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## TALON

Work Plan

**Devon Energy: Cotton Draw Unit No. 65** 

30-015-10842 \*2RP-3429\*

March 18, 2016

#### Prepared By:

TALON/LPE 408 W. Texas Avenue Artesia, New Mexico 88210

#### **Prepared For:**

Devon Energy

Mr. Mike Bratcher **NMOCD District 2** 811 S. 1<sup>st</sup> Street Artesia, NM 88210

Subject:

Soil Assessment and Remediation Work Plan

**Devon Energy** 

Cotton Draw Unit # 65(30-015-10843) \*2RP-3429\*

Dear Mr. Bratcher,

Devon Energy has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above referenced location. The results of our soil assessment and proposed remediation activities consist of the following.

#### **Incident Date**

November 27, 2015 & December 22, 2015

#### **Background Information and Soil Survey**

The Cotton Draw Unit #65 is located approximately forty-five (45) miles southeast of Carlsbad, New Mexico. The legal location for this site is Unit Letter G, Section 2, Township 25 South, and Range 31 East in Eddy County, New Mexico. More specifically the latitude and longitude for the release are 32.161085918° North and -103.746039442° West. See site plan in Appendix I.

According to the soil survey provided by the United States Department of Agriculture Natural Resources Conservation Service (NRCS), the soil in this area is made up of Berino complex with 0 to 3 percent slopes. Drainage courses in this area are normally dry.

#### **Ground Water and Site Ranking**

According to the Chevron Texaco ground water trend map, the ground water in this area is between 390 and 400 feet below ground surface (BGS). Therefore the ranking for this site is a **0** based on the following:

Depth to ground water >100'
Wellhead Protection Area >1000'
Distance to surface water body >1000'

Based upon the site ranking of **0**, NMOCD Recommended Remedial Action Levels (RRAL) are 50 mg/kg for BTEX, 10 mg/kg for Benzene, 5,000 mg/kg for TPH and 1,000 mg/kg for total chlorides. See Appendix II.

#### **Incident Description and Initial Remedial Actions**

On November 27, 2015 the transfer pump malfunctioned causing the storage tanks to overflow releasing approximately 1202 barrels of mixed fluids into the lined containment and onto location. No fluids left the location. A vac truck was called to the location and recovered 1197 barrel of mixed fluids. See initial C-141 in Appendix III.

There had been a previous release on July 24, 2015 (2RP-3167). This remediation plan had been previously approved by BLM and NMOCD on November 25, 2015. See Appendix IV. The impacted area from this release is included in the same footprint as the 11/27/15 release. See the site plan in Appendix I indicating both release areas.

Talon mobilized personnel to begin the site assessment and soil sampling activities for the construction of a work plan. Grab soil samples were collected utilizing a hand auger. Laboratory results from the soil sampling event are summarized in the table below.

#### **Laboratory Results**

See Appendix X for complete report of laboratory results. December 16, 2015

Sample ID	Depth	BTEX	Chlorides	TPH (mg/kg)	TPH (mg/kg)
-	(feet)	(mg/kg)	(mg/kg)	GRO	DRO
S-1	0'	16.1	6000	449	3710
	1'	< 0.300	752	<10	157
	2'	< 0.300	496	<10	31.3
	3'	< 0.300	480	<10	<10
S-2	0'	< 0.300	880	<10	107
	1'	< 0.300	448	<10	<10
	2'	< 0.300	1250	<10	<10
	3'	< 0.300	1340	<10	<10

#### March 11, 2016

Sample ID	Depth	BTEX	Chlorides	TPH (mg/kg)	TPH (mg/kg)
	(feet)	(mg/kg)	(mg/kg)	GRO	DRO
S-3	0'	4.89	3000	83.2	3240
	1'	< 0.300	<16	<10	<10
	2'	< 0.300	720	<10	<10
	3'	< 0.300	64	<10	14
S-4	0'	4.97	304	197	13900
	1'	< 0.300	160	<10	264
	2,	< 0.300	368	<10	123
Refusal	3'	5.62	544	189	1910

#### **Conclusions and Proposed Remedial Actions**

- Ground water in the project vicinity is greater than 450-feet below land surface.
- Based on the depth to groundwater, it is unlikely that the impacts identified from this release will pose a threat to groundwater after proposed remediation activities are complete.
- The impact areas will be excavated to a depth of 0.5-feet deep. All contaminated soil will be transported to Lea Land, LLC, an NMOCD approved disposal facility.
- Once the backfill activities are complete the work area will be compacted and re-contoured to match the surrounding location.
- On behalf of Devon Energy we are respectfully requesting that the historical chloride impacts be remediated upon the facility closure.
- A final closure report documenting all remedial actions and analytical results will be provided to the BLM and NMOCD Artesia Office along with a Final C-141 Form.

Should you have any questions or if further information is required, please do not hesitate to contact our office at (575)-746-8768

Respectfully submitted,

TALON/LPE

Kimberly M. Wilson

Project Manager

30

David J. Adkins District Manager

Attachments:

