

Electronic Correspondence

August 18, 2017

Ms. Olivia Yu Environmental Specialist, District I Oil Conservation Division, EMNRD Olivia.yu@state.nm.us

Re: Replacement Closure Report – 1RP-2770 Legacy Reserves Jalmat Yates Unit #17 Legal: Unit C, Sec 18, T25S R37E, 660' FNL, 1,980' FWL, Lea County, NM Lattitude/Longitude: 32.135787/ -103.203931 Etech Proj. Number: 164-2830-000 Depth to Groundwater: 115 feet - Chevron/Texaco Lea County Depth to Groundwater Map Value provided by NMOCD, District 1 Release Type: Crude Oil and Produced Water Contaminants of Concern (COCs) Threshold Levels TPH 5000 mg/kg Benzene 10 mg/kg50 mg/kg BTEX Chloride 500 mg/kg

Dear Olivia:

Etech Environmental & Safety Solutions, Inc. (Etech) is submitting the following corrective action plan on the aforementioned site for your review and approval.

Background

On May 19, 2011, a release of crude oil and produced water was discovered in the pasture land approximately three hundred (300) feet north of the Legacy Reserves, Jalmat Yates Unit #17. The source of the release was a hole in a two (2) inch steel flowline. The fluid flowed north from the release point following the lease road, then flowed eastward and pooled in the pasture.

Corrective Action Performed

The pooled area at the release point at the west terminus of the release, the flow path (north and east), and the pooled area at the east terminus of the release were excavated. Field testing for chloride concentrations indicated that chloride concentrations were steadily reducing from surface to approximately twelve (12) feet below ground surface ((bgs), approximately 800 mg/kg at 12 feet bgs). At this point the chloride concentrations began to elevate. Excavation of the pooled areas continued until the limits of our ability to excavate were reached. The pooled areas at this point were approximately twenty-two (22) feet bgs. Soil samples collected from the bottom of the excavate to 500 mg/kg and delineate to 250 mg/kg.

Per approval by the NMOCD, two (2) soil borings were advanced to forty (40) feet bgs, each at the edge of the down gradient side of the pooled areas. Soil samples were collected at two (2) foot intervals and field screened for chloride concentrations. The soil samples were then sent for laboratory analysis for chloride with instructions to perform successive analysis until a continuous ten (10) foot interval had been analyzed where the chloride concentrations were 250 mg/kg or less.

The results of the analysis determined there were no elevated levels of chloride from twenty-four (24) to thirty-two (32) feet bgs at SB1 and from twenty-four (24) to forty-eight (48) feet bgs at SB2 (See Table 1, Summary of Delineation Sampling Analytical Results below). Samples collected and analyzed of the sidewalls from the spill flow path and pooled areas determined that the areas have been excavated to acceptable levels (See Table 2, Summary of Remediation Sampling Analytical Results below).

All impacted soils (4,780 cubic yards) were removed from the site, transported, and disposed of at Sundance Services. Per NMOCD approval of October 5, 2011, and based upon the analytical data and the site conditions, the pooled areas at the site were backfilled with clean fill material to a depth of ten (10) feet bgs where a twenty (20) mil poly liner was installed and the areas backfilled to surface and contoured. The spill flow path was backfilled to surface.

