

P.O. Box 1708 • Artesia, NM 88211 www.hrlcomp.com

June 5, 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

Cotton Draw Unit 172H (April 2015)

2RP-2966

Eddy County, New Mexico

Dear Mr. Bynum:

HRL Compliance Solutions, Inc. (HRL) is pleased to present this closure report for the release and subsequent remediation of the April 26, 2015 release at the Cotton Draw Unit 172H (Site). The release is at latitude 32.152380 and longitude -103.726807 in Eddy County, New Mexico (Figure 1). Photographs of the site can be found in Attachment A.

Site Background

On April 26, 2015, a release of four barrels (bbls) of oil was observed at the Site. The release occurred when a dump valve hung open on the three-phase separator. This caused the free water knockout to overpressure, resulting in oil to release from the pressure relief valve on the free water knockout. Of the four bbls of oil that was released, three bbls remained within lined containment and were recovered by vacuum truck. The remaining one bbl of oil was carried by the wind into the pasture in a northeasterly direction, originating from the southeast corner of the pad. The area affected in the pasture was tilled and the surface was treated.

Because the volume released was less than five barrels (bbls), this is considered a non-reportable release according to the New Mexico Oil and Conservation Division (NMOCD). On April 28, 2015, Devon reported the release to NMOCD on a Release Notification and Corrective Action Form (Form C-141) (Attachment B) The release was assigned Remediation Permit (RP) number 2RP-2966.

Scope of Work

Devon has requested HRL to provide the following deliverables:

- Research the information as specified in the Site Characterization on the NMOCD Form C-141
- Prepare a map with sample points labeled
- Prepare a table summarizing the results obtained during the site characterization activities

INNOVATIVE SOLUTIONS DELIVERED



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 1 mile from the Site; the depth to water in this well was 390 feet below ground surface (bgs).

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.

Site Characterization	Response/Discussion
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
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

Cotton Draw Unit 172H (April 2015) June 5, 2020



Site Characterization	Response/Discussion
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?	Yes

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 March 8, 2020, HRL mobilized to the Site to evaluate the release. Four soil samples (SP1 through SP4) were collected from ground surface for analysis in the field (field screening) by one or more of the following methods:

- Chloride was approximated using an electrical conductivity (EC) meter in accordance with methods recommended by the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS)
- Non-specific volatile organic compounds (VOCs) were measured using a photoionization detector (PID) with a 10.6 electron-volt (eV) lamp
- Total petroleum hydrocarbons (TPH) was measured using a PetroFlag® field test kit in accordance with U.S. Environmental Protection Agency (EPA) Method 9074

On March 15, HRL remobilized to the Site to further evaluate the release. Four soil samples (SP5 through SP8) were collected from ground surface for analysis in the field as described above.

On April 3, 2020, HRL mobilized to the Site to collect five soil samples (SP1 through SP5) for laboratory analysis. The soil samples were immediately placed on ice and kept under strict chain of custody protocol prior to submission to Hall Environmental Analysis Laboratory, Inc. in Albuquerque, New Mexico for analysis of:

Cotton Draw Unit 172H (April 2015) June 5, 2020



- 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

Closure Criteria

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

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

Remediation and Reclamation

A scaled diagram depicting the potentially impacted area and 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 of the soil samples, remediation of the impacted soil is not necessary (Attachment B).

Conclusions and Recommendations

The results of the soil samples were below the applicable closure criteria specified in 19.15.29.12 NMAC. Therefore, no additional remedial action is required; HRL recommends closure of this release.

Scope and Limitations

The scope of HRL's services consists of performing site characterization, confirmation sampling, and preparation of this 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.

Cotton Draw Unit 172H (April 2015) June 5, 2020



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.

Sincerely,

HRL Compliance Solutions, Inc.

