:** SOIL

**Received Date:** 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/19/2020 5:38:47 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/19/2020 5:38:47 PM
Surr: DNOP	75.4	30.4-154		%Rec	1	8/19/2020 5:38:47 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	8/20/2020 3:48:09 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/17/2020 6:18:50 PM
Toluene	ND	0.049		mg/Kg	1	8/17/2020 6:18:50 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2020 6:18:50 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/17/2020 6:18:50 PM
Surr: 1,2-Dichloroethane-d4	99.7	70-130		%Rec	1	8/17/2020 6:18:50 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/17/2020 6:18:50 PM
Surr: Dibromofluoromethane	113	70-130		%Rec	1	8/17/2020 6:18:50 PM
Surr: Toluene-d8	101	70-130		%Rec	1	8/17/2020 6:18:50 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2020 6:18:50 PM
Surr: BFB	99.2	70-130		%Rec	1	8/17/2020 6:18:50 PM

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

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

**Analytical Report**

Lab Order **2008840**

Date Reported: **8/24/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Devon Energy

**Client Sample ID:** SB5-9

**Project:** Paloma Blanco 17 Fed Com 002

**Collection Date:** 8/12/2020 8:33:00 AM

**Lab ID:** 2008840-006

**Matrix:** SOIL

**Received Date:** 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>CLP</b>
Diesel Range Organics (DRO)	ND	7.8		mg/Kg	1	8/19/2020 6:02:59 PM
Motor Oil Range Organics (MRO)	ND	39		mg/Kg	1	8/19/2020 6:02:59 PM
Surr: DNOP	92.4	30.4-154		%Rec	1	8/19/2020 6:02:59 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	8/20/2020 4:00:30 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/17/2020 7:44:32 PM
Toluene	ND	0.049		mg/Kg	1	8/17/2020 7:44:32 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2020 7:44:32 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/17/2020 7:44:32 PM
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	8/17/2020 7:44:32 PM
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	8/17/2020 7:44:32 PM
Surr: Dibromofluoromethane	110	70-130		%Rec	1	8/17/2020 7:44:32 PM
Surr: Toluene-d8	98.6	70-130		%Rec	1	8/17/2020 7:44:32 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2020 7:44:32 PM
Surr: BFB	102	70-130		%Rec	1	8/17/2020 7:44:32 PM

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

**Analytical Report**

Lab Order **2008840**

Date Reported: **8/24/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Devon Energy

**Client Sample ID:** SB6-6

**Project:** Paloma Blanco 17 Fed Com 002

**Collection Date:** 8/12/2020 8:40:00 AM

**Lab ID:** 2008840-007

**Matrix:** SOIL

**Received Date:** 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/19/2020 2:48:22 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/19/2020 2:48:22 PM
Surr: DNOP	84.3	30.4-154		%Rec	1	8/19/2020 2:48:22 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>JMT</b>
Chloride	ND	60		mg/Kg	20	8/20/2020 4:12:50 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/17/2020 9:10:08 PM
Toluene	ND	0.049		mg/Kg	1	8/17/2020 9:10:08 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2020 9:10:08 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/17/2020 9:10:08 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	8/17/2020 9:10:08 PM
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	8/17/2020 9:10:08 PM
Surr: Dibromofluoromethane	113	70-130		%Rec	1	8/17/2020 9:10:08 PM
Surr: Toluene-d8	100	70-130		%Rec	1	8/17/2020 9:10:08 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2020 9:10:08 PM
Surr: BFB	101	70-130		%Rec	1	8/17/2020 9:10:08 PM

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

**Analytical Report**

Lab Order **2008840**

Date Reported: **8/24/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Devon Energy

