

Soil Assessment and Remediation Work Plan

State AC #1 SWD * 30-025-03646 * 1RP-3588 Talon Project No. 701048.011.01

Prepared For:

Aspen Operating Company, LLC 1300 S. University Dr., Suite 200 Ft. Worth, TX 76107

Prepared By:

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

September 23, 2016

Ms. Kristen Lynch NMOCD District I 1625 N. French Dr. Hobbs, NM 88240

Subject: Soil Assessment and Remediation Work Plan Aspen Operating Company, LLC State AC #1 SWD * 30-025-03646 * 1RP-3588

Dear Ms. Lynch,

Aspen Operating 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.

Site Information

The State AC #1 SWD is located approximately forty (42) miles north of Lovington, New Mexico. The legal location for this release is Unit Letter N, Section 15, Township 10 South and Range 36 East in Lea County, New Mexico. More specifically the latitude and longitude for the release are 33.44249 North and -103.25071 West. A site plan is presented in Appendix I.

According to the soil survey provided by the United States Department of Agriculture National Resources Conservation Services (NRSC) the soil in this area is made up of Kermit soils and dune land with 0 to 12 percent slopes. Per the New Mexico Bureau of Geology and Mineral Resources, the local surface and shallow geology, Quaternary Age sedimentary deposits, is comprised of alluvium and eolian sands which includes silty soils under lain by dense caliche layers. Drainage courses in this area are normally dry.

Ground Water and Site Ranking

The New Mexico State Engineer web site indicates the nearest ground water data to be in S28-T10S-R36E. The ground water in Section 28 is reported to be at depth of 120' below ground surface (BGS). See Appendix II for the referenced groundwater data.

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, 1,000 mg/kg for TPH and 1,000 mg/kg for total chlorides.

Incident Description and Initial Remedial Actions

On March 27, 2015 the Murphy level switch failed to activate and start the injection pump which caused the SWD tank to overflow releasing 700 barrels of produced water into the berm of the facility. A vac truck was immediately called to the location and 655 barrels were recovered. The facility was shut-in and the wells associated with the SWD were also shut-in until everything was calibrated. See initial C-141 in Appendix II.

A site assessment and soil sampling activities for the construction of a work plan was performed. Initial soil samples were collected utilizing a hand auger to a depth of 4-feet deep. On August 25, 2016 a backhoe was mobilized for further vertical delineation of the impacted areas. The results of our soil sampling activities are summarized in the table below.

Laboratory Results

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-1	0'	6.32	6880	445	2800
	1'	3.9	3360	197	4110
	2'	1.84	1090	217	4600
	3'	1.11	880	178	3810
	4'	< 0.300	1040	27.1	1070
	5'		294		
S-2	0'	< 0.300	26800	<50	3120
	1'	0.555	13200	50.2	2780
	2'	< 0.300	4560	<10	83.6
	3'	< 0.300	4880	<10	61.4
-	4'	< 0.300	4000	<10	<10
	5'		73.2		
	7'		880		
S-3	0'	0.317	64	<50	863
	1'	< 0.300	32	<50	196
	2'	< 0.300	48	<10	<10
	3'	< 0.300	48	<10	<10
S-4	0'		28.9		
-	3'		13.5		
	5'		13		
BG	1'	< 0.300	<16	<10	<10

See Appendix III for complete report of laboratory results.

(--) Analyte Not Tested

Proposed Remedial actions

- To avoid compromising the structural integrity of the tanks within the impacted battery, the soil will be excavated to a depth of 2-foot deep. On behalf of Aspen Operating, we request that the remainder of the impacted soil be remediated upon the closure of the facility.
- The excavated soil will be transported to a NMOCD approved solid waste disposal facility.
- The excavated area will be backfilled with new caliche, machine compacted and contoured to match the surrounding location. The berms will be repaired.
- A final closure report documenting the remedial actions, a final C-141 and seeding labels will be provided to the NMOCD District I Hobbs Office and NMSLO.