	Table 1 Summary of Delineation Sampling Analytical Results													
Sample ID	Depth	Date	C6-C12	>C12- C28	>C28- C35	Total TPH (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)	Chlorides (mg/kg)					
SB 1	24'	9/1/16	NA	NA	NA	NA	NA	NA	80.0					
SB 1	26′	9/1/16	NA	NA	NA	NA	NA	NA	80.0					
SB 1	28′	9/1/16	NA	NA	NA	NA	NA	NA	48.0					
SB 1	30'	9/1/16	NA	NA	NA	NA	NA	NA	64.0					
SB 1	32'	9/1/16	NA	NA	NA	NA	NA	NA	64.0					
SB 2	24'	9/1/16	NA	NA	NA	NA	NA	NA	160					
SB 2	26′	9/1/16	NA	NA	NA	NA	NA	NA	160					
SB 2	28′	9/1/16	NA	NA	NA	NA	NA	NA	256					
SB 2	30'	9/1/16	NA	NA	NA	NA	NA	NA	208					
SB 2	32'	9/1/16	NA	NA	NA	NA	NA	NA	256					
SB 2	34'	9/1/16	NA	NA	NA	NA	NA	NA	272					
SB 2	36'	9/1/16	NA	NA	NA	NA	NA	NA	320					
SB 2	38'	9/1/16	NA	NA	NA	NA	NA	NA	304					
SB 2	40′	9/1/16	NA	NA	NA	NA	NA	NA	288					

NA denotes not analyzed

Table 2 Summary of Remediation Sampling Analytical Results													
Sample ID	Date	C6-C12	>C12- C28	>C28- C35	Total TPH (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)	Chlorides (mg/kg)					
WTEW	9/2/16	ND	43.3	ND	43.3	NA	NA	263					
ETEW	9/2/16	ND	ND	ND	ND	NA	NA	226					
ETWW	9/2/16	ND	ND	ND	ND	NA	NA	10.6					
WTWW	9/2/16	ND	ND	ND	ND	NA	NA	ND					

NTNW #1	9/2/16	ND	ND	ND	ND	NA	NA	7.78
NTSW #1	9/2/16	ND	ND	ND	ND	NA	NA	207
NTSW #2	9/2/16	ND	ND	ND	ND	NA	NA	486
NTNW #2	9/2/16	ND	ND	ND	ND	NA	NA	503
NTNW #3	9/2/16	ND	ND	ND	ND	NA	NA	276
NTSW #3	9/2/16	ND	ND	ND	ND	NA	NA	614

ND denotes no analytical detection.

NA denotes not analyzed

Conclusion

Based on the analytical results and the field activities conducted, Etech does not recommend any further corrective action activities regarding this release. The initial and final C-141 forms and the NMOCD approval email for the liner installation and excavation backfilling dated October 5, 2011 are included in Attachment A, a site diagram and sample location map is included in Attachment B, photographic documentation of field activities are included in Attachment C, and the laboratory reports of the analytical results are included in Attachment D.

Respectfully:

Heath Lekmy

Geoff Leking, Project Manager Etech Environmental & Safety Solutions, Inc.

Attachment A Initial and Final C-141 Forms NMOCD Approval Email of Liner Installation and Excavation Backfilling