Appendix I Site Plan

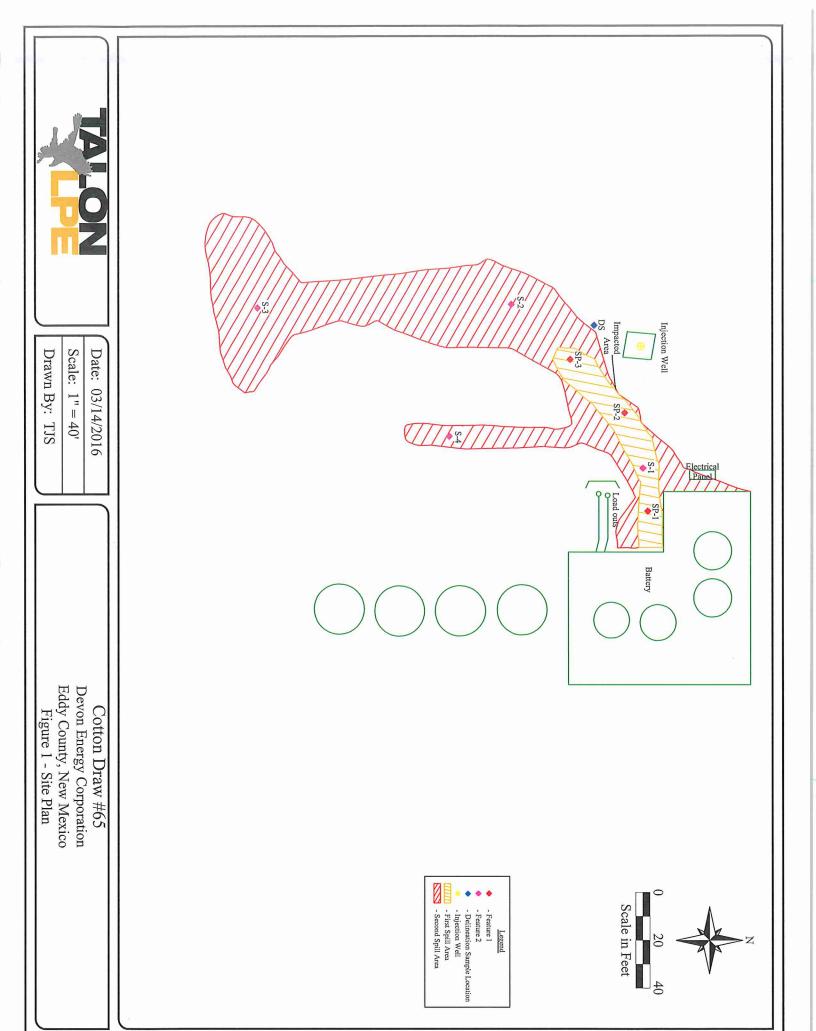
Appendix II Groundwater Data

Appendix III Initial C-141's

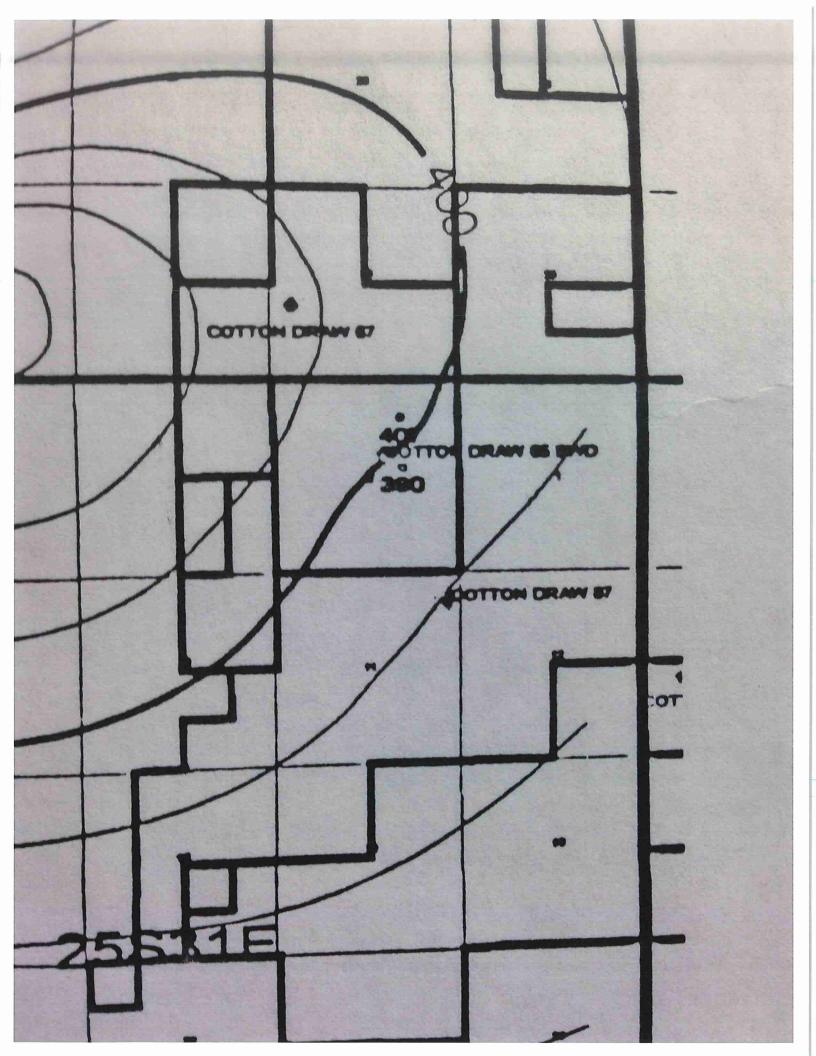
Appendix IV OCD/BLM Approval

Appendix X Laboratory Results

#### APPENDIX I SITE MAP



#### APPENDIX II GROUNDWATER DATA





## New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.) (R=POD has been replaced, O=orphaned,

closed)

O=orphaned, C=the file is

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

											150		
	POD Sub-		Q	0	0							5 (	
POD Number	Code basin C	County	200			Sec T	Γws	Rna	х	Υ	Distance		Depth Water Water Column
C 02572	oodo saom o	ED						31E	618695	3559294*	200		vater oolullii
C 02571		ED	4	1	2	02 2	25S	31E	618292	3559294*	203	860	
C 02573		ED	1	4	2	02 2	25S	31E	618499	3559091*	203		
C 02574		ED	1	1	2	02 2	25S	31E	618092	3559494*	449		
C 02569		ED	4	4	2	02 2	25S	31E	618699	3558891*	451	1016	
C 02568		ED	4	3	1	01 2	25S	31E	619103	3558892*	728	1025	
C 02570		ED	4	2	4	02 2	25S	31E	618704	3558489*	831	895	
C 03830 POD1	CUB	ED	4	2	4	02 2	25S	31E	618632	3558432 🌑	872	450	