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

imberly M. Wilson

Kimberly M. Wilson Project Manager

David J. Adkins District Manager

Attachments:

Appendix ISite PlanAppendix IIGroundwater Data & Initial C-141Appendix IIILaboratory Results



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

						OPERA	ГOR	al Report		Final Report	
				ompany, LLC			chael Wilson				
				0, Ft Worth, 7			No. 817-455-2				
Facility Nar	ne State	AC Battery]	Facility Typ	e SWD Batte	гу			
Surface Ow	ner Gart	h Coombes	6	Mineral C	wner	State of N	M	API No	. 30-025	-03646	3
		*					LEASE was	at the Battery			
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the	East/West Line	County		
N	15	10S	36E	660		S	1980	W	LEA		
				Latitude 33.44	4249 N	Longitud	e -103.25071 W	/			
	NATURE OF RELEASE 3/27/15, 12:00 AM.										
Type of Rele	ase Produ	iced Water	at the B	attery			Release 700 BBI	LS. Volume F	ecovered 6	55 BBL	S
Source of Re	lease SWI	<u>D Tank at Ba</u>	tter over	flow			lour of Occurrence		Hour of Di	scovery	3/27/15
Was Immedia	ate Notice C		Ves [No 🔲 Not Re	ouired			Mull, 3/27/15, 1:		mssg./8	3:00 AM
Du Whan 9	T 0 111				quireu			1:27 PM. Left M	essage.		
By Whom? Was a Water	Larry Spitt	tler hed?	_			If VES V	lour 3/27/15@	1:00 PM he Watercourse.	4.5		
Was a Water			Yes 🙀	No		II 1125, VC	nume impacting t	ne watercourse.	, `		
If a Watercou	irse was Imj	pacted, Descri	ibe Fully.*		-)		
No				RECE	IVE	D					
								Mar 30, 2015			
Describe Cau .* The Murph	se of Proble ley level swi	em and Remed tch on the SW	dial Action D tank fa	n Taken.* iled to activate an	d start u	p the injectio	on pump at the SV	WD facility causing	the SWD ta	nk to hi	gh level and
over flow. Th	e SWD facil	lity does have	a SCADA	alarm system whi	ich also i	failed in send	ing out a High Le	vel Alarm to the lea	ase operator.		
						jection pump	Tech to service t	he equipment. Fou	nd and repla	iced a sh	norted out
				evel Switch Repair	red.						
Describe Are											
Calibrated ar	nd reset the	SCADA high	cuum truc level alarr	k to vacuum up th ns. Condcuted a F	ne standi M on th	ing produced ie injection p	water. Called out ump to insure the	t a SCADA tech an pump is properly	d conducted working.	l system	s test.
I hereby certi	fy that the in	nformation gi	ven above	is true and compl	lete to th	e best of my	knowledge and up	nderstand that purs tive actions for rele	uant to NM	DCD rul	es and
public health	or the envir	onment. The	acceptanc	e of a C-141 repo	rt by the	NMOCD m	arked as "Final Re	eport" does not reli	eve the oper	may enc ator of 1	ianger jability
should their o	perations ha	ave failed to a	dequately	investigate and re	emediate	contaminati	on that pose a three	eat to ground water	, surface wa	ter, hum	an health
or the enviror	ment. In a	ddition, NMO	CD accep	tance of a C-141	report do	bes not reliev	e the operator of r	responsibility for co	ompliance w	ith any	other
federal, state,	1	vs and/or regu	lations.	17				TEDVATION		NT	
C.	111	Bel	1,6	2c	-			SERVATION	DIVISIO	<u>'IN</u>	
Signature:	· u	ax	ha				rologist	1.1.1		-	
Printed Name	: Michael V	Vilson			/	Approved by	Environmental S ₁	beelahel:		T	PLO
Title: Produc	tion Manag	er			I	Approval Dat	e: 03/30/2015	Expiration	Date: 06/3	0/2015	Strends.
E-mail Addre	ss: <u>mwilso</u>	<u>n@aspen-oil.c</u>	com			Conditions of	Approval:		Atteshal		
							s required. Deline		Attached		
Date: 3/30/20	15		Phone:	817-455-2311		remediate a	rea as per NMO(CD guides.	1RP-3588	3	21759

* Attach Additional Sheets If Necessary

nTO1508953224

pTO1508953401

and the State	New	Mexico O	ffice of	the State	Engine	er
		Column/			0	
(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, C=the file is closed)	(quarters are 1=NW (quarters are smalles			iters) (In feet)
	POD Sub-	000		and the second	Denth	Depth Water
POD Number	Code basin Cou	nty 64 16 4 Sec Tws	Rng	Х Ү		Water Column
L 12267 POD1	L LE	E 1 1 1 28 10S	36E 6608	85 3699687 🌍	3174 200	120 80
				Avera	ge Depth to Water:	120 feet
					Minimum Depth:	120 feet
					Maximum Depth:	120 feet
Record Count: 1			and some some some some some some	and and had and one and and and and and a	the proof starty proof starty and starty and starty	and the period was been as a period χ
Basin/County Sear	ch:					
County: Lea						
UTMNAD83 Radius	Search (in meters):					
Easting (X): 663		Northing (Y): 370	01631	Radius	3200	

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



July 25, 2016

DAVID ADKINS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: T.P.'A' STATE BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 07/20/16 11:06.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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 www.tceq.texas.gov/field/ga/lab accredited 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.