District I 1625 N. French	Dr., Hobbs,	NM 88240	HOB	BS OCD St	ate of	New Mex	ico		Form C-141
District II 1301 W. Grand District III 1000 Rio Brazo District IV 1220 S. St. From	Avenue, Arte s Road, Azte	esia, NM 88210 c, NM 87410	MAY	2 3 20 P Mi Oil C	Conser South	vation Div St. Franc	vision is Dr.		Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form
1220 S. St. Fran	icis Dr., Sant	a Fe, NM 87505	Utila	Sa	anta Fe	e, NM 875	05		side of form
			Rele	ease Notific	cation	and Co	orrective A	ction	
Name of Co	mpany L	egacy Re	corvos	Operating	TP	OPERA'	FOR	X Initi	al Report 📋 Final Report
Address	P.O. E	lox 10848	Midl	and, TX 797	02	Telephone N	No. 432-6	89-5219	
Facility Nat	me J	almat Ya	tes U	nit #17		Facility Typ	e Oil		
Surface Ow	mer G	reg Fulf	er	Mineral C	Owner			Lease M	No. 309054
				LOCA	ATIO	N OF REI	LEASE ADL	\$30.0251	1648:00:00
Unit Letter	Section	Township	Range	Feet from the	North/	South Line	Feet from the	East/West Line	County
С	18	25S	37E	660	No	rth	1980	West	Lea
			La	titude	1	Longitud	e		JJ
			La	NIA T	TIDE	OF DELL			
Type of Rele	ase	oil & wa	ter	NAI	URE	Volume of	Release 50 1	bls Volume I	Recovered 0
Source of Re	lease	2" steel	flow	line		Date and H	lour of Occurrenc	e5/19 Date and	Hour of Discovery 5/19/11-1
Was Immedi	ate Notice (Given?	Yes D	No 🗆 Not Re	equired	If YES, To	Whom? Land	l Owner - C	Freg Fulfer
By Whom?	Tommy	Hill - B	erry	Johnson		Date and H	lour 5/19	-3011 - 4	PM
Was a Water	course Read	ched?	Yes 🛛	No		If YES, Vo	lume Impacting t	he Watercourse.	
Describe Car Propert	ise of Proble y bough	em and Remed at from C	dial Actio	n Taken.* Well was i	n tes	st & res	G.V ult was lo	J@ 115	leak in pasture
from old owner &	ocD.	owline.	Will	replace w	ith 2	2" SDR 7	poly. We	S/I well	& notified land
Pasture Fenced	land a area of	pprox. 2 f & cont	0' wi	de x 150' E-Tech En	long, viror	then r mental	an 600' do for remedi	wn cow tra ation plan	il x 2' wide. s.
I hereby cert regulations a public health should their o or the enviro federal, state	fy that the i Il operators or the envir operations h mment. In a , or local law	nformation giv are required to ronment. The ave failed to a ddition, NMO ws and/or regu	ven above o report ar acceptance dequately CD accep lacons.	is true and comp ad/or file certain r ee of a C-141 repo investigate and r tance of a C-141	lete to the elease no ort by the emediate report do	the best of my potifications and NMOCD m e contaminations not reliev	knowledge and un ad perform correc arked as "Final Re on that pose a three e the operator of r	nderstand that purs ive actions for releport" does not releat to ground water esponsibility for c	suant to NMOCD rules and eases which may endanger ieve the operator of liability r, surface water, human health ompliance with any other
Signature:	Ber	m n	A	har			OIL CONS	SERVATION	DIVISION
Printed Name	e: Ber	Ty Johns	on			Approved by	District Supervise	#: Deck	Selving
Title:	Pro	duction	Super	intendent	-	Approval Dat	e: 05/24/11	Expiration	Date: 07/25/11
						Conditions of		IS EINAL	
E-mail Addro	ess:	20/11		122 600 5	200	C-141 BY	07/25/11	the Flinke	Attached

JAN 0 3 2012

Form C-141 Revised April 3, 2017

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.