Average Depth to Water:

Minimum Depth:

Maximum Depth: -

Record Count: 8

UTMNAD83 Radius Search (in meters):

Easting (X): 618495 Northing (Y): 3559294

Radius: 4000

## APPENDIX III INITIAL C-141

#### NM OIL CONSERVATION

ARTESIA DISTRICT

DEC 0 3 2015

Form C-141 Revised August 8, 2011

State of New Mexico Energy Minerals and Natural Resources

<u>District 1</u> 1625 N. French Dr., Hobbs, NM 88240

District III 1000 Rio Brazos Road, Aztec, NM 87410

District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

811 S. First St., Artesia, NM 88210

District II

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

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

			Kele	ease Notific	ation	and Co	rrective A	ction	l	
NAB 15	3383	1844				OPERA?	FOR			al Report
Name of Co			Product	ion 10137			arry Michael, Pr	roducti		
Address 64							No. 575-513-489			
Facility Na	me Cotton	Draw Unit	65	44.944		Facility Ty	pe Salt Water D	isposal		
Surface Ov	vner Feder	al		Mineral (	)wner	State			API No	. 30-015-10843
				LOCA	TION	OF RE	LEASE			
Unit Letter G	Section 2	Township 25S	Range 31E	Feet from the 1980	North/	South Line North	Feet from the 1980		West Line East	County Eddy
			Latitude	: 32.161085918	3	Loi	ngitude: -103.7	460394	142	
				NAT	URE	OF REL			- Court Sec	
Type of Rele						Volume of 1202bbls	Release		Volume 1 1197bbls	Recovered
Produced Wa							Hour of Occurre	nce	A DE SELECT SELECTION	Hour of Discovery
Storage Tank	is						27, 2015 12:00 P	М	Novembe	er 27, 2015 12:00 PM
Was Immed	iate Notice		Yes [	No Not Re	quired	If YES, To Jim Amos. Mike Brate	BLM			
By Whom?	ill 411 - 31 - 305		n was a sala			Date and	Hour			
Garry Micha	el, Producti	on Foreman					BLM November cher, OCD Noven			
Was a Wate	rcourse Re	ached?					olume Impacting			
			Yes 🗵	No		N/A				
N/A		mpacted, Des				J				
Transfer pun	ip went dov	vn causing the	storage ta	tion Taken.* anks to overflow reset to start trans	eleasing ferring	approximate water to stop	ly 1202bbls production the over flow.	uced wa	nter and oil	into lined containment and on to
The affected location caus approximatel approximate	area on loca sing a 70'x8 ly 6bbls oil ly 1bbl oil f	O' area on loc with no fluids rom lined con	sed from a cation next deaving lo	in overflow of app to the containment ocation. A vacuur	nt. The s n truck v 12bbls	storage tanks was called ar produced wa	overflowed releated recovered appro- ter and approximates	sing appoximate ately 5b	proximately ly 1179bbl:	east and running Southwest on y 1196hbls produced water and s produced water and n location. Lined containment
regulations a public health should their or the enviro	Il operators or the envi operations b nument. In a	are required to ronment. The nave failed to	o report a e acceptan adequately OCD accep	nd/or file certain r ce of a C-141 repo y investigate and r	elease n ort by the emediate	otifications a c NMOCD n c contaminat	and perform correct narked as "Final R ion that pose a three we the operator of	ctive act deport" of reat to g respons	tions for rel does not rel round wate sibility for c	suant to NMOCD rules and leases which may endanger lieve the operator of liability or, surface water, human health compliance with any other
Signature: S	heila Fi	isher					OIL CON	SERV	ATION	DIVISION
Printed Nam						Approved by	Signed I Environmental S		11/4 1	Listerie se_
Title: Field	Admin Sup	port		*		Approval Da	ite: 1241	5	Expiration	Date: N/A
E-mail Addr	ess: Sheila.	Fisher@dyn.	com			Conditions of Remedia	of Approval: tion per O.C.E	). Rule	s & Guld	deliganthed [
Date: 12/3/1		The second secon		75.748.1829		SUBMIT	REMEDIATIO	N PRC	POSAL	NP
* Attach Add	itional She	ets If Neces	sary			LATER T	HAN:	ρ		2Rp.342