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. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-1 0' (H601621-01)

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	07/21/2016	ND	2.14	107	2.00	0.449	
Toluene*	0.329	0.200	07/21/2016	ND	2.18	109	2.00	0.792	
Ethylbenzene*	<0.200	0.200	07/21/2016	ND	2.10	105	2.00	0.403	
Total Xylenes*	5.99	0.600	07/21/2016	ND	6.31	105	6.00	0.389	
Total BTEX	6.32	1.20	07/21/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	124	% 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	6880	16.0	07/21/2016	ND	416	104	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	445	100	07/20/2016	ND	185	92.6	200	3.78	
DRO >C10-C28	28000	100	07/20/2016	ND	186	92.9	200	9.84	
Surrogate: 1-Chlorooctane	115	% 35-147	r						

28-171

Surrogate: 1-Chlorooctadecane 1030 %

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*=Accredited Analyte

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Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-1 1' (H601621-02)

BTEX 8021B	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	07/21/2016	ND	2.14	107	2.00	0.449	
Toluene*	0.119	0.100	07/21/2016	ND	2.18	109	2,00	0.792	
Ethylbenzene*	<0.100	0.100	07/21/2016	ND	2.10	105	2.00	0.403	
Total Xylenes*	3.78	0.300	07/21/2016	ND	6.31	105	6.00	0.389	
Total BTEX	3.90	0.600	07/21/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	129 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	3360	16.0	07/21/2016	ND	416	104	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	197	50.0	07/20/2016	ND	185	92.6	200	3,78	
DRO >C10-C28	4110	50.0	07/20/2016	ND	186	92.9	200	9.84	
Surrogate: 1-Chlorooctane	122 9	% 35-147	7						
Surrogate: 1-Chlorooctadecane	128 9	28-171							

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Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-1 2' (H601621-03)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	07/21/2016	ND	2.14	107	2.00	0.449	
Toluene*	<0.100	0.100	07/21/2016	ND	2.18	109	2.00	0.792	
Ethylbenzene*	<0.100	0.100	07/21/2016	ND	2.10	105	2.00	0.403	
Total Xylenes*	1.84	0.300	07/21/2016	ND	6.31	105	6.00	0.389	
Total BTEX	1.84	0.600	07/21/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	126 %	6 73.6-14	10						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					

Cinoriae, SH4500Cr D	Ing.	Ng	7.11.11720	abyrna					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1090	16.0	07/21/2016	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	217	50.0	07/20/2016	ND	185	92.6	200	3.78	
DRO >C10-C28	4600	50.0	07/20/2016	ND	186	92.9	200	9.84	
Surrogate: 1-Chlorooctane	136	% 35-147	7						

Surrogate: 1-Chlorooctane136 %35-147Surrogate: 1-Chlorooctadecane124 %28-171

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Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-1 3' (H601621-04)

BTEX 8021B	mg/kg Analyzed By: MS			d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	07/21/2016	ND	2.14	107	2.00	0.449	
Toluene*	<0.100	0.100	07/21/2016	ND	2.18	109	2.00	0.792	
Ethylbenzene*	<0.100	0.100	07/21/2016	ND	2.10	105	2.00	0.403	
Total Xylenes*	1.11	0.300	07/21/2016	ND	6.31	105	6.00	0.389	
Total BTEX	1.11	0.600	07/21/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL 125 % 73.6-140

Chloride, SM4500CI-B	mg	mg/kg		Analyzed By: AP			11-11-1-1-1-1-0		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	07/21/2016	ND	416	104	400	0.00	
TPH 8015M	mg	mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	178	50.0	07/20/2016	ND	185	92.6	200	3.78	
DRO >C10-C28	3810	50.0	07/20/2016	ND	186	92.9	200	9.84	

Surrogate: 1-Chlorooctadecane 135 % 28-171

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Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-1 4' (H601621-05)