1220 S. St. Fran	cis Dr., Santa	n Fe, NM 87505	5	Sa	inta Fe	, NM 875	05					
			Rele	ase Notific	ation	and Co	rrective A	ction				
						OPERAT	FOR		Initia	l Report	\boxtimes	Final Report
Name of Co	mpany Le	egacy Reserv	ves Opera	ting LP	(Contact Ste	ven Dittman					
Address P.0	D. 10848 N	Midland, TX	79702		'	Telephone No. 432-312-4757						
Facility Nar	ne Jalma	t Yates Unit	: #17]	Facility Type Oil						
Surface Ow	ner Greg	Fulfer		Mineral C)wner				API No.	30-025-1	1648-0	0-00
				LOCA	TION	OF REI	LEASE					
Unit Letter	Section	Township	Range	Feet from the	North/	South Line	Feet from the	East/We	st Line	County		
С	18	258	37E	660	1	North	1,980	We	est		Lea	
				2 12 55050			02 2020210		202			
		L	atitude <u>3</u>	2.135787		ongitude <u>-1</u>	03.203931°	NAL	185			
NATURE OF RELEASE										ecovered 0)	
Source of Re	lease 2" st	eel flowline				Date and H	Iour of Occurrence	ce I	Date and H	Hour of Dis	covery	
						5/19/2011		5	5/19/2011	-10:00 AM		
Was Immedia	ate Notice (Given?	Yes 🗌	No 🗌 Not R	equired	If YES, Ic	Whom? Land O NMOC	wner – Gre D – Geoff	Eg Fulfer			
By Whom?	Tommy Hil	l – Berry Johi	ison			Date and H	Iour 5/19/2011 -	4:00 PM				
Was a Water	course Read	ched?	Ves 🛛	No		If YES, Vo	olume Impacting	the Waterc	course.			
TO MIL	T		The Fully									
If a watercot	Irse was III	pacted, Desci	ibe Fully.									
Describe Cau Property bou S/I well and t	use of Proble ght from CO notified land	em and Reme OG. Well wa d owner and 1	dial Actions in test an NMOCD.	n Taken.* d result was low. Depth to ground	Found water on	leak in pastur e hundred fif	re from old 2" ste teen (115) feet be	el flowline elow groun	e. Will rej id surface	place with 2 (bgs).	2 SDR 1	7 poly. We
Describe Are Pasture land Fenced area release point The release f transported, a the pooled an areas backfill	a Affected approximat off and coi at the west flow path in and dispose reas at the s led to surfac	and Cleanup . rely twenty (2 ntacted Etech t terminus of a the pasture v d of at Sunda ite were back ce and contou	Action Tak 0) feet wich Environn the release was excava nce Servic filled with red. The s	ten.* le x one hundred hental for remedi to flow path, and atted to six (6) to es. Per NMOCE clean fill materi pill flow path wa	fifty (15 ation pl at the ea twelve () approv al to a d s backfil	50) feet long, an. Remedial st terminus o 12) feet bgs. al of October epth of ten (1 led to surface	then ran six hun- tion plan was get f the release flow All impacted soi 5, 2011, and bas 0) feet bgs when e.	dred (600) nerated an v path wer ils (4,780 c sed upon th e a twenty	feet x tw d work p e excavat cubic yarc he analyti (20) mil	o (2) feet v erformed. ed to twent ls) were rer cal data and poly liner v	vide do Pooled ty-two moved d the si was inst	wn cow trail. I areas at the (22) feet bgs. from the site, te conditions, talled and the
I hereby certify that the information given above is true and complete regulations all operators are required to report and/or file certain relear public health or the environment. The acceptance of a C-141 report be should their operations have failed to adequately investigate and reme or the environment. In addition, NMOCD acceptance of a C-141 report faderal, state, or local laws and/or regulations.					olete to the release n ort by the remediat report d	ne best of my otifications a e NMOCD m e contaminat oes not reliev	knowledge and u nd perform corre- arked as "Final R ion that pose a thi e the operator of	understand ctive action Report" doe reat to grou responsibi	that purs ns for rele es not reli- und water ility for co	uant to NM eases which eve the ope , surface wa ompliance v	OCD re may er rator of ater, hu vith any	iles and idanger Tlability man health 7 other
	0	\wedge					<u>OIL CON</u>	ISERVA	TION	DIVISIO	<u>DN</u>	
Signature:	Stere	Dat	ma			Approved b-	Environmental	Specialist				
Printed Nam	e: St	even l): HMO	10		Approved by						
Title:	Prod	luct.on	Fore	Man		Approval Da	te:	Ex	xpiration I	Date:		
E-mail Addr	ess:	sdittma	n @le	sacylp. Con	n	Conditions o	f Approval:			Attached		
Date:	8/17	117	Phone	432-312-4757								

* Attach Additional Sheets If Necessary

Fred

The OCD-District 1 concurs with the statements presented in the email below. The company may go ahead and backfill and emplace the liners as specified. Then the topping backfill should be emplaced. Thank you.