#### NM OIL CONSERVATION

<u>District 1</u> 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

ARTESIA DISTRICT

Form C-141 Revised August 8, 2011

JUL 27 2015

Revised August 8, 2011

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

RECEIVED

			Rele	ase Notific	ation	and Co	rrective A	Action	R			
NABIS	520968	5287		,		<b>OPERA</b>	ΓOR			al Report	Fin	al Report
Name of Co	mpany D	evon Energy	Product	on Company	131		arry Michael;		ion Forem	an		
Address 64 Facility Na				IM 88210			No. 575-513-4 pe Salt Water I					
				1 2 2 2			pe buil Water 1			20.015.1	00.42	
Surface Ow	vner Feder	ral		Mineral (	Jwner .	State			APINO	o 30-015-1	0843	
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Unit Letter G	Section 2	Township 25S	Range 31E	Fect from the 1980	11 3/30/27 25-27	South Line North	Feet from the 1980	3	West Line East	County Eddy		
				: 32.161085918			ngitude: -103.					
			Latitude			OF RELI		74000,5	172			
Type of Rele	ase: produc	ced water rele	ase	11// 1	UIU		Release 1,442	BBLS	Volume	Recovered	1,441.5 BBI	LS
Source of Re							Hour of Occurr 015 8:45 AM	ence		<b>Hour of I</b> 2015 8:45		
Was Immedi	iate Notice		Yes [	No Not Re	equired	If YES, To Mike Brate	o <b>Whom?</b> cher; OCD & Jin	n Amos;	BLM			
By Whom?			eman; Mat	Nettles			Hour July 24, 2					
Was a Water	rcourse Re		Yes 🗵	No		If YES, V	olume Impactin	g the W	atercourse	)		
If a Waterco	ourse was I	mpacted, De	scribe Ful	ly.*								
Describe Ca		blem and Rei				***************************************	4.2 42					
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regulations a public health should their or the enviro	II operators or the envi operations I nment. In a	are required ironment. The have failed to	to report and acceptant adequately OCD accep	is true and comp nd/or file certain the of a C-141 report investigate and obtaince of a C-141	release nort by the cemediate	otifications a e NMOCD n e contaminat	nd perform corre narked as "Final ion that pose a th	ective ac Report" ( areat to g	tions for re does not re ground wate	leases whic lieve the op er, surface v	h may endar erator of liab vater, humar	nger bility n health
Signature: S	Pac	30					OIL CO	<b>VSERV</b>	VATION	DIVISI	ON	
Printed Nam						Approved by	Sign Environmental	ned By Specialis	#1/4 st:	Brans	40.50	
Title: Field A				-			ne: 1/28/15			Date: N	A	
	***************************************	farley@dvn.	com			Conditions of		•	•	Attache		
Dota: July 25	7 2015	DI	one: <b>575</b> 7	146 5597			n per O.C.D.			lines	л П	
* Attach Addi			one: 575.7 sary	40.000/			MEDIATION	PROP	OSAL NO	<b>-</b>	200	2111
					L	ATER THA	W: OLDE	110			UKP.	3167

#### NM OIL CONSERVATION

ARTESIA DISTRICT

DEC 2 3 2015

Form C-141 Revised August 8, 2011

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

Submit I Copy to appropriate District Office in RECEIMED ance with 19.15.29 NMAC.

	Release Notification and Corrective Action											
NABIE	358	37018		1.0-	,	<b>OPERA</b> T	ror		☑ Initia	al Report		Final Report
Name of Co	o <mark>mpany</mark> D	evon Energy					arry Michael, P					
		Rivers Hwy Draw Unit					No. 575-513-48					
			os-lease i				e Salt Water D	isposai				
Surface Ov	ner Feder	ral		Mineral (	Owner	State			API No	30-015-	0843	
						OF REI	LEASE					
Unit Letter G	Section 2	Township 25S	Range 31E	Feet from the 1980		South Line North	Feet from the 1980	C-1000000000000000000000000000000000000	Vest Line East	County Eddy		,
·			Latitude	: 32.161085918		Lon OF RELI	gitude: ~103.7	460394	142			
Type of Rele	ase			1 <b>VA.1</b>	UKE	Volume of			Volume 1	Recovered		
Produced wat	ler					2bbls	Standard Control		0bbls	187		MARKET THE STREET
Source of Re							Hour of Occurre 22, 2015 1:00 PM			Hour of Di r 22, 2015 1		
Was Immedi	ate Notice		Yes	No 🗌 Not Re	quired	If YES, To Jim Amos, Mike Brate	Whom? BLM					
By Whom? Ray Carter, A	Assistant Pro	oduction Fore	man			Date and I Jim Amos,						
Was a Water	rcourse Re		Yes 🏻	No			lume Impacting					2
If a Waterco N/A	urse was I	mpacted, Des	cribe Full	y.*						,		
	he East of t	the lease road	was struck	ion Taken.* by unknown objectack together. F				lease ro	ad. The tra	nsfer pump	was in	nmediately
2bbls of prod	uced water		from a flow	aken.* whine. The size of an environmental					etely on the	e lease road	to the	East of the
regulations al public health should their c or the environ	I operators or the envi operations h nment. In a	are required to ronment. The nave failed to	o report and acceptance acceptately OCD accep	is true and compled/or file certain ree of a C-141 repoinvestigate and retaince of a C-141	elease no ort by the emediate	otifications at NMOCD made contamination	nd perform correct arked as "Final R on that pose a thr	tive acti eport" d eat to gr	ions for rele oes not reli ound water	eases which leve the oper r, surface wa	may co ator of ter, hu	ndanger `liability man health
Signature: Sì	heila Fi	sher					OIL CON	SERV	ATION //	DIVISIO	**	
Printed Name	: Sheila Fi	sher				Approved by	Environmental S	pecialist	: 112	///	2	
Title: Field A						Approval Dat	101016	4	1/ 6	Date: N	7	
E-mail Addre	ess: Sheila.	Fisher@dvn.	com			Conditions of	Approval:			Attached		
Date: 12/23/	15		Phone: 5	75.748.1829	È	Romediatio	on per O.C.D.	Rules	& Gulde	lines	П	
Attach Addi		ets If Necess				ATER TH	INEDIATION AN: 1724	PROP	OSAL N	0 /	2RP	3467

### APPENDIX IV OCD/BLM APPROVAL

#### Kimberly M. Wilson

From:

Kimberly M. Wilson

Sent:

Wednesday, November 25, 2015 9:48 AM

To:

Patterson, Heather, EMNRD

Cc:

Bratcher, Mike, EMNRD; Tucker, Shelly; Fulks, Brett

Subject:

RE: Cotton Draw #65 \* 30-015-10843 \* 2RP-3167

Thank you Heather.

From: Patterson, Heather, EMNRD [mailto:Heather.Patterson@state.nm.us]

Sent: Wednesday, November 25, 2015 9:31 AM

To: Kimberly M. Wilson

**Cc:** Bratcher, Mike, EMNRD; Tucker, Shelly; Fulks, Brett **Subject:** RE: Cotton Draw #65 \* 30-015-10843 \* 2RP-3167

RE: Devon \* Cotton Draw Unit #64 \* 30-015-10843 \* 2RP-3167

Kimberly,

Your work plan for the above referenced release is approved. Please note that the historic contamination does not appear to be fully delineated and further sampling may be required at the time of site closure. BLM approval is required for this site.