BTEX 8021B	mg/	kg	Analyze	d By: MS			Sauce		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/21/2016	ND	2.14	107	2.00	0.449	
Toluene*	<0.050	0.050	07/21/2016	ND	2.18	109	2.00	0.792	
Ethylbenzene*	<0.050	0.050	07/21/2016	ND	2.10	105	2.00	0.403	
Total Xylenes*	<0.150	0.150	07/21/2016	ND	6.31	105	6.00	0.389	
Total BTEX	<0.300	0.300	07/21/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	107 9	6 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	1040	16.0	07/21/2016	ND	416	104	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	27.1	10.0	07/20/2016	ND	185	92.6	200	3.78	
DRO >C10-C28	1070	10.0	07/20/2016	ND	186	92.9	200	9.84	
Surrogate: 1-Chlorooctane	101 9	6 35-147	7						
Surrogate: 1-Chlorooctadecane	102 9	6 28-171	1						

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*=Accredited Analyte

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Celleg Di Keno-

Celey D. Keene, Lab Director/Quality Manager



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Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-2 0' (H601621-06)

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	07/21/2016	ND	2.14	107	2.00	0.449	
Toluene*	<0.050	0.050	07/21/2016	ND	2.18	109	2.00	0.792	
Ethylbenzene*	<0.050	0.050	07/21/2016	ND	2.10	105	2.00	0.403	
Total Xylenes*	<0.150	0.150	07/21/2016	ND	6.31	105	6.00	0.389	
Total BTEX	<0.300	0.300	07/21/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	100 %	6 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	26800	16.0	07/21/2016	ND	416	104	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	<50.0	50.0	07/20/2016	ND	185	92.6	200	3.78	
DRO >C10-C28	3120	50.0	07/20/2016	ND	186	92.9	200	9.84	
Surrogate: 1-Chlorooctane	86.7	% 35-147	7						
Surrogate: 1-Chlorooctadecane	149 9	6 28-171	,						

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Celeg Di Keine

Celey D. Keene, Lab Director/Quality Manager



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Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-2 1' (H601621-07)

BTEX 8021B	mg/kg		Analyze	Analyzed By: MS		1011-10-1011			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/21/2016	ND	2.14	107	2.00	0.449	
Toluene*	<0.050	0.050	07/21/2016	ND	2.18	109	2.00	0.792	
Ethylbenzene*	<0.050	0.050	07/21/2016	ND	2.10	105	2.00	0.403	
Total Xylenes*	0.555	0.150	07/21/2016	ND	6.31	105	6.00	0.389	
Total BTEX	0.555	0.300	07/21/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	122 %	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	13200	16.0	07/21/2016	ND	416	104	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	50.2	50.0	07/20/2016	ND	185	92.6	200	3.78	
DRO >C10-C28	2780	50.0	07/20/2016	ND	186	92.9	200	9.84	
Surrogate: 1-Chlorooctane	98.5	% 35-147	7						

Surrogate: 1-Chlorooctadecane 134 % 28-171

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 DAVID ADKINS

 408 W. TEXAS AVE.

 ARTESIA NM, 88210

 Fax To:
 (575) 745-8905

Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-2 2' (H601621-08)

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	07/21/2016	ND	2.14	107	2.00	0.449	
Toluene*	<0.050	0.050	07/21/2016	ND	2.18	109	2.00	0.792	
Ethylbenzene*	<0.050	0.050	07/21/2016	ND	2.10	105	2.00	0.403	
Total Xylenes*	<0.150	0.150	07/21/2016	ND	6.31	105	6.00	0.389	
Total BTEX	<0.300	0.300	07/21/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	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	4560	16.0	07/21/2016	ND	416	104	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	07/20/2016	ND	185	92.6	200	3.78	
DRO >C10-C28	83.6	10.0	07/20/2016	ND	186	92.9	200	9.84	
Surrogate: 1-Chlorooctane	88.7	% 35-147	7						
Surrogate: 1-Chlorooctadecane	89.6	% 28-171	!						

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Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-2 3' (H601621-09)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Anatyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/21/2016	ND	2.14	107	2.00	0.449	
Toluene*	<0.050	0.050	07/21/2016	ND	2.18	109	2.00	0.792	
Ethylbenzene*	<0.050	0.050	07/21/2016	ND	2.10	105	2.00	0.403	
Total Xylenes*	<0.150	0.150	07/21/2016	ND	6.31	105	6.00	0.389	
Total BTEX	<0.300	0.300	07/21/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	103 %	6 73.6-14	0						
Chioride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4880	16.0	07/21/2016	ND	416	104	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	07/20/2016	ND	185	92.6	200	3.78	
DRO >C10-C28	61.4	10.0	07/20/2016	ND	186	92.9	200	9.84	
Surrogate: 1-Chlorooctane	85.1 9	% 35-147	7						
Surrogate: 1-Chlorooctadecane	88.7	% 28-171	1						

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Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-2 4' (H601621-10)