Julie Linn, PG, RG Project Manager

Figures:

Figure 1: Site Location Map

Figure 2: Depth to Groundwater Map

Figure 3: Sample Location and Results Map

Tables:

Table 1: Analytical Results Summary

Attachments:

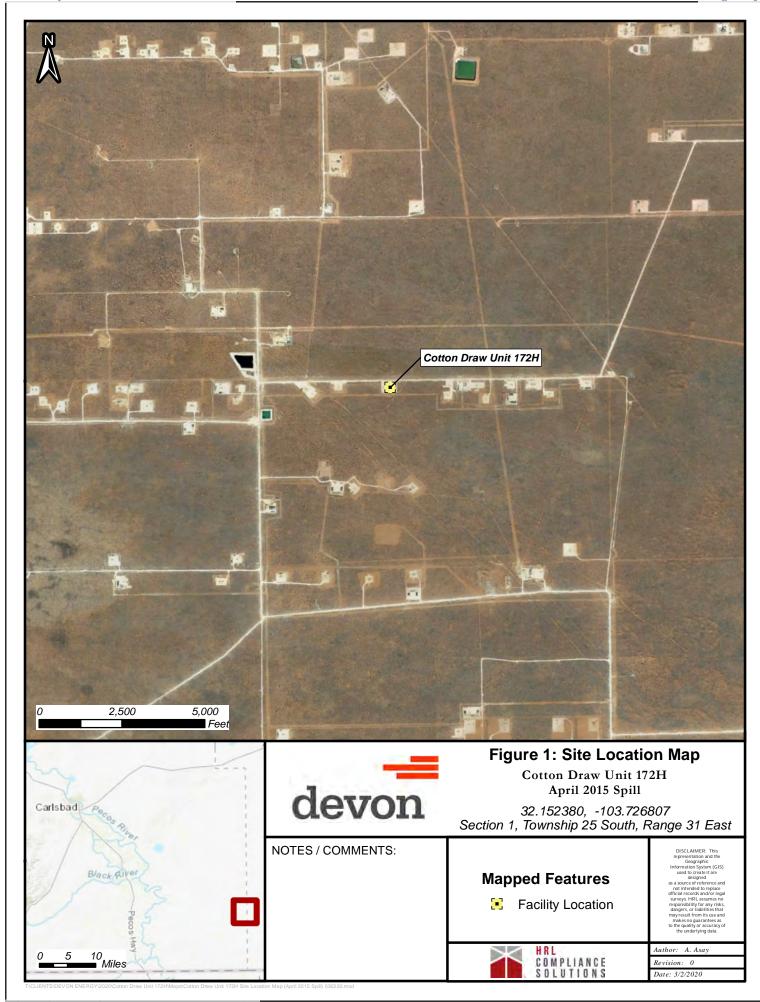
Attachment A: Photographs

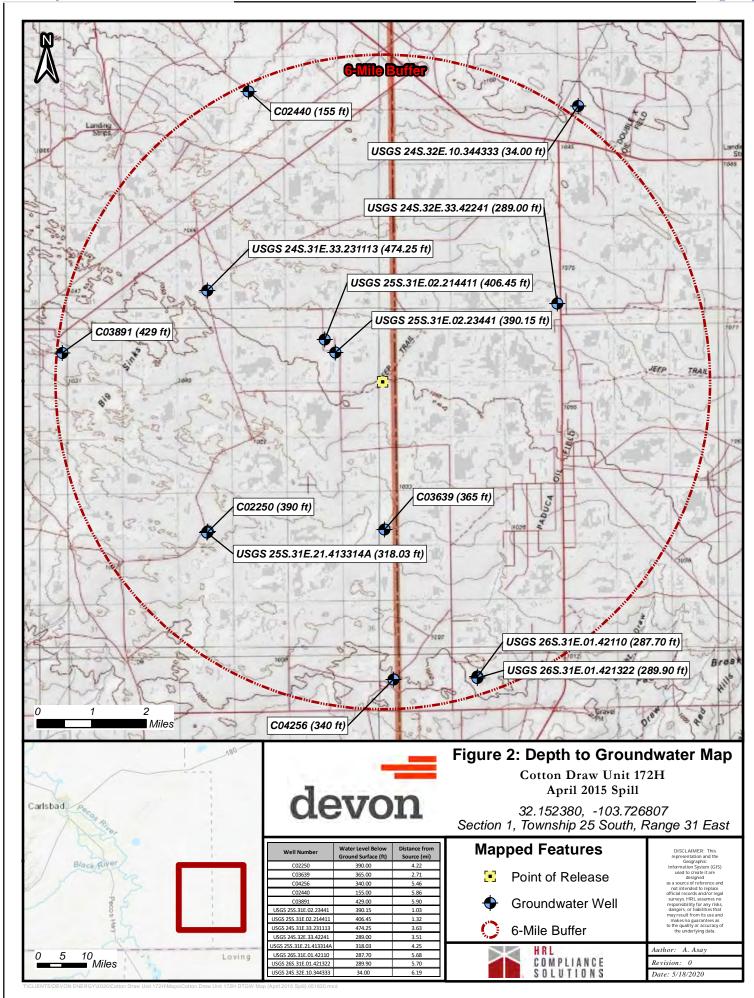
Attachment B: NMOCD Form C-141

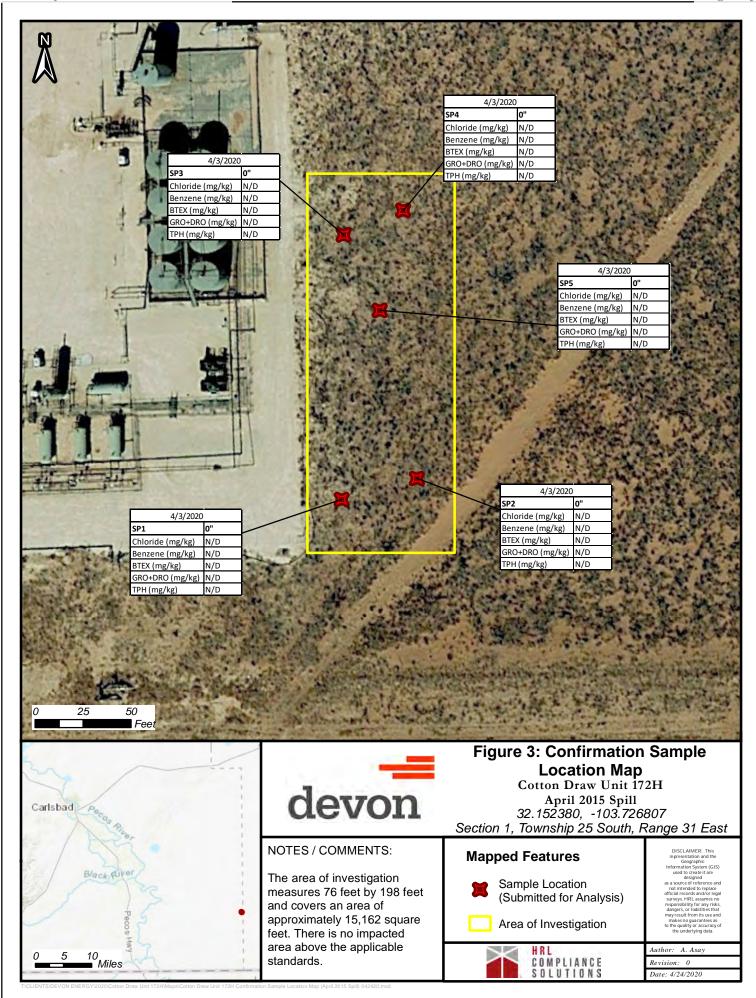
Attachment C: Laboratory Analytical Reports



Figures









Tables



Table 1 Soil Sample Results Devon Energy Cotton Draw Unit 172H (April 2015) Eddy County, New Mexico

Sample ID	Depth (inches)	Sample Date	Chloride Benzene		oride Benzene BTEX C		TPH	
			Val	ues are in mil	ligrams per k	ilogram (mg/l	kg)	
	osure Crite ater than 1	ria (Groundwater 00 feet) *	20,000	1,000	2,500			
SP1	0	4/3/2020	ND	ND	ND	ND	ND	
SP2	0	4/3/2020	ND	ND	ND	ND	ND	
SP3	0	4/3/2020	ND	ND	ND	ND	ND	
SP4	0	4/3/2020	ND	ND	ND	ND	ND	
SP5	0	4/3/2020	ND	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 Photographs