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

If you have any questions or concerns, and for notification, please contact me.

Heather Patterson Environmental Specialist NMOCD District II Office (575)748-1283 ext.101 Cell (575)703-0228

From: Kimberly M. Wilson [mailto:kwilson@talonlpe.com]

Sent: Thursday, November 19, 2015 9:19 AM

To: Patterson, Heather, EMNRD

Subject: RE: Cotton Draw #65 \* 30-015-10843 \* 2RP-3167

Heather here it is. Sorry about that.

From: Patterson, Heather, EMNRD [mailto:Heather.Patterson@state.nm.us]

Sent: Thursday, November 19, 2015 8:38 AM

To: Kimberly M. Wilson

Subject: RE: Cotton Draw #65 \* 30-015-10843 \* 2RP-3167

Did you send this already? I don't see it in my email...

Heather Patterson Environmental Specialist NMOCD District II

#### Kimberly M. Wilson

From:

Kimberly M. Wilson

Sent:

Wednesday, November 25, 2015 10:36 AM

То:

Tucker, Shelly

Subject:

RE: Cotton Draw #65 \* 30-015-10843 \* 2RP-3167

Thank you Shelly. Have a happy Thanksgiving.

**From:** Tucker, Shelly [mailto:stucker@blm.gov] **Sent:** Wednesday, November 25, 2015 10:35 AM

To: Patterson, Heather, EMNRD

**Cc:** Kimberly M. Wilson; Bratcher, Mike, EMNRD; Fulks, Brett **Subject:** Re: Cotton Draw #65 \* 30-015-10843 \* 2RP-3167

BLM concurs with the NMOCD and accepts/approves the proposal as written, with the understanding the historical impact will need to be addressed upon closure of facility.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Shelly J Tucker

Environmental Protection Specialist Bureau of Land Management

620 E. Greene St Carlsbad, NM 88220

575.234.5905 - Direct 575.361.0084 - Cellular

stucker@blm.gov



The <u>BLM acceptance/approval does not</u> relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment or if the location fails to reclaim properly. In such an event that the location does not revegetate, or future issues with contaminants are encountered, the operator will be asked to address the issues until the contaminant issues are fully mitigated and the location is successfully reclaimed. In addition, BLM approval does not relieve the operator of responsibility for compliance with any other federal, state or local laws/regulations.

<u>Confidentiality Warning:</u> This message along with any attachments are intended only for use of the individual or entity to which it is addressed and may contain information that is privileged or confidential and exempt from

### APPENDIX V LABORTORY RESULTS



December 16, 2015

KIMBERLY WILSON

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: COTTON DRAW #65

Enclosed are the results of analyses for samples received by the laboratory on 12/09/15 12:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keens

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



TALON LPE KIMBERLY WILSON 408 W. TEXAS AVE. ARTESIA NM, 88210 (575) 745-8905 Fax To:

Received:

12/09/2015

Reported:

12/16/2015

Project Name:

COTTON DRAW #65

Project Number:

Project Location:

70029410402

**EDDY CTY** 

Sampling Date:

12/08/2015

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Judy Garcia

Sample ID: S-1 0' (H503208-01)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	12/14/2015	ND	1.72	86.0	2.00	4.13	
Toluene*	0.815	0.200	12/14/2015	ND	1.73	86.4	2.00	3.57	
Ethylbenzene*	2.13	0.200	12/14/2015	ND	1.75	87.6	2.00	3.41	
Total Xylenes*	13.1	0.600	12/14/2015	ND	5.35	89.2	6.00	2.82	
Total BTEX	16.1	1,20	12/14/2015	ND					
Surrogate: 4-Bromofluorobenzene (PID	130 9	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6000	16.0	12/11/2015	ND	448	112	400	3.64	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	449	50.0	12/11/2015	ND	203	101	200	2.67	
DRO >C10-C28	3710	50.0	12/11/2015	ND	195	97.6	200	0.747	
Surrogate: 1-Chlorooctane	142	% 35-147	7						
Surrogate: 1-Chlorooctadecane	131	% 28-17.	l						

#### Cardinal Laboratories

\*=Accredited Analyte

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Celeg & Kreens



TALON LPE
KIMBERLY WILSON
408 W. TEXAS AVE.
ARTESIA NM, 88210
Fax To: (575) 745-8905

Received:

12/09/2015

Reported:

12/16/2015

Project Name:

COTTON DRAW #65

Project Number: Project Location: 70029410402 EDDY CTY Sampling Date:

12/08/2015

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Judy Garcia

Sample ID: S-1 1' (H503208-02)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/14/2015	ND	1.72	86.0	2.00	4.13	
Toluene*	<0.050	0.050	12/14/2015	ND	1.73	86.4	2.00	3.57	
Ethylbenzene*	0.055	0.050	12/14/2015	ND	1.75	87.6	2.00	3.41	
Total Xylenes*	0.210	0.150	12/14/2015	ND	5.35	89.2	6.00	2.82	
Total BTEX	<0.300	0.300	12/14/2015	ND					
Surrogate: 4-Bromofluorobenzene (PIL	109 5	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	12/11/2015	ND	448	112	400	3.64	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/11/2015	ND	203	101	200	2.67	
DRO >C10-C28	157	10.0	12/11/2015	ND	195	97.6	200	0.747	
Surrogate: 1-Chlorooctane	98.7	% 35-147	7						
Surrogate: 1-Chlorooctadecane	102	% 28-171							

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Celey D. Keine



TALON LPE KIMBERLY WILSON 408 W. TEXAS AVE. ARTESIA NM, 88210

Fax To:

(575) 745-8905

Received:

12/09/2015

Reported:

12/16/2015

Project Name:

**COTTON DRAW #65** 

Project Number: Project Location: 70029410402 **EDDY CTY** 

Sampling Date:

12/08/2015

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact Judy Garcia

Sample ID: S-1 2' (H503208-03)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/14/2015	ND	1.72	86.0	2.00	4.13	
Toluene*	<0.050	0.050	12/14/2015	ND	1.73	86.4	2.00	3.57	
Ethylbenzene*	<0.050	0.050	12/14/2015	ND	1.75	87.6	2.00	3.41	
Total Xylenes*	<0.150	0.150	12/14/2015	ND	5.35	89.2	6.00	2.82	
Total BTEX	<0.300	0.300	12/14/2015	ND					
Surrogate: 4-Bromofluorobenzene (PIL	106 9	6 73.6-14	)						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	12/11/2015	ND	448	112	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/11/2015	ND	203	101	200	2.67	
DRO >C10-C28	31.3	10.0	12/11/2015	ND	195	97.6	200	0.747	
Surrogate: 1-Chlorooctane	91.3	% 35-147	,						
Surrogate: 1-Chlorooctadecane	94.8	% 28-171							

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Celey D. Keens



TALON LPE
KIMBERLY WILSON
408 W. TEXAS AVE.
ARTESIA NM, 88210
Fax To: (575) 745-8905

Received:

12/09/2015

Sampling Date:

12/08/2015

Reported:

12/16/2015

Sampling Type:

Soil

Project Name:

COTTON DRAW #65

Sampling Condition:

Cool & Intact

Project Number:

70029410402

Sample Received By:

Judy Garcia

Project Location:

EDDY CTY

EDDY CTY

Sample ID: S-1 3' (H503208-04)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/14/2015	ND	1.72	86.0	2.00	4.13	
Toluene*	<0.050	0.050	12/14/2015	ND	1.73	86.4	2.00	3.57	
Ethylbenzene*	<0.050	0.050	12/14/2015	ND	1.75	87.6	2.00	3.41	
Total Xylenes*	<0.150	0.150	12/14/2015	ND	5.35	89.2	6.00	2.82	
Total BTEX	<0.300	0.300	12/14/2015	ND					
Surrogate: 4-Bromofluorobenzene (PIL	105 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	12/11/2015	ND	448	112	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/11/2015	ND	203	101	200	2.67	
DRO >C10-C28	<10.0	10.0	12/11/2015	ND	195	97.6	200	0.747	
Surrogate: 1-Chlorooctane	98.0	% 35-147	,						
Surrogate: 1-Chlorooctadecane	96.7	% 28-171							

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Celey D. Keene



TALON LPE KIMBERLY WILSON 408 W. TEXAS AVE. ARTESIA NM, 88210

Fax To:

(575) 745-8905

Received:

12/09/2015

Reported:

12/16/2015

Project Name:

COTTON DRAW #65

Project Number:

Project Location:

70029410402 **EDDY CTY** 

Sampling Date:

12/08/2015

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Judy Garcia

#### Sample ID: S-2 0' (H503208-05)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/14/2015	ND	1.72	86.0	2.00	4.13	
Toluene*	<0.050	0.050	12/14/2015	ND	1.73	86.4	2.00	3.57	
Ethylbenzene*	<0.050	0.050	12/14/2015	ND	1.75	87.6	2.00	3.41	
Total Xylenes*	<0.150	0.150	12/14/2015	ND	5.35	89.2	6.00	2.82	
Total BTEX	<0.300	0.300	12/14/2015	ND					
Surrogate: 4-Bromofluorobenzene (PIL	104 %	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	12/11/2015	ND	448	112	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/11/2015	ND	203	101	200	2.67	
DRO >C10-C28	107	10.0	12/11/2015	ND	195	97.6	200	0.747	
Surrogate: 1-Chlorooctane	92.3	% 35-147	7			ą			
Surrogate: 1-Chlorooctadecane	86.8	% 28-171	!						

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Celeg D. Keens



TALON LPE KIMBERLY WILSON 408 W. TEXAS AVE. ARTESIA NM, 88210

Fax To:

(575) 745-8905

Received:

12/09/2015

Reported:

12/16/2015

Project Name:

COTTON DRAW #65 70029410402

Project Number:

Project Location: EDDY CTY

Sampling Date:

12/08/2015

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Judy Garcia

Sample ID: S-2 1' (H503208-06)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/14/2015	ND	1.72	86.0	2.00	4.13	
Toluene*	<0.050	0.050	12/14/2015	ND	1.73	86.4	2.00	3.57	
Ethylbenzene*	<0.050	0.050	12/14/2015	ND	1.75	87.6	2.00	3.41	
Total Xylenes*	<0.150	0.150	12/14/2015	ND	5.35	89.2	6.00	2.82	
Total BTEX	<0.300	0.300	12/14/2015	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 %	6 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	12/11/2015	ND	448	112	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/11/2015	ND	203	101	200	2.67	
DRO >C10-C28	<10.0	10.0	12/11/2015	ND	195	97.6	200	0.747	
Surrogate: 1-Chlorooctane	94.5	% 35-147	,						
Surrogate: 1-Chlorooctadecane	93.0	% 28-171							

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Celey & Keene



TALON LPE
KIMBERLY WILSON
408 W. TEXAS AVE.
ARTESIA NM, 88210
Fax To: (575) 745-8905

Received:

12/09/2015

Reported:

12/16/2015

Project Name:

COTTON DRAW #65

Project Number:

70029410402

Project Location:

**EDDY CTY** 

Sampling Date:

12/08/2015

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Judy Garcia

Sample ID: S-2 2' (H503208-07)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/14/2015	ND	1.72	86.0	2.00	4.13	
Toluene*	<0.050	0.050	12/14/2015	ND	1.73	86.4	2.00	3.57	
Ethylbenzene*	<0.050	0.050	12/14/2015	ND	1.75	87.6	2.00	3.41	
Total Xylenes*	<0.150	0.150	12/14/2015	ND	5.35	89.2	6.00	2.82	
Total BTEX	<0.300	0.300	12/14/2015	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 9	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1250	16.0	12/11/2015	ND	448	112	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/11/2015	ND	203	101	200	2.67	
DRO >C10-C28	<10.0	10.0	12/11/2015	ND	195	97.6	200	0.747	
Surrogate: 1-Chlorooctane	89.8	% 35-147	,						
Surrogate: 1-Chlorooctadecane	92.2	% 28-171	1.						