**Client Sample ID:** SB7-5

**Project:** Paloma Blanco 17 Fed Com 002

**Collection Date:** 8/12/2020 8:49:00 AM

**Lab ID:** 2008840-008

**Matrix:** SOIL

**Received Date:** 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/19/2020 4:01:54 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/19/2020 4:01:54 PM
Surr: DNOP	65.9	30.4-154		%Rec	1	8/19/2020 4:01:54 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	8/22/2020 9:55:11 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/17/2020 9:38:36 PM
Toluene	ND	0.049		mg/Kg	1	8/17/2020 9:38:36 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2020 9:38:36 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/17/2020 9:38:36 PM
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%Rec	1	8/17/2020 9:38:36 PM
Surr: 4-Bromofluorobenzene	107	70-130		%Rec	1	8/17/2020 9:38:36 PM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/17/2020 9:38:36 PM
Surr: Toluene-d8	101	70-130		%Rec	1	8/17/2020 9:38:36 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2020 9:38:36 PM
Surr: BFB	106	70-130		%Rec	1	8/17/2020 9:38:36 PM

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

**Qualifiers:**

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

**Analytical Report**

Lab Order **2008840**

Date Reported: **8/24/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Devon Energy

**Client Sample ID:** SB8-8

**Project:** Paloma Blanco 17 Fed Com 002

**Collection Date:** 8/12/2020 8:59:00 AM

**Lab ID:** 2008840-009

**Matrix:** SOIL

**Received Date:** 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/19/2020 4:26:23 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/19/2020 4:26:23 PM
Surr: DNOP	78.2	30.4-154		%Rec	1	8/19/2020 4:26:23 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>MRA</b>
Chloride	72	60		mg/Kg	20	8/22/2020 10:32:24 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	8/17/2020 10:07:03 PM
Toluene	ND	0.050		mg/Kg	1	8/17/2020 10:07:03 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/17/2020 10:07:03 PM
Xylenes, Total	ND	0.10		mg/Kg	1	8/17/2020 10:07:03 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	8/17/2020 10:07:03 PM
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	8/17/2020 10:07:03 PM
Surr: Dibromofluoromethane	110	70-130		%Rec	1	8/17/2020 10:07:03 PM
Surr: Toluene-d8	97.8	70-130		%Rec	1	8/17/2020 10:07:03 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/17/2020 10:07:03 PM
Surr: BFB	104	70-130		%Rec	1	8/17/2020 10:07:03 PM

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

**Qualifiers:**

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

**Analytical Report**

Lab Order **2008840**

Date Reported: **8/24/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Devon Energy

**Client Sample ID:** SB9-6

**Project:** Paloma Blanco 17 Fed Com 002

**Collection Date:** 8/12/2020 9:07:00 AM

**Lab ID:** 2008840-010

**Matrix:** SOIL

**Received Date:** 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/19/2020 4:51:00 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/19/2020 4:51:00 PM
Surr: DNOP	90.0	30.4-154		%Rec	1	8/19/2020 4:51:00 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	8/22/2020 10:44:48 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/17/2020 10:35:29 PM
Toluene	ND	0.048		mg/Kg	1	8/17/2020 10:35:29 PM
Ethylbenzene	ND	0.048		mg/Kg	1	8/17/2020 10:35:29 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/17/2020 10:35:29 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	8/17/2020 10:35:29 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/17/2020 10:35:29 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	1	8/17/2020 10:35:29 PM
Surr: Toluene-d8	101	70-130		%Rec	1	8/17/2020 10:35:29 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	8/17/2020 10:35:29 PM
Surr: BFB	102	70-130		%Rec	1	8/17/2020 10:35:29 PM

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Analytical Report

Lab Order 2008840

Date Reported: 8/24/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy

Client Sample ID: SB6-14

Project: Paloma Blanco 17 Fed Com 002

Collection Date: 8/12/2020 8:44:00 AM

Lab ID: 2008840-011

Matrix: SOIL

Received Date: 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	8/19/2020 5:15:35 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/19/2020 5:15:35 PM
Surr: DNOP	74.9	30.4-154		%Rec	1	8/19/2020 5:15:35 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	8/22/2020 10:57:12 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/17/2020 11:03:57 PM
Toluene	ND	0.049		mg/Kg	1	8/17/2020 11:03:57 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2020 11:03:57 PM
Xylenes, Total	ND	0.098		mg/Kg	1	8/17/2020 11:03:57 PM
Surr: 1,2-Dichloroethane-d4	98.8	70-130		%Rec	1	8/17/2020 11:03:57 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/17/2020 11:03:57 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	1	8/17/2020 11:03:57 PM
Surr: Toluene-d8	99.6	70-130		%Rec	1	8/17/2020 11:03:57 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2020 11:03:57 PM
Surr: BFB	101	70-130		%Rec	1	8/17/2020 11:03:57 PM