View of the Site



View of the Site



Attachment B

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

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

	OPERATOR Initial Report Final Rep						l Report 🔃 Final Report		
						roduction Forema	nn		
Address 6488 Seven Rivers Hwy Artesia, NM 88210						No. 575-513-489	95		
Facility Name Cotton Draw Unit 172H Facility Type Oil V					e Oil Well				
Surface Ow	ner Feder	al		Mineral (Owner	· Federal		API No	30-015-42426
				I		N OF REI	LEASE		
Unit Letter	Section	Township	Range	Feet from the		h/South Line	Feet from the	East/West Line	County
0	1	25S	31E	195	TVOTA	South	1345	East	Eddy
		La	atitude: 1	N 32' 09'.09.41	,,	Lo	ngitude: W 103	3' 43'38.37"	
				NAT	URE	OF RELI			
Type of Rele		ase					Release 4BBLS		Recovered 3BBLS
Source of Re Pressure relie		Frag water kno	ek out				Hour of Occurre 015 10:15 AM		Hour of Discovery 2015 10:15 AM
Was Immedi			CK Out			If YES, To		April 20, 2	2013 10.13 AW
vus Immedi	ate Honce	_	Yes	No Not Re	equired		BLM & Mike Br	atcher; OCD	
			ant Produ	ction Foreman			Hour May 26, 20		
Was a Water	rcourse Re		Yes 🗵	No		If YES, Vo	olume Impacting	the Watercourse	
If a Waterco N/A	urse was I	mpacted, Des	cribe Full	ly.*					
Describe Cause of Problem and Remedial Action Taken.* The free water knock out over pressured as a result of a dump valve hanging open on the three phase separator causing oil to release from the pressure relief valve on the free water knock out. Once the pressure was relieved the release stopped. Dump valve was adjusted.									
in a northeast	BLS of oil of erly direction The 3 BBLS	was released. 3	3BBLS was from the	as released into lin southeast corner o	of the p	ad. The 1 BBL	S of mist released	l into the pasture af	ely 1 BBL of oil into the pasture fected an area approximately asture was tilled and the surface
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: S	andy Fo	urley					OIL CONS	SERVATION	<u>DIVISION</u>
Printed Name		<u> </u>				Approved by	Environmental S _I	pecialist:	
Title: Field A	•	•				Approval Dat	e:	Expiration I	Date:
E-mail Addre	ss: sandy.f	arley@dvn.co	om			Conditions of	Approval:		Attached
Date: 4.28.15		Pho	ne: 575.74	6.5587					

^{*} Attach Additional Sheets If Necessary

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 Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141 Revised August 24, 2018 Submit to appropriate OCD District office

Incident ID	nAB1511729624
District RP	2RP-2966
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?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ⊠ 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)?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ⊠ 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?	☐ Yes ⊠ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ⊠ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ⊠ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ⊠ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ⊠ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ⊠ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ⊠ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ⊠ No
Attach	4:144£:1

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

Received by OCD: 7/8/2020 10:17:56 AM State of New Mexico
Page 2 Oil Conservation Division

	Page 17 of 3
Incident ID	nAB1511729624
District RP	2RP-2966
Facility ID	

Application ID

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.

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

public health or the environment. The acceptance of a C-141 report by the OCI failed to adequately investigate and remediate contamination that pose a threat addition, OCD acceptance of a C-141 report does not relieve the operator of resand/or regulations.	O does not relieve the operator of liability should their operations have to groundwater, surface water, human health or the environment. In
Printed Name: Tom Bynum	Fitle: EHS Consultant
Signature: Tom Bynum Da	nte: 6/8/2020
email: tom.bynum@dvn.com Tele	phone: 575-748-0176
OCD Only	
Received by:	Date:

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Incident ID nAB1511729624
District RP 2RP-2966
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 it	ems must be included in the closure report.
A scaled site and sampling diagram as described in 19.15.29.1	1 NMAC
□ Photographs of the remediated site prior to backfill or photos must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office
☐ Laboratory analyses of final sampling (Note: appropriate ODC	C District office must be notified 2 days prior to final sampling)
□ Description of remediation activities	
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and remhuman health or the environment. In addition, OCD acceptance of a compliance with any other federal, state, or local laws and/or regular restore, reclaim, and re-vegetate the impacted surface area to the correct accordance with 19.15.29.13 NMAC including notification to the October Printed Name: Tom Bynum Signature: Tom Bynum	nediate contamination that pose a threat to groundwater, surface water, a C-141 report does not relieve the operator of responsibility for tions. The responsible party acknowledges they must substantially nditions that existed prior to the release or their final land use in CD when reclamation and re-vegetation are complete. Title: EHS Consultant
OCD Only	
Received by: OCD	Date:7/8/2020
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible or regulations.
Closure Approved by:Ashlay Maqwall_	Date: 12/22/2022
Closure Approved by:Ashlay MafwellPrinted Name:Ashley Maxwell	Title: Environmental Specialist