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Celeg & Keene



TALON LPE KIMBERLY WILSON 408 W. TEXAS AVE. ARTESIA NM, 88210

Fax To:

(575) 745-8905

Received:

12/09/2015

Reported:

12/16/2015

Project Name:

COTTON DRAW #65

Project Number:

Project Location:

70029410402 **EDDY CTY** 

Sampling Date:

12/08/2015

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Judy Garcia

Sample ID: S-2 3' (H503208-08)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/14/2015	ND	1.72	86.0	2.00	4.13	
Toluene*	<0.050	0.050	12/14/2015	ND	1.73	86.4	2.00	3.57	
Ethylbenzene*	<0.050	0.050	12/14/2015	ND	1.75	87.6	2.00	3.41	
Total Xylenes*	<0.150	0.150	12/14/2015	ND	5.35	89.2	6.00	2.82	
Total BTEX	<0.300	0.300	12/14/2015	ND					
Surrogate: 4-Bromofluorobenzene (PIL	104 %	6 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1340	16.0	12/11/2015	ND	448	112	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/11/2015	ND	203	101	200	2.67	
DRO >C10-C28	<10.0	10.0	12/11/2015	ND	195	97.6	200	0.747	
Surrogate: 1-Chlorooctane	94.3	% 35-147	•						
Surrogate: 1-Chlorooctadecane	90.6	% 28-171							

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Celeg D. Keens



ND

#### **Notes and Definitions**

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

Analyte NOT DETECTED at or above the reporting limit

Chloride by SM4500CI-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keens



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Talon/LPE Project Manager: Address: 408 W. Project Name: (CTE) Phone #: 575-746-8768 Sampler Name: Project Location: Project #: FOR LAB USE ONLY PLASE NOTE: Lability and Damages. Continue's Reality and client's acclusive remocy for any claim acidity whether based in contract or but, shall be limited to the amount paid by the client for the policies.

analyses, All claims including those for neglectics and any other curses whatseever that is a decreated unless made in writing and reserved by Cardinal within 30 days after completion of the applicable in the certain including those for neglectics and any other curses whatseever that is a decreated any concentration of the problems. It is subclicities, in the certain and Cardinal to claim to table for included as the cardinal and cardinal to claim to table for the claim and cardinal to claim to the cardinal ca Relinquished By: Lab I.D. Delivered By: (Circle One) Artesia 101 East Mariand, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476 cross Texas Avé 1-2 5-1 9 23 Si 5/2 . . Sample I.D. 0 50W #65 Fax #: 575-746-8905 Project Owner: State: NM Time: w 1900 / Received B zip: 88210 (G)RAB OR (C)OMP. Received By: # CONTAINERS GROUNDWATER WASTEWATER Sample Condition
Cool Infact
Wes Yes
No No MATRIX SOIL OIL SLUDGE P.O. #: City: Attn: State: Address: Company: Fax #: Phone #: OTHER: ACID/BASE: PRESERV 01010 CE/COOL CHECKED BY: OTHER: Talon/LPE Zip: DAJE SAMPLING Phone Result: Fax Result: REMARKS: 12:05 12:03 17:14 12:01 12:08 12:20 12:0 12:18 TIME Yes □ No No ANALYSIS REQUEST Add'l Phone #: Add'l Fax #:

Sampler - UPS - Bus - Other:

Cardinal cannot accept verbal changes. Please fax written changes to (575) 398 2326



March 11, 2016

KIMBERLY WILSON

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: CDU #65

Enclosed are the results of analyses for samples received by the laboratory on 03/10/16 15:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keens

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



TALON LPE KIMBERLY WILSON 408 W. TEXAS AVE. ARTESIA NM, 88210

Fax To:

(575) 745-8905

Received: Reported: 03/10/2016

03/11/2016

Project Name:

CDU #65

Project Number:

700794.161.01

Project Location:

EDDY COUNTY, NM

Sampling Date:

03/09/2016

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

Sample ID: S-3 0' (H600532-01)

BTEX 8021B	mg/	kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/11/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	0.210	0.050	03/11/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	0.701	0.050	03/11/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	3.98	0.150	03/11/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	4.89	0.300	03/11/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	141 5	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3000	16.0	03/11/2016	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	83.2	10.0	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	3240	10.0	03/11/2016	ND	195	97.5	200	3.86	
Surrogate: 1-Chlorooctane	82.6	% 35-147	7						
Surrogate: 1-Chlorooctadecane	122	% 28-17.	I						

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KIMBERLY WILSON
408 W. TEXAS AVE.
ARTESIA NM, 88210
Fax To: (575) 745-8905

Received: Reported: 03/10/2016

03/11/2016

Project Name:

CDU #65

Project Number: Project Location: 700794.161.01

EDDY COUNTY, NM

Sampling Date:

03/09/2016

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

#### Sample ID: S-3 1' (H600532-02)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/11/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	<0.050	0.050	03/11/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	<0.050	0.050	03/11/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	<0.150	0.150	03/11/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	<0.300	0.300	03/11/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	6 73.6-140	)						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/11/2016	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	<10.0	10.0	03/11/2016	ND	195	97.5	200	3.86	
Surrogate: 1-Chlorooctane	74.5	% 35-147	4						
Surrogate: 1-Chlorooctadecane	81.8	% 28-171							

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Fax To: (575) 745-8905

Received: Reported:

03/10/2016

03/11/2016

Project Name:

CDU #65

Project Number: Project Location:

700794.161.01 EDDY COUNTY, NM Sampling Date:

03/09/2016

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

#### Sample ID: S-3 2' (H600532-03)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/11/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	<0.050	0.050	03/11/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	<0.050	0.050	03/11/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	<0.150	0.150	03/11/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	<0.300	0.300	03/11/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	103 5	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	03/11/2016	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	<10.0	10.0	03/11/2016	ND	195	97.5	200	3.86	
Surrogate: 1-Chlorooctane	60.2	% 35-147	7						
Surrogate: 1-Chlorooctadecane	66.5	% 28-171	Į.						