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

**Analytical Report**

Lab Order **2008840**

Date Reported: **8/24/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Devon Energy

**Client Sample ID:** SB10-6

**Project:** Paloma Blanco 17 Fed Com 002

**Collection Date:** 8/12/2020 9:14:00 AM

**Lab ID:** 2008840-012

**Matrix:** SOIL

**Received Date:** 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/19/2020 5:39:58 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/19/2020 5:39:58 PM
Surr: DNOP	78.4	30.4-154		%Rec	1	8/19/2020 5:39:58 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>MRA</b>
Chloride	ND	60		mg/Kg	20	8/22/2020 11:09:36 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/17/2020 11:32:34 PM
Toluene	ND	0.049		mg/Kg	1	8/17/2020 11:32:34 PM
Ethylbenzene	ND	0.049		mg/Kg	1	8/17/2020 11:32:34 PM
Xylenes, Total	ND	0.097		mg/Kg	1	8/17/2020 11:32:34 PM
Surr: 1,2-Dichloroethane-d4	99.8	70-130		%Rec	1	8/17/2020 11:32:34 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	8/17/2020 11:32:34 PM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	8/17/2020 11:32:34 PM
Surr: Toluene-d8	102	70-130		%Rec	1	8/17/2020 11:32:34 PM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/17/2020 11:32:34 PM
Surr: BFB	105	70-130		%Rec	1	8/17/2020 11:32:34 PM

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

**Analytical Report**

Lab Order **2008840**

Date Reported: **8/24/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Devon Energy

**Client Sample ID:** SB10-12

**Project:** Paloma Blanco 17 Fed Com 002

**Collection Date:** 8/12/2020 9:17:00 AM

**Lab ID:** 2008840-013

**Matrix:** SOIL

**Received Date:** 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	8/19/2020 6:04:32 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/19/2020 6:04:32 PM
Surr: DNOP	104	30.4-154		%Rec	1	8/19/2020 6:04:32 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>MRA</b>
Chloride	ND	59		mg/Kg	20	8/22/2020 11:22:00 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JMR</b>
Benzene	ND	0.025		mg/Kg	1	8/18/2020 12:00:59 AM
Toluene	ND	0.049		mg/Kg	1	8/18/2020 12:00:59 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/18/2020 12:00:59 AM
Xylenes, Total	ND	0.099		mg/Kg	1	8/18/2020 12:00:59 AM
Surr: 1,2-Dichloroethane-d4	96.4	70-130		%Rec	1	8/18/2020 12:00:59 AM
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	8/18/2020 12:00:59 AM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	8/18/2020 12:00:59 AM
Surr: Toluene-d8	100	70-130		%Rec	1	8/18/2020 12:00:59 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/18/2020 12:00:59 AM
Surr: BFB	102	70-130		%Rec	1	8/18/2020 12:00:59 AM