Attachment C Laboratory Analytical Reports



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

OrderNo.: 2004243

April 13, 2020

Tom Bynum Devon Energy 6488 Seven Rivers Highway Artesia, NM 88210 TEL: (575) 748-0176

FAX:

RE: Cotton Draw 172H April 2015

Dear Tom Bynum:

Hall Environmental Analysis Laboratory received 5 sample(s) on 4/7/2020 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 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,

Andy Freeman

Laboratory Manager

andy

4901 Hawkins NE

Albuquerque, NM 87109

Date Reported: 4/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: SP1

 Project:
 Cotton Draw 172H April 2015
 Collection Date: 4/3/2020 9:21:00 AM

 Lab ID:
 2004243-001
 Matrix: SOIL
 Received Date: 4/7/2020 8:28:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORG	ANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	4/8/2020 12:18:51 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	4/8/2020 12:18:51 PM
Surr: DNOP	63.7	55.1-146	%Rec	1	4/8/2020 12:18:51 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	ND	60	mg/Kg	20	4/9/2020 6:02:39 AM
EPA METHOD 8260B: VOLATILES SHORT LIS	Т				Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	4/8/2020 11:32:38 PM
Toluene	ND	0.047	mg/Kg	1	4/8/2020 11:32:38 PM
Ethylbenzene	ND	0.047	mg/Kg	1	4/8/2020 11:32:38 PM
Xylenes, Total	ND	0.094	mg/Kg	1	4/8/2020 11:32:38 PM
Surr: 1,2-Dichloroethane-d4	92.6	70-130	%Rec	1	4/8/2020 11:32:38 PM
Surr: 4-Bromofluorobenzene	95.6	70-130	%Rec	1	4/8/2020 11:32:38 PM
Surr: Dibromofluoromethane	95.9	70-130	%Rec	1	4/8/2020 11:32:38 PM
Surr: Toluene-d8	99.1	70-130	%Rec	1	4/8/2020 11:32:38 PM
EPA METHOD 8015D MOD: GASOLINE RANGI	E				Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	4/8/2020 11:32:38 PM
Surr: BFB	99.5	70-130	%Rec	1	4/8/2020 11:32:38 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

Page 1 of 9

Date Reported: 4/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: SP2

 Project:
 Cotton Draw 172H April 2015
 Collection Date: 4/3/2020 9:24:00 AM

 Lab ID:
 2004243-002
 Matrix: SOIL
 Received Date: 4/7/2020 8:28:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: BRM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	4/8/2020 12:40:58 PM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	4/8/2020 12:40:58 PM
Surr: DNOP	55.6	55.1-146	%Rec	1	4/8/2020 12:40:58 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	ND	60	mg/Kg	20	4/9/2020 6:14:58 AM
EPA METHOD 8260B: VOLATILES SHORT LI	IST				Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	4/9/2020 12:01:47 AM
Toluene	ND	0.049	mg/Kg	1	4/9/2020 12:01:47 AM
Ethylbenzene	ND	0.049	mg/Kg	1	4/9/2020 12:01:47 AM
Xylenes, Total	ND	0.099	mg/Kg	1	4/9/2020 12:01:47 AM
Surr: 1,2-Dichloroethane-d4	94.0	70-130	%Rec	1	4/9/2020 12:01:47 AM
Surr: 4-Bromofluorobenzene	95.2	70-130	%Rec	1	4/9/2020 12:01:47 AM
Surr: Dibromofluoromethane	97.6	70-130	%Rec	1	4/9/2020 12:01:47 AM
Surr: Toluene-d8	98.4	70-130	%Rec	1	4/9/2020 12:01:47 AM
EPA METHOD 8015D MOD: GASOLINE RANG	GE				Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	4/9/2020 12:01:47 AM
Surr: BFB	99.0	70-130	%Rec	1	4/9/2020 12:01:47 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

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Date Reported: 4/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: SP3