BTEX 8021B	mg,	'kg	Analyze	d By: MS	· ·				000410-00-0
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/21/2016	ND	2,14	107	2.00	0.449	
Toluene*	<0.050	0.050	07/21/2016	ND	2.18	109	2.00	0,792	
Ethylbenzene*	<0.050	0.050	07/21/2016	ND	2.10	105	2.00	0,403	
Total Xylenes*	<0.150	0.150	07/21/2016	ND	6.31	105	6.00	0.389	
Total BTEX	<0.300	0.300	07/21/2016	ND					

Surrogate: 4-Bromofluorobenzene (PIL 103 % 73.6-140

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4000	16.0	07/21/2016	ND	416	104	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	07/20/2016	ND	185	92.6	200	3.78	

Surrogate: 1-Chlorooctadecane 87.8 % 28-171

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Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-3 0' (H601621-11)

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	07/21/2016	ND	2.14	107	2.00	0.449	
Toluene*	<0.050	0.050	07/21/2016	ND	2.18	109	2.00	0.792	
Ethylbenzene*	<0.050	0.050	07/21/2016	ND	2.10	105	2.00	0.403	
Total Xylenes*	0.317	0.150	07/21/2016	ND	6.31	105	6.00	0,389	
Total BTEX	0,317	0.300	07/21/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	105 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AP				10	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/21/2016	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS				5.001.0000	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	07/20/2016	ND	185	92.6	200	3.78	
DRO >C10-C28	863	50.0	07/20/2016	ND	186	92.9	200	9.84	
Surrogate: 1-Chlorooctane	84.3	% 35-147	7						
Surrogate: 1-Chlorooctadecane	104	% 28-17	1						

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Celey D. Keene, Lab Director/Quality Manager



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Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-3 1' (H601621-12)

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	07/21/2016	ND	2,14	107	2.00	0.449	
Toluene*	<0.050	0.050	07/21/2016	ND	2.18	109	2.00	0.792	
Ethylbenzene*	<0.050	0.050	07/21/2016	ND	2,10	105	2,00	0.403	
Total Xylenes*	<0.150	0.150	07/21/2016	ND	6.31	105	6.00	0,389	
Total BTEX	<0.300	0.300	07/21/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	101 %	6 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	32.0	16.0	07/21/2016	ND	416	104	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	<50.0	50.0	07/20/2016	ND	185	92.6	200	3.78	
DRO >C10-C28	196	50.0	07/20/2016	ND	186	92.9	200	9.84	
Surrogate: 1-Chlorooctane	94.1 %	% 35-147	7						
Surrogate: 1-Chlorooctadecane	107 %	6 28-171	,						

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Celey D. Keene, Lab Director/Quality Manager



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Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-3 2' (H601621-13)

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	07/21/2016	ND	2.14	107	2.00	0.449	
Toluene*	<0.050	0.050	07/21/2016	ND	2.18	109	2.00	0.792	
Ethylbenzene*	<0.050	0.050	07/21/2016	ND	2.10	105	2.00	0.403	
Total Xylenes*	<0.150	0.150	07/21/2016	ND	6.31	105	6.00	0.389	
Total BTEX	<0.300	0.300	07/21/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	101 9	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	48.0	16.0	07/21/2016	ND	416	104	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	07/20/2016	ND	185	92.6	200	3.78	
DRO >C10-C28	<10.0	10.0	07/20/2016	ND	186	92.9	200	9.84	
Surrogate: 1-Chlorooctane	86.7 5	% 35-147	,						
Surrogate: 1-Chlorooctadecane	96.9 5	28-171							

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Celey D. Keene, Lab Director/Quality Manager



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Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: S-3 3' (H601621-14)

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	07/21/2016	ND	2.14	107	2.00	0.449	
Toluene*	<0.050	0.050	07/21/2016	ND	2.18	109	2.00	0.792	
Ethylbenzene*	<0.050	0.050	07/21/2016	ND	2.10	105	2.00	0.403	
Total Xylenes*	<0.150	0.150	07/21/2016	ND	6.31	105	6.00	0.389	
Total BTEX	<0.300	0.300	07/21/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	102 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	48.0 16.0		07/21/2016 ND		416	104	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	07/20/2016	ND	185	92.6	200	3.78	
DRO >C10-C28	16.0	10.0	07/20/2016	ND	186	92.9	200	9.84	
Surrogate: 1-Chlorooctane	88.4	% 35-147	,						
Surrogate: 1-Chlorooctadecane	100 9	% 28-171							