Geoffrey Leking Environmental Engineer NMOCD-Hobbs 1625 N. French Drive Hobbs, NM 88240 Office: (575) 393-6161 Ext. 113 Cell: (575) 399-2990 email: geoffreyr.leking@state.nm.us

From: Fred Holmes [mailto:fred@etechenv.com] Sent: Wednesday, October 05, 2011 2:17 PM To: Leking, Geoffrey R, EMNRD Subject: Legacy Reserves - Jalmont Yates Analysis & Proposed Closure

Geoff:

To refresh you on this site. There was a release of oil and produced water from the Legacy Reserves, Jalmont Yates Well #17. The spill originated in the west end at a Flowline, followed the lease road north, then moved eastward and pooled in pasture land. The pooled area at the release point (west) the pathway (north and east) and the pooled area at the end point (east) were excavated. The pooled areas were excavated and the chlorides were steadily reducing from surface to approximately 12' below ground level ((bgl) (approximately 800 at 12 feet)). At this point the chlorides began to elevate. We continued to excavate the pooled areas until we reached the limits of our ability to excavate. The pooled areas at this point were approximately 22 feet bgl. Sample collected from the bottom of the excavation ranged from 1,200 – 2,000 mg/kg. Remediation limits were excavate to 500 mg/kg/ delineate to 250 mg/kg.

As per our discussion, we advanced two (2) soil borings to 40 feet bgl, each at the edge on the down gradient side of the pooled areas. Samples were collected at two foot intervals and field screened for chlorides. The samples were then sent for laboratory analysis for chlorides with instructions to perform successive analysis until a continuous 10 foot interval had been analyzed where the chlorides were 250 mg/kg or less.

The results of the analysis determined there were no elevated levels of chlorides from 24 -32 ' on

SB1 and from 24 - 48' on SB2. Samples collected and analyzed of the sidewall samples from the spill path and pooled areas determined that the area has been excavated to acceptable levels.

A summary of the analytical results along with a sample location map and the analytical results is attached.

Proposed Corrective Action

Currently, all impacted soils (4780 Cubic Yards) have been removed from the site transported and disposed of at Sundance. Etech proposes that based upon the analytical data and the current site conditions, the pooled areas at the site be backfilled with clean fill material to a depth of 10' bgl where a 20 mil poly liner will be installed and the areas backfilled to surface and contoured. The spill pathway will be backfilled to surface. When these activities are complete, a closure report will be submitted including a final C-141.

If this is acceptable, would you please reply to this email with your concurrence.

Thank you for all of your assistance on this matter.

Fred Holmes

Etech Environmental & Safety Solutions, Inc.

 P.O. Box 8469

 Midland, Texas 79708-8469

 Phone: 432-563-2200

 Fax: 432-563-2213

 E-mail: fred@etechenv.com

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Attachment B Site Diagram and Sample Location Map



Attachment C Photograph Log



View of release point at west terminus of release prior to excavation.



View of release following the lease road to the north prior to excavation.



View of the release flow path in the pasture prior to excavation.



View of east terminus of the release prior to excavation.



View of the west terminus of the release after excavation.



View of release following the lease road north after excavation.



View of release flow path in the pasture after excavation.



View of east terminus of the release after excavation.



View of the west terminus of the release after installation of liner.



View of the west terminus of the release after backfill emplaced over liner.



View of east terminus of the release after installation of liner.



View of east terminus of the release after backfill emplaced over liner.

Attachment D Analytical Results



September 06, 2011

FRED HOLMES

ETECH Environmental & Safety Solutions, Inc.