 Project:
 Cotton Draw 172H April 2015
 Collection Date: 4/3/2020 9:26:00 AM

 Lab ID:
 2004243-003
 Matrix: SOIL
 Received Date: 4/7/2020 8:28:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: JME
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	4/9/2020 1:43:00 PM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	4/9/2020 1:43:00 PM
Surr: DNOP	97.1	55.1-146	%Rec	1	4/9/2020 1:43:00 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	ND	59	mg/Kg	20	4/9/2020 6:27:19 AM
EPA METHOD 8260B: VOLATILES SHORT L	IST				Analyst: RAA
Benzene	ND	0.024	mg/Kg	1	4/9/2020 12:30:59 AM
Toluene	ND	0.048	mg/Kg	1	4/9/2020 12:30:59 AM
Ethylbenzene	ND	0.048	mg/Kg	1	4/9/2020 12:30:59 AM
Xylenes, Total	ND	0.097	mg/Kg	1	4/9/2020 12:30:59 AM
Surr: 1,2-Dichloroethane-d4	92.7	70-130	%Rec	1	4/9/2020 12:30:59 AM
Surr: 4-Bromofluorobenzene	96.7	70-130	%Rec	1	4/9/2020 12:30:59 AM
Surr: Dibromofluoromethane	94.2	70-130	%Rec	1	4/9/2020 12:30:59 AM
Surr: Toluene-d8	98.7	70-130	%Rec	1	4/9/2020 12:30:59 AM
EPA METHOD 8015D MOD: GASOLINE RANGE	GE				Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	4/9/2020 12:30:59 AM
Surr: BFB	98.7	70-130	%Rec	1	4/9/2020 12:30:59 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

Page 3 of 9

Date Reported: 4/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: SP4

 Project:
 Cotton Draw 172H April 2015
 Collection Date: 4/3/2020 9:27:00 AM

 Lab ID:
 2004243-004
 Matrix: SOIL
 Received Date: 4/7/2020 8:28:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE (ORGANICS				Analyst: JME
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	4/9/2020 2:07:08 PM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	4/9/2020 2:07:08 PM
Surr: DNOP	90.0	55.1-146	%Rec	1	4/9/2020 2:07:08 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	ND	60	mg/Kg	20	4/9/2020 6:39:39 AM
EPA METHOD 8260B: VOLATILES SHORT	LIST				Analyst: RAA
Benzene	ND	0.023	mg/Kg	1	4/9/2020 1:00:52 AM
Toluene	ND	0.047	mg/Kg	1	4/9/2020 1:00:52 AM
Ethylbenzene	ND	0.047	mg/Kg	1	4/9/2020 1:00:52 AM
Xylenes, Total	ND	0.094	mg/Kg	1	4/9/2020 1:00:52 AM
Surr: 1,2-Dichloroethane-d4	92.2	70-130	%Rec	1	4/9/2020 1:00:52 AM
Surr: 4-Bromofluorobenzene	96.3	70-130	%Rec	1	4/9/2020 1:00:52 AM
Surr: Dibromofluoromethane	93.9	70-130	%Rec	1	4/9/2020 1:00:52 AM
Surr: Toluene-d8	97.9	70-130	%Rec	1	4/9/2020 1:00:52 AM
EPA METHOD 8015D MOD: GASOLINE RA	ANGE				Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	4/9/2020 1:00:52 AM
Surr: BFB	98.3	70-130	%Rec	1	4/9/2020 1:00:52 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

Page 4 of 9

Date Reported: 4/13/2020

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Devon Energy Client Sample ID: SP5

 Project:
 Cotton Draw 172H April 2015
 Collection Date: 4/3/2020 9:31:00 AM

 Lab ID:
 2004243-005
 Matrix: SOIL
 Received Date: 4/7/2020 8:28:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analyst: JME
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	4/9/2020 2:31:17 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	4/9/2020 2:31:17 PM
Surr: DNOP	97.3	55.1-146	%Rec	1	4/9/2020 2:31:17 PM
EPA METHOD 300.0: ANIONS					Analyst: JMT
Chloride	ND	60	mg/Kg	20	4/9/2020 6:52:00 AM
EPA METHOD 8260B: VOLATILES SHORT L	IST				Analyst: RAA
Benzene	ND	0.025	mg/Kg	1	4/9/2020 1:30:18 AM
Toluene	ND	0.050	mg/Kg	1	4/9/2020 1:30:18 AM
Ethylbenzene	ND	0.050	mg/Kg	1	4/9/2020 1:30:18 AM
Xylenes, Total	ND	0.099	mg/Kg	1	4/9/2020 1:30:18 AM
Surr: 1,2-Dichloroethane-d4	89.2	70-130	%Rec	1	4/9/2020 1:30:18 AM
Surr: 4-Bromofluorobenzene	95.7	70-130	%Rec	1	4/9/2020 1:30:18 AM
Surr: Dibromofluoromethane	90.1	70-130	%Rec	1	4/9/2020 1:30:18 AM
Surr: Toluene-d8	98.0	70-130	%Rec	1	4/9/2020 1:30:18 AM
EPA METHOD 8015D MOD: GASOLINE RAN	GE				Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	4/9/2020 1:30:18 AM
Surr: BFB	99.9	70-130	%Rec	1	4/9/2020 1:30:18 AM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2004243**