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Received:	07/20/2016	Sampling Date:	07/19/2016
Reported:	07/25/2016	Sampling Type:	Soil
Project Name:	T.P.'A' STATE BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701048.011.01	Sample Received By:	Angela Cabrera
Project Location:	NORTH CHAVEZ COUNTY (TATUM)		

Sample ID: BG 1' (H601621-15)

BTEX 8021B	mg/	kg	Analyze	d By: MS	W0000				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/21/2016	ND	2.14	107	2.00	0.449	
Toluene*	<0.050	0.050	07/21/2016	ND	2.18	109	2.00	0.792	
Ethylbenzene*	<0.050	0.050	07/21/2016	ND	2.10	105	2.00	0.403	
Total Xylenes*	<0.150	0.150	07/21/2016	ND	6.31	105	6.00	0.389	
Total BTEX	<0.300	0.300	07/21/2016	ND					
Surrogate: 4-Bromofluorobenzene (PIL	102 9	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	<16.0 16.0		07/21/2016 ND		416	104	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	07/20/2016	ND	185	92.6	200	3.78	
DRO >C10-C28	<10.0	10.0	07/20/2016	ND	186	92.9	200	9.84	
Surrogate: 1-Chlorooctane	93.0	% 35-147	,		- ·				
Surrogate: 1-Chlorooctadecane	100 9	6 28-171							

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*=Accredited Analyte

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Celeg Di Kune

Celey D. Keene, Lab Director/Quality Manager



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.										
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	nalyte 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 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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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Page 18 of 19

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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### **Analytical Report 535942**

for

**Talon LPE** 

**Project Manager: David Adkins** 

Aspen TP State AC #1

### 701048.011.07

### 01-SEP-16

Collected By: Client





### 1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400) Xenco-San Antonio: Texas (T104704534) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



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01-SEP-16 Project Manager: **David Adkins Talon LPE** 408 W. Texas St. Artesia, NM 88210

Reference: XENCO Report No(s): 535942 Aspen TP State AC #1 Project Address: Lea County, New Mexico

### David Adkins:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 535942. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 535942 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kusko

Kelsey Brooks Project Manager

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### Talon LPE, Artesia, NM

Aspen TP State AC #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-1	S	08-25-16 00:00	- 5 ft	535942-001
S-2	S	08-25-16 00:00	- 5 ft	535942-002
S-2	S	08-25-16 00:00	- 7 ft	535942-003
S-4	S	08-25-16 00:00	- 0 ft	535942-004
S-4	S	08-25-16 00:00	- 3 ft	535942-005
S-4	S	08-25-16 00:00	- 5 ft	535942-006



CASE NARRATIVE

A DECEMPTION OF

Client Name: Talon LPE Project Name: Aspen TP State AC #1

 Project ID:
 701048.011.07

 Work Order Number(s):
 535942

Report Date:01-SEP-16Date Received:08/30/2016

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

<b>ENCO</b> BORATORIES	701048.011.07
	Project Id:

Lea County, New Mexico

**Project Location:** 

Contact:

David Adkins

### Certificate of Analysis Summary 535942 Talon LPE, Artesia, NM



Date Received in Lab: Tue Aug-30-16 02:26 pm Project Manager: Kelsey Brooks Report Date: 01-SEP-16

	Lab Id:	535942-001	535942-002	535942-003	535942-004	535942-005	535942-006
	Field Id:	S-1	S-2	S-2	S-4	S-4	S-4
Analysis Kequesieu	Depth:	5 ft	5 ft	7 ft	0 <del>f</del> t	3 ft	5 ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Aug-25-16 00:00	Aug-25-16 00:00	Aug-25-16 00:00	Aug-25-16 00:00	Aug-25-16 00:00	Aug-25-16 00:00
Inorganic Anions by EPA 300/300.1	Extracted:	Aug-31-16 10:00	Aug-31-16 10:00	Aug-31-16 10:00	Aug-31-16 10:00	Aug-31-16 10:00	Aug-31-16 10:00
	Analyzed:	Aug-31-16 14:55	Aug-31-16 15:03	Aug-31-16 15:11	Aug-31-16 15:19	Aug-31-16 15:57	Aug-31-16 16:05
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		294 10.0	73.2 10.0	880 10.0	28.9 10.0	13.5 10.0	13.0 10.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best jugment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Page 6 of 12

Kelsey Brooks Project Manager



### Flagging Criteria



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.
- JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- ** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