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

**Analytical Report**

Lab Order **2008840**

Date Reported: **8/24/2020**

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Devon Energy

**Client Sample ID:** SB11-6

**Project:** Paloma Blanco 17 Fed Com 002

**Collection Date:** 8/12/2020 9:25:00 AM

**Lab ID:** 2008840-014

**Matrix:** SOIL

**Received Date:** 8/15/2020 7:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>						Analyst: <b>BRM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/19/2020 6:29:04 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/19/2020 6:29:04 PM
Surr: DNOP	72.5	30.4-154		%Rec	1	8/19/2020 6:29:04 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>MRA</b>
Chloride	73	60		mg/Kg	20	8/22/2020 11:59:14 AM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: <b>JMR</b>
Benzene	ND	0.024		mg/Kg	1	8/18/2020 12:29:24 AM
Toluene	ND	0.049		mg/Kg	1	8/18/2020 12:29:24 AM
Ethylbenzene	ND	0.049		mg/Kg	1	8/18/2020 12:29:24 AM
Xylenes, Total	ND	0.097		mg/Kg	1	8/18/2020 12:29:24 AM
Surr: 1,2-Dichloroethane-d4	99.7	70-130		%Rec	1	8/18/2020 12:29:24 AM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	8/18/2020 12:29:24 AM
Surr: Dibromofluoromethane	107	70-130		%Rec	1	8/18/2020 12:29:24 AM
Surr: Toluene-d8	102	70-130		%Rec	1	8/18/2020 12:29:24 AM
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>						Analyst: <b>JMR</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/18/2020 12:29:24 AM
Surr: BFB	105	70-130		%Rec	1	8/18/2020 12:29:24 AM

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2008840

24-Aug-20

**Client:** Devon Energy  
**Project:** Paloma Blanco 17 Fed Com 002

Sample ID: <b>MB-54565</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54565</b>	RunNo: <b>71213</b>								
Prep Date: <b>8/20/2020</b>	Analysis Date: <b>8/20/2020</b>	SeqNo: <b>2485707</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54565</b>	SampType: <b>ics</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54565</b>	RunNo: <b>71213</b>								
Prep Date: <b>8/20/2020</b>	Analysis Date: <b>8/20/2020</b>	SeqNo: <b>2485708</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.9	90	110			

Sample ID: <b>MB-54573</b>	SampType: <b>mblk</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54573</b>	RunNo: <b>71283</b>								
Prep Date: <b>8/20/2020</b>	Analysis Date: <b>8/22/2020</b>	SeqNo: <b>2487393</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: <b>LCS-54573</b>	SampType: <b>ics</b>	TestCode: <b>EPA Method 300.0: Anions</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54573</b>	RunNo: <b>71283</b>								
Prep Date: <b>8/20/2020</b>	Analysis Date: <b>8/22/2020</b>	SeqNo: <b>2487394</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.9	90	110			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2008840

24-Aug-20

**Client:** Devon Energy  
**Project:** Paloma Blanco 17 Fed Com 002

Sample ID: <b>2008840-007AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SB6-6</b>	Batch ID: <b>54509</b>	RunNo: <b>71149</b>								
Prep Date: <b>8/18/2020</b>	Analysis Date: <b>8/19/2020</b>	SeqNo: <b>2483271</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.3	46.34	3.884	88.2	47.4	136			
Surr: DNOP	3.6		4.634		78.2	30.4	154			

Sample ID: <b>2008840-007AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>SB6-6</b>	Batch ID: <b>54509</b>	RunNo: <b>71149</b>								
Prep Date: <b>8/18/2020</b>	Analysis Date: <b>8/19/2020</b>	SeqNo: <b>2483272</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.4	46.95	3.884	88.0	47.4	136	0.995	43.4	
Surr: DNOP	3.7		4.695		78.6	30.4	154	0	0	

Sample ID: <b>LCS-54509</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54509</b>	RunNo: <b>71149</b>								
Prep Date: <b>8/18/2020</b>	Analysis Date: <b>8/19/2020</b>	SeqNo: <b>2483290</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	100	70	130			
Surr: DNOP	5.0		5.000		99.2	30.4	154			

Sample ID: <b>MB-54509</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54509</b>	RunNo: <b>71149</b>								
Prep Date: <b>8/18/2020</b>	Analysis Date: <b>8/19/2020</b>	SeqNo: <b>2483291</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.5		10.00		95.1	30.4	154			

Sample ID: <b>MB-54508</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54508</b>	RunNo: <b>71203</b>								
Prep Date: <b>8/18/2020</b>	Analysis Date: <b>8/19/2020</b>	SeqNo: <b>2483963</b>	Units: <b>mg/Kg</b>							
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	9.7		10.00		96.7	30.4	154			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2008840