13-Apr-20

Client: Devon Energy

Project: Cotton Draw 172H April 2015

Sample ID: MB-51665 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 51665 RunNo: 67935

Prep Date: 4/8/2020 Analysis Date: 4/9/2020 SeqNo: 2348884 Units: mg/Kg

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

Chloride ND 1.5

Sample ID: LCS-51665 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 51665 RunNo: 67935

Prep Date: 4/8/2020 Analysis Date: 4/9/2020 SeqNo: 2348885 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 92.3 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 Quanitative 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

Page 6 of 9

Hall Environmental Analysis Laboratory, Inc.

WO#: **2004243**

13-Apr-20

Client: Devon Energy

Project: Cotton Draw 172H April 2015

Sample ID: LCS-51627 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: LCSS Batch ID: 51627 RunNo: 67934

Prep Date: 4/7/2020 Analysis Date: 4/8/2020 SeqNo: 2347744 Units: mg/Kg

PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Analyte Result LowLimit Diesel Range Organics (DRO) 10 0 41 50.00 81.7 70 130

Surr: DNOP 3.6 5.000 71.9 55.1 146

Sample ID: MB-51627 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS Batch ID: 51627 RunNo: 67934

Prep Date: 4/7/2020 Analysis Date: 4/8/2020 SeqNo: 2347745 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 7.3 10.00 72.5 55.1 146

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 Quanitative 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

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2004243**

13-Apr-20

Client: Devon Energy

Project: Cotton Draw 172H April 2015

Sample ID: Ics-51620	Sampl	Гуре: LC	S4	TestCode: EPA Method 8260B: Volatiles Short List										
Client ID: BatchQC	Client ID: BatchQC Batch ID: 51620					RunNo: 67943								
Prep Date: 4/7/2020	Analysis [Date: 4/ 8	8/2020	9	SeqNo: 2	347872	Units: mg/Kg							
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	1.1	0.050	1.000	0	107	80	120							
Ethylbenzene	1.1	0.050	1.000	0	109	80	120							
Xylenes, Total	3.2	0.10	3.000	0	107	80	120							
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.4	70	130							
Surr: Toluene-d8 0.51			0.5000		101	70	130							

Sample ID: mb-51620	Samp	Гуре: МЕ	BLK	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: PBS	Batc	h ID: 51 0	620	F	RunNo: 6	7943						
Prep Date: 4/7/2020	Analysis [Date: 4/	8/2020	9	SeqNo: 2	347873	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	ND	0.025										
Toluene	ND	0.050										
Ethylbenzene	ND	0.050										
Xylenes, Total	ND	0.10										
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		89.0	70	130					
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.3	70	130					
Surr: Dibromofluoromethane	0.45		0.5000		90.5	70	130					
Surr: Toluene-d8	0.49		0.5000		98.8	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 Quanitative 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

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Hall Environmental Analysis Laboratory, Inc.

WO#: **2004243**

13-Apr-20

Client: Devon Energy

Project: Cotton Draw 172H April 2015

Sample ID: LCS-51620 SampType: LCS TestCode: EPA Method 8015D Mod: Gasoline Range

Client ID: LCSS Batch ID: 51620 RunNo: 67943

Prep Date: 4/7/2020 Analysis Date: 4/8/2020 SeqNo: 2347879 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
 90.8
 70
 130

 Surr: BFB
 490
 500.0
 99.0
 70
 130

Sample ID: mb-51620 SampType: MBLK TestCode: EPA Method 8015D Mod: Gasoline Range

Client ID: PBS Batch ID: 51620 RunNo: 67943

Prep Date: 4/7/2020 Analysis Date: 4/8/2020 SeqNo: 2347880 Units: mg/Kg

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

Gasoline Range Organics (GRO) ND 5.0

Surr: BFB 490 500.0 97.2 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 Quanitative 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