- **RL** Reporting Limit
- MDL Method Detection Limit SDL Sample Detection Limit

LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit

**DL** Method Detection Limit

NC Non-Calculable

- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	

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## **BS / BSD Recoveries**



# Project Name: Aspen TP State AC #1

	a	Inorg		Units:		Lab Batch ID:	Anaiyst:	A	Work Order #: 535942
		anic Anions by		mg/kg		: 1000983	INTINIC		#: 535942
		VEPA 300/300.1				Sample: 713246-1-J			
[A]	Sample Result	Blank				BKS	F	-	
	Added	Spike		BLANI		Batch	vate r repare	hata Duamana	
Result	Spike	Blank		K /BLANK S		#: 1	u. 00/01/201	A. 08/21/201	
%R	Spike	Blank		SPIKE / B			c	А	
	Added	Spike	_	LANK S					
Duplicate	Spike	Blank		PIKE DUPI					
%R	Dup.	Blk. Spk	-	ICATE ]			DAIG AL	Data A.	Proj
%	RPD			RECOVE		Matrix: S	Jalyzeu. U	nolwand. (	ect ID: 7
%R	Limits	Control		ERY STUL		olid	010112010	21/2016	Project ID: 701048.011.07
%RPD	Limits	Control		Y					.07
	Flag								
	%R Duplicate %R % %R	Sample Result         Added         Spike         Spike         Added         Spike         Dup.         RPD         Limits         Limits           [A]         Result         %R         M         Duplicate         %R         %         %R         %RPD	Spike         Blank         Blank         Spike         Blank         Blank         Blank         Control         Control           Added         Spike         Spike         Added         Spike         Dup.         RPD         Limits         Limits           Result         %R         M         Duplicate         %R         %         %RPD	Blank     Spike     Blank     Blank     Spike     Blank     Spike     Blank     Spike     Blank     Blank     Spike     Blank     Control     Control     Control       Sample Result     Added     Spike     Spike     Added     Spike     Added     Spike     Dup.     RPD     Limits     Limits       [A]     Result     %R     %R     Duplicate     %R     %     %R     %RPD	Inorganic Anions by EPA 300/300.1       Blank       Spike       Spike       Spike       Blank       Spike       Blank       Spike       Blank       Spike       Blank       Spike       Blank       Spike       Dup.       Control       Control       Limits         [A]       [A]       [A]       [A]       Result       %R       %A       %R       %RPD       Limits       MRPD       MRPD	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE     RECOVERY STUDY       Blank     Spike     Blank     Spike     Blank     Spike     Blank     Blank     Spike     Blank     Blank	atch ID: 1000983       Sample: 713246-1-BKS       Batch #: 1       Matrix: Solid         mg/kg       BLANK       BLANK SPIKE / BLANK SPIKE DUPLICATE       RECOVERY STUDY         Inorganic Anions by EPA 300/300.1       Blank       Spike       Blank       Spike       Blank       Spike       Blank       Spike       Blank       Blank       Spike       Blank       Spike       Blank       Spike       Blank       Spike       Blank       Spike       Spike       Blank       Spike       Sp	Interference     Date freparence     OWNER     Date freparence     OWNER     Date freparence     Date freparence	it:       MNR       Date Prepared: $08/31/2016$ Date Analyzed: $08/31/2016$ atch ID:       1000983       Sample:       713246-1-BKS       Batch #:       1       Mate X       Mate:       Mate:       Solid       Solid

Chloride

<10.0

250

252

101

250

249

100

H

90-110

20

Analytes

Relative Percent Difference RPD = 200*[(C-F)/(C+F)] Blank Spike Recovery [D] = 100*(C)/[B] Blank Spike Duplicate Recovery [G] = 100*(F)/[E] All results are based on MDL and Validated for QC Purposes

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Final 1.000

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# Form 3 - MS / MSD Recoveries



## Project Name: Aspen TP State AC #1

Flag

		Re	D	La		
	Inorgai	<b>Reporting Units:</b>	Date Analyzed:	Lab Batch ID:	Chloride	
Analytes	Inorganic Anions by EPA 300/300.1	mg/kg	08/31/2016	1000983		
[A]	Parent Sample		Date Prepared: 08/31/2016	QC- Sample ID: 535942-004 S	54.7	
Added [B]	Spike	N	08/31/2 M		250	3
[0]	Spiked Sample Spiked Result Sample	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	016	-004 S	292	
[D]	Spiked Sample	E / MAT	An	Ba	95	]
Added [E]	Spike	RIX SPI	Analyst: MNR	Batch #:	250	2
Kesult [F]	Duplicate Spiked Sample	KE DUPLICA	INR	1 Matri	295	
[G]	Spiked Dup.	TE REC		Matrix: Soil	96	1
%	RPD	OVERY			1	
%ĸ	Control Limits	STUDY			90-110	
%кри	Control Limits				20	
	Flag					