24-Aug-20

**Client:** Devon Energy  
**Project:** Paloma Blanco 17 Fed Com 002

Sample ID: <b>LCS-54508</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54508</b>	RunNo: <b>71203</b>								
Prep Date: <b>8/18/2020</b>	Analysis Date: <b>8/19/2020</b>	SeqNo: <b>2483964</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.0	70	130			
Surr: DNOP	4.4		5.000		88.3	30.4	154			

**Qualifiers:**

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2008840

24-Aug-20

**Client:** Devon Energy  
**Project:** Paloma Blanco 17 Fed Com 002

Sample ID: <b>mb-54438</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54438</b>	RunNo: <b>71136</b>								
Prep Date: <b>8/15/2020</b>	Analysis Date: <b>8/18/2020</b>	SeqNo: <b>2480072</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		98.6	75.3	105			

Sample ID: <b>lcs-54438</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54438</b>	RunNo: <b>71136</b>								
Prep Date: <b>8/15/2020</b>	Analysis Date: <b>8/17/2020</b>	SeqNo: <b>2480073</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	82.0	72.5	106			
Surr: BFB	1100		1000		110	75.3	105			S

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2008840

24-Aug-20

**Client:** Devon Energy  
**Project:** Paloma Blanco 17 Fed Com 002

Sample ID: <b>mb-54438</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54438</b>	RunNo: <b>71136</b>								
Prep Date: <b>8/15/2020</b>	Analysis Date: <b>8/18/2020</b>	SeqNo: <b>2480115</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: <b>LCS-54438</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54438</b>	RunNo: <b>71136</b>								
Prep Date: <b>8/15/2020</b>	Analysis Date: <b>8/17/2020</b>	SeqNo: <b>2480116</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	88.9	80	120			
Toluene	0.91	0.050	1.000	0	91.3	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.5	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.5	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2008840

24-Aug-20

**Client:** Devon Energy  
**Project:** Paloma Blanco 17 Fed Com 002

Sample ID: <b>Ics-54441</b>	SampType: <b>LCS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>54441</b>	RunNo: <b>71144</b>								
Prep Date: <b>8/15/2020</b>	Analysis Date: <b>8/17/2020</b>	SeqNo: <b>2480495</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	92.6	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.4	0.10	3.000	0	112	80	120			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.3	70	130			
Surr: 4-Bromofluorobenzene	0.53		0.5000		106	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		109	70	130			
Surr: Toluene-d8	0.53		0.5000		105	70	130			

Sample ID: <b>mb-54441</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54441</b>	RunNo: <b>71144</b>								
Prep Date: <b>8/15/2020</b>	Analysis Date: <b>8/17/2020</b>	SeqNo: <b>2480496</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		99.5	70	130			
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.50		0.5000		100	70	130			

Sample ID: <b>2008840-005ams</b>	SampType: <b>MS4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>SB4-6</b>	Batch ID: <b>54441</b>	RunNo: <b>71144</b>								
Prep Date: <b>8/15/2020</b>	Analysis Date: <b>8/17/2020</b>	SeqNo: <b>2480498</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	0.9960	0	91.7	71.1	115			
Toluene	1.0	0.050	0.9960	0	102	79.6	132			
Ethylbenzene	1.0	0.050	0.9960	0	103	83.8	134			
Xylenes, Total	3.2	0.10	2.988	0	108	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.50		0.4980		101	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.4980		104	70	130			
Surr: Dibromofluoromethane	0.53		0.4980		107	70	130			
Surr: Toluene-d8	0.51		0.4980		102	70	130			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 2008840