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Fax To: (575) 745-8905

03/10/2016

Reported: 03/11/2016

Project Name: CDU #65
Project Number: 700794.161.01

Project Location: EDDY COUNTY, NM

Sampling Date:

03/09/2016

Sampling Type: Soil

Cool & Intact

Sampling Condition: Sample Received By:

Jodi Henson

#### Sample ID: S-3 3' (H600532-04)

Received:

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/11/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	<0.050	0.050	03/11/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	<0.050	0.050	03/11/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	<0.150	0.150	03/11/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	<0.300	0.300	03/11/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 :	% 73.6-14	0						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	03/11/2016	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	14.0	10.0	03/11/2016	ND	195	97.5	200	3.86	
Surrogate: 1-Chlorooctane	76.5	% 35-147	ř						
Surrogate: 1-Chlorooctadecane	82.9	% 28-171							

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Received: Reported: 03/10/2016

03/11/2016

Project Name:

CDU #65

Project Number: Project Location: 700794.161.01

EDDY COUNTY, NM

Sampling Date:

03/09/2016

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

#### Sample ID: S-4 0' (H600532-05)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/11/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	0.083	0.050	03/11/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	0.652	0.050	03/11/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	4.23	0.150	03/11/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	4.97	0.300	03/11/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	136 9	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	03/11/2016	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	197	50.0	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	13900	50.0	03/11/2016	ND	195	97.5	200	3.86	
Surrogate: 1-Chlorooctane	114 %	% 35-147	,						
Surrogate: 1-Chlorooctadecane	432 9	% 28-171							

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Fax To:

(575) 745-8905

Received:

03/10/2016

03/11/2016

Sampling Date: Sampling Type: 03/09/2016

Reported:

Soil

Project Name:

CDU #65

Sampling Condition:

Cool & Intact

Project Number:

700794.161.01

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY, NM

Sample ID: S-4 1' (H600532-06)

BTEX 8021B	mg/	kg	Analyze	d By: MS		-			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/11/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	<0.050	0.050	03/11/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	<0.050	0.050	03/11/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	<0.150	0.150	03/11/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	<0.300	0.300	03/11/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	102 %	6 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	03/11/2016	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	364	10.0	03/11/2016	ND	195	97.5	200	3.86	
Surrogate: 1-Chlorooctane	79.4	% 35-147	,						4
Surrogate: 1-Chlorooctadecane	79.7	% 28-171							

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(575) 745-8905

Received:

03/10/2016

Reported:

03/11/2016

Project Name:

CDU #65

Project Number:

700794.161.01

Project Location:

EDDY COUNTY, NM

Sampling Date:

03/09/2016

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

#### Sample ID: S-4 2' (H600532-07)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/11/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	<0.050	0.050	03/11/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	<0.050	0.050	03/11/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	<0.150	0.150	03/11/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	<0.300	0.300	03/11/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	103 9	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	03/11/2016	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	123	10.0	03/11/2016	ND	195	97.5	200	3.86	
Surrogate: 1-Chlorooctane	73.7	% 35-147	7						
Surrogate: 1-Chlorooctadecane	84.2	% 28-171	r.						

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Received:

03/10/2016

Sampling Date:

03/09/2016

Reported:

03/11/2016

Sampling Type:

Soil

Project Name:

Cool & Intact

CDU #65

Sampling Condition:

Project Number:

700794.161.01

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY, NM

Sample ID: S-4 3' (H600532-08)

BTEX 8021B	mg/	kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/11/2016	ND	1.75	87.7	2.00	10.6	
Toluene*	0.064	0.050	03/11/2016	ND	1.79	89.7	2.00	7.59	
Ethylbenzene*	0.840	0.050	03/11/2016	ND	1.62	80.8	2.00	8.89	
Total Xylenes*	4.71	0.150	03/11/2016	ND	4.99	83.2	6.00	9.98	
Total BTEX	5.62	0.300	03/11/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	161 9	6 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	03/11/2016	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	189	10.0	03/11/2016	ND	193	96.5	200	0.498	
DRO >C10-C28	1910	10.0	03/11/2016	ND	195	97.5	200	3.86	
Surrogate: 1-Chlorooctane	101 5	% 35-147	,						
Surrogate: 1-Chlorooctadecane	92.1	% 28-171							

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#### **Notes and Definitions**

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside if QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Earn based in contract or tent, shall be imitted to the applicable are made in which gradual within 50 depts after completion of the application, such easy in profit from the first for substitutions. It is not of true, or loss of profits from the bloose stated meaning or otherwise.  By:    W. W.   Yes   No   Add'! Phone #:	OIL. SLUDGE OTHER: ACID/BASE: ICE/COOL. OTHER:  ACID/BASE: INFERENCE INFEREN	ANALYSIS REQUEST  P.O.# 700794.161.01  Company: Taion/LPE  Attn:  Address:  City:  State: Zip:  Phone #:  Pax#:  PRESERVI SAMPLING

Sampler - UPS /- Bus - Other:

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2826