P. O. BOX 8469

MIDLAND, TX 79708

RE: JALMOT YATES #17

Enclosed are the results of analyses for samples received by the laboratory on 09/02/11 16:30.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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 (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,

Celez D. Keine

Celey D. Keene Lab Director/Quality Manager



Analytical Results For:

ETECH Environmental & Safety Solutions, Inc. FRED HOLMES P. O. BOX 8469 MIDLAND TX, 79708 Fax To: (432) 563-2213

Received:	09/02/2011	Sampling Date:	09/01/2011
Reported:	09/06/2011	Sampling Type:	Soil
Project Name:	JALMOT YATES #17	Sampling Condition:	** (See Notes)
Project Number:	164-2830	Sample Received By:	Jodi Henson
Project Location:	JAL, NM		

Sample ID: SB-1 (24') (H101882-01)

Chloride, SM4500Cl-B mg/kg			Analyzed	l By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/06/2011	ND	448	112	400	3.64	

Sample ID: SB-1 (26') (H101882-02)

Chloride, SM4500Cl-B mg/kg			Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/06/2011	ND	448	112	400	3.64	

Sample ID: SB-1 (28') (H101882-03)

Chloride, SM4500Cl-B	mg/kg		Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/06/2011	ND	448	112	400	3.64	

Sample ID: SB-1 (30') (H101882-04)

Chloride, SM4500Cl-B mg/kg		Analyzed	By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/06/2011	ND	448	112	400	3.64	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Analytical Results For:

ETECH Environmental & Safety Solutions, Inc. FRED HOLMES P. O. BOX 8469 MIDLAND TX, 79708 Fax To: (432) 563-2213

Received:	09/02/2011	Sampling Date:	09/01/2011
Reported:	09/06/2011	Sampling Type:	Soil
Project Name:	JALMOT YATES #17	Sampling Condition:	** (See Notes)
Project Number:	164-2830	Sample Received By:	Jodi Henson
Project Location:	JAL, NM		

Sample ID: SB-1 (32') (H101882-05)

Chloride, SM4500Cl-B mg/kg		Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/06/2011	ND	448	112	400	3.64	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

- 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

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



(505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name	: Etech Env. & Safety Solutions, Inc.		BILL TO	ANALYSIS REQUEST
Project Manage	r: Fred Holmes		P.O. #: 2830	
Address: P.O	. Box 8469	e de las actas actas de las	Company: Etech	
City: Midland	State: TX	Zip: 79708	Attn: Fred Holmes	
Phone #: 432	-563-2200 Fax #:	432-563-2213	Address: PO Box 8469	
Project #:	164-2830 Project Owner	: Legacy	City: Midland	
Project Name:	Jalmot Yates #17		State: TX Zip: 79708	
Project Location	1: Jal New Mexico	1 1962 14 17 DB	Phone #: 432-563-2200	
Sampler Name:	Shane		Fax #: 432-563-2213	
FOR LAB USE ONLY		MATRIX	PRESERV. SAMPLING	
Lab I.D. H101382	Sample I.D.	(G)RAB OR (C)OMP # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER: Acid/BASE: ICE / COOL OTHER: WIL BLER	TPH (8015) TPH Ext (TX 1005) Chlorides
-1	SB-1 (24')	G 1 X	9/1/2011 1036	D36 X
2	SB-1 (26')	G 1 X	9/1/2011 1038	J38 X
3	SB-1 (28')	G 1 X	9/1/2011 1040	040 X
Ч	SB-1 (30')	G 1 X	9/1/2011 104:	243 X
5	SB-1 (32')	G 1 X	9/1/2011 104	D45 X
6	SB-1 (34')	G 1 X	9/1/2011 104)47 X
1	SB-1 (36')	G 1 X	9/1/2011 1050)50 X
8	SB-1 (38')	G 1 X	9/1/2011 1052)52 X
4	SB-1 (40')	G 1 X	9/1/2011 1056)56 X
PLEASE NOTE: Liability at analyses. All claims includi service. In no event shall C affiliates or successors arisi Sampler Relind	d Damages. Cardinal's iiability and client's exclusive remedy for a ng those for negligence and any other cause whatsoever shall be ardinal be liable for incidental or consequental damages, including ng out of or related to the performance of services hereunder by C Ushed: Date:	ny claim arising whether based in contract deemed waived unless made in writing an a without limitation, business interruptions, aardinal, regardless of whether such claim Received Bv:	or tort, shall be limited to the amount paid by the cliet I received by Cardinal within 30 days after completion oss of use, or loss of profils incurred by client, its sub is based upon any of the above stated reasons or oth Phone	client for the etion of the applicable 30 days past due at the rate of 24% per annum from the original date of invoice and all costs of collections, including attorney's fees, rotherwise.
Relinquished B	y: (Circle One)	Received By: Judi Judi	Fax Re REMAI Analyz contin less.	Result: Yes No Add'I Fax #: IARKS: Iyze the first 5 samples for CI. If CI are 250 mg/kg or less, stop. If not tinue until there are ten continuous feet of sample with CI of 250 mg/kg or a.
Sampler - UPS	- Bus - Other:	Cool Intact 5℃ Yes Ye ↓ No □ No	(Initials)	