24-Aug-20

**Client:** Devon Energy  
**Project:** Paloma Blanco 17 Fed Com 002

Sample ID: <b>2008840-005amsd</b>	SampType: <b>MSD4</b>	TestCode: <b>EPA Method 8260B: Volatiles Short List</b>								
Client ID: <b>SB4-6</b>	Batch ID: <b>54441</b>	RunNo: <b>71144</b>								
Prep Date: <b>8/15/2020</b>	Analysis Date: <b>8/17/2020</b>	SeqNo: <b>2480499</b> Units: <b>mg/Kg</b>								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.024	0.9747	0	93.7	71.1	115	0.0484	20	
Toluene	1.0	0.049	0.9747	0	106	79.6	132	1.76	20	
Ethylbenzene	1.0	0.049	0.9747	0	106	83.8	134	0.738	20	
Xylenes, Total	3.2	0.097	2.924	0	110	82.4	132	0.160	20	
Surr: 1,2-Dichloroethane-d4	0.49		0.4873		101	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.50		0.4873		102	70	130	0	0	
Surr: Dibromofluoromethane	0.53		0.4873		109	70	130	0	0	
Surr: Toluene-d8	0.48		0.4873		98.9	70	130	0	0	

**Qualifiers:**

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2008840

24-Aug-20

**Client:** Devon Energy  
**Project:** Paloma Blanco 17 Fed Com 002

Sample ID: <b>ics-54441</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>54441</b>	RunNo: <b>71144</b>								
Prep Date: <b>8/15/2020</b>	Analysis Date: <b>8/17/2020</b>	SeqNo: <b>2480511</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.4	70	130			
Surr: BFB	500		500.0		101	70	130			

Sample ID: <b>mb-54441</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>54441</b>	RunNo: <b>71144</b>								
Prep Date: <b>8/15/2020</b>	Analysis Date: <b>8/17/2020</b>	SeqNo: <b>2480512</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	520		500.0		104	70	130			

Sample ID: <b>2008840-006ams</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>SB5-9</b>	Batch ID: <b>54441</b>	RunNo: <b>71144</b>								
Prep Date: <b>8/15/2020</b>	Analysis Date: <b>8/17/2020</b>	SeqNo: <b>2480516</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	24.83	0	85.0	49.2	122			
Surr: BFB	500		496.5		102	70	130			

Sample ID: <b>2008840-006amsd</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>								
Client ID: <b>SB5-9</b>	Batch ID: <b>54441</b>	RunNo: <b>71144</b>								
Prep Date: <b>8/15/2020</b>	Analysis Date: <b>8/17/2020</b>	SeqNo: <b>2480517</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	24.88	0	82.5	49.2	122	2.86	20	
Surr: BFB	500		497.5		100	70	130	0	0	

**Qualifiers:**

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



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

# Sample Log-In Check List

Client Name: **Devon Energy**      Work Order Number: **2008840**      RcptNo: 1

Received By: **Cheyenne Cason**      8/15/2020 7:55:00 AM

Completed By: **Emily Mocho**      8/15/2020 9:06:32 AM

Reviewed By: *EM 8/15/20*

**Chain of Custody**

1. Is Chain of Custody complete?      Yes       No       Not Present
2. How was the sample delivered?      Courier

**Log In**

3. Was an attempt made to cool the samples?      Yes       No       NA
4. Were all samples received at a temperature of >0° C to 6.0°C      Yes       No       NA
5. Sample(s) in proper container(s)?      Yes       No
6. Sufficient sample volume for indicated test(s)?      Yes       No
7. Are samples (except VOA and ONG) properly preserved?      Yes       No
8. Was preservative added to bottles?      Yes       No       NA
9. Received at least 1 vial with headspace <1/4" for AQ VOA?      Yes       No       NA
10. Were any sample containers received broken?      Yes       No
11. Does paperwork match bottle labels?  
 (Note discrepancies on chain of custody)      Yes       No
12. Are matrices correctly identified on Chain of Custody?      Yes       No
13. Is it clear what analyses were requested?      Yes       No
14. 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: *EMC 8/15/20*

**Special Handling (if applicable)**

15. 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: \_\_\_\_\_

16. Additional remarks:

**17. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Not Present			
2	2.8	Good	Not Present			
3	3.9	Good	Not Present			
4	3.3	Good	Not Present			





**District I**  
 1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**  
 811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 10725

**CONDITIONS OF APPROVAL**

Operator: PIMA ENVIRONMENTAL SERVICES, L Suite 500 Hobbs, NM88240	1601 N. Turner	OGRID: 329999	Action Number: 10725	Action Type: C-141
OCD Reviewer chensley		Condition None		