Page 9 of 9



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:	DEVON EN	IERGY	Work	Order Numbe	er: 200	4243			RcptNo: 1
Received By:	Juan Roja	IS	4/7/202	0 8:28:00 AM			Hear	3	
Completed By:	Leah Baca	a	4/7/202	0 9:28:58 AM			Juan	(B.,	
Reviewed By:	LB		41:	2/10			Lasty	due	
Chain of Cus	tody								
1. Is Chain of Cu	stody suffici	ently complete	e?		Yes	V	No		Not Present
2. How was the	sample deliv	ered?			Clie	<u>nt</u>			
Log In									
3. Was an attem	pt made to o	cool the sampl	es?		Yes	V	No		NA 🗆
4. Were all samp	les received	at a temperat	ture of >0° C	to 6.0°C	Yes	V	No		NA 🗆
5. Sample(s) in p	oroper contai	ner(s)?			Yes	V	No		
6. Sufficient sam	ple volume f	or indicated te	st(s)?		Yes	V	No		
7. Are samples (e	except VOA	and ONG) pro	perly preserve	ed?	Yes	V	No		
8. Was preservat			V op sam		Yes		No	V	NA 🗆
9. Received at lea	ast 1 vial wit	h headspace <	<1/4" for AQ V	OA?	Yes		No		NA 🗹
10. Were any sam	ple containe	ers received br	roken?		Yes		No	✓	# of preserved
11. Does paperwo (Note discrepa					Yes	V	No		bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices c	orrectly iden	tified on Chair	of Custody?		Yes	V	No		Adjusted?
13. Is it clear what	analyses we	ere requested?	?		Yes	~	No		
 Were all holding (If no, notify cure) 					Yes	V	No		Checked by: DAD 4/7/20
Special Handli	ng (if app	olicable)							
15. Was client not	tified of all di	screpancies w	vith this order?	?	Yes		No		NA 🗹
Person	Notified:			Date:					
By Who	m:			Via:	☐ eM	ail 🗌	Phone	Fax	☐ In Person
Regardi									
Client In	structions:								
16. Additional rer	narks:								
17. Cooler Inform	mation								
Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal D	ate	Signed E	Зу	
1	1.5	Good							
2	2.5	Good							

Page Lof ENVIRONMENTAL	ANALYSIS LABORATORY of www.hallenvironmental.com	- Albuquerque, NM 87109	Fax 505-345-4107	Request	(JuesqV/	NO ₂ , F A) Present	·\O	r, 1 OA)	V) 0928 S) 0728)>>	×	~		X		Send Report to Taryler	Date Time + CIWE ONT COMP. Com and JINNS BE U 7 20 8 18 T
HALL	AR www	4901 Hawkins NE	Tel. 505-345-3975			O / DR(s)	G bo	etho	1 (2) (3) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	XX	XX	×	XX	<i>></i>		Remarks: Picose	tclwell anrice
Turn-Around Time: Sday Turn	Project Name: Cotton Draw 172H	April	Project #:	70837067	Project Manager: Tom Bynum	Sampler: T. Ellyk II (HRL) On Ice: Pres No	olers: 7	Cooler Temp(including CF): 1.6-0.1=1.5	Container Preservative $2.6-0.1=2.C$ Type and # Type 2004243	402 Glas 1cz -001	(ce -000	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	l'Ce	75)		Received by: Via: Date Time F	
ly Record	Jevan Energy Jam Bynum	Mailing Address: 6488 Scurn Rivers thuy	Artsai NM 88211	ш,	email or Fax#: Tarm bynum Odvh. Com QA/QC Package:	creditation: Az Compliance NELAC Other	ype)		Date Time Matrix Sample Name	4/3/2005:31 Soil SP1	4/3/20 67:34 Soil SPZ	4/8/20 (9:36 Sa) SP3	4/3/20 69:27 Soi SP4	Seil SPS		Date: Time: Relinquished by:	Time: Relinquished by:

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

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 9122

CONDITIONS

Operator:	OGRID:
Pima Environmental Services, LLC	329999
5614 N Lovington Hwy	Action Number:
Hobbs, NM 88240	9122
	Action Type:
	[C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	12/22/2022