Chloride

28.9

250

266

95

250

268

96

**—** 

90-110

20

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Matrix Spike Percent Recovery [D] = 100*(C-A)/B Relative Percent Difference RPD = 200*((C-F)/(C+F))

Page 9 of 12

Final 1.000

Relinquished/by:     Set of this document and relinquishment of samples constitute	Rollinguistice by:	Relinquished by sampler, 1/2 ), /. Sume La CUSIV	TAT Starts Day received by Lab, if received by 3:00 pm	3 Day Emergency	2 Day EMERGENCY	Next Day EMERGENCY	Same Day TAT 4 5 Day TAY	To Turnaround Time ( Business days) [10/00/00/00/00/00/00/00/00/00/00/00/00/0	φ	8	7	D	۲	<u>ب</u> ب ب	2-2	<u>, 5-2</u>		No. Field ID / Point of Collection	Samplers's Name / in 627/5 0775	From Pavid Hokins	Kisilson Halon poston	- K	Company Address	Company Name / Branch: Talen/UPE	Character Information	Service Center - San Antopio, Texas (210-509-3334)	Dallas, Texas (214-902-0300)	Setting the Standard since 1990 Stafford, Texas (281-240-4209)	- XENGO
Received By: 5 order from client company to XENCO Laboration	Defer Times/ 14 20 Readowood Bays (1) I AW MO P. Realinquistand By:	Drines Torner Country Receiving By Refinquisted By:	The provinsioner bei DW EARY TIME SAME ES PHANGE BREESSON	TRAP Checklist	Lavel 3 (CLP Forms) UST / EQ -411	Level JII Std QC+ Fooms THRP Level IV	Level II Std QC					5. V			7, 1 2 1		8/25 5 1	Sample Debth Clare Match Accelate HCI NaOH/Zo Accelate HNO3 H2SO4 NaOH NaHSO4 MEOH NONE	× 10.11.01	N/ / N	Talen/LAE	. ]	m 12 10 100 100 100 100 100 100 100 100 1	Project Name/Numberson TP State DU -#1	Dualant Information	WWW.XSDCC.COU	Not	. od	CHAIN OF CUSTODY
-	Date Times Representatives Bir 111 (01/10/02 8 2) 10:45	Date Time: Stocefved By:					w data)											Field Comments	WW Waste Water			SW = Surface water SL = Sludge	DW = Drinking Water	A≂ Air S = Soll/Sed/Solid	Analytical Information http://www.social.com		porgia (770-449-8800) Tampa, Flo	Odessa, Texas (432-662-1800) Lakeland, Florida (863-646-8526)	

000.1 lsni-1

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### XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: Talon LPE	Acceptable Temperature Range: 0 - 6 degC									
Date/ Time Received: 08/30/2016 02:26:00 PM	Air and Metal samples Acceptable Range: Ambient									
Work Order #: 535942	Temperature Measuring device used: R8									
Sample Recei	pt Checklist Comments									
#1 *Temperature of cooler(s)?	28									
#2 *Shipping container in good condition?	Yes									
#3 *Samples received on ice?	Yes Ice had melted									
#4 *Custody Seal present on shipping container/ cooler?	No									
#5 *Custody Seals intact on shipping container/ cooler?	No									
#6 Custody Seals intact on sample bottles?	No									
#7 *Custody Seals Signed and dated?	No									
#8 *Chain of Custody present?	Yes									
#9 Sample instructions complete on Chain of Custody?	Yes									
#10 Any missing/extra samples?	No									
#11 Chain of Custody signed when relinquished/ received?	Yes									
#12 Chain of Custody agrees with sample label(s)?	Yes									
#13 Container label(s) legible and intact?	Yes									
#14 Sample matrix/ properties agree with Chain of Custody?	Yes									
#15 Samples in proper container/ bottle?	Yes									
#16 Samples properly preserved?	Yes									
#17 Sample container(s) intact?	Yes									
#18 Sufficient sample amount for indicated test(s)?	Yes									
#19 All samples received within hold time?	Yes									
#20 Subcontract of sample(s)?	Νο									
#21 VOC samples have zero headspace (less than 1/4 inch	bubble)? N/A									
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? samples for the analysis of HEM or HEM-SGT which are verif analysts.										
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnA	Ac+NaOH? N/A									

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Carley Owens

Date: 08/31/2016

Checklist reviewed by:

Huns M roah Kelsey Brooks

Date: 08/31/2016