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.



September 06, 2011

FRED HOLMES

ETECH Environmental & Safety Solutions, Inc.

P. O. BOX 8469

MIDLAND, TX 79708

RE: JALMOT YATES #17

Enclosed are the results of analyses for samples received by the laboratory on 09/02/11 16:30.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydorcarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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 (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,

Celez D. Keine

Celey D. Keene Lab Director/Quality Manager



Analytical Results For:

ETECH Environmental & Safety Solutions, Inc. FRED HOLMES P. O. BOX 8469 MIDLAND TX, 79708 Fax To: (432) 563-2213

Received:	09/02/2011	Sampling Date:	09/01/2011
Reported:	09/06/2011	Sampling Type:	Soil
Project Name:	JALMOT YATES #17	Sampling Condition:	** (See Notes)
Project Number:	164-2830	Sample Received By:	Jodi Henson
Project Location:	JAL, NM		

Sample ID: SB-2 (24') (H101883-01)

Chloride, SM4500Cl-B mg/kg		Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/06/2011	ND	448	112	400	3.64	

Sample ID: SB-2 (26') (H101883-02)

Chloride, SM4500CI-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/06/2011	ND	448	112	400	3.64	

Sample ID: SB-2 (28') (H101883-03)

Chloride, SM4500CI-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	09/06/2011	ND	448	112	400	3.64	

Sample ID: SB-2 (30') (H101883-04)

Chloride, SM4500Cl-B mg/kg		Analyzed By: HM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	09/06/2011	ND	448	112	400	3.64	

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Analytical Results For:

ETECH Environmental & Safety Solutions, Inc. FRED HOLMES P. O. BOX 8469 MIDLAND TX, 79708 Fax To: (432) 563-2213

Received:	09/02/2011	Sampling Date:	09/01/2011
Reported:	09/06/2011	Sampling Type:	Soil
Project Name:	JALMOT YATES #17	Sampling Condition:	** (See Notes)
Project Number:	164-2830	Sample Received By:	Jodi Henson
Project Location:	JAL, NM		

Sample ID: SB-2 (32') (H101883-05)

Chloride, SM4500Cl-B mg/kg		Analyze	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	09/06/2011	ND	448	112	400	3.64	

Sample ID: SB-2 (34') (H101883-06)

Chloride, SM4500Cl-B mg/kg		Analyze	d By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	09/06/2011	ND	448	112	400	3.64	

Sample ID: SB-2 (36') (H101883-07)

Chloride, SM4500Cl-B	mg/	kg	Analyzed	By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	09/06/2011	ND	448	112	400	3.64	

Sample ID: SB-2 (38') (H101883-08)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	09/06/2011	ND	400	100	400	7.69	

Sample ID: SB-2 (40') (H101883-09)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	09/06/2011	ND	400	100	400	7.69	

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

- 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

Cardinal Laboratories

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager

ARDINAL LABORATORIES

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

(505) 393-2326 Fax (505) 393-2476

Page 1 of 1

Company Name	: Etech Env. & Safety Solutions, Inc.		BILL TO			ANALYSIS	S REQUEST	
Project Manager	r: Fred Holmes		P.O. #: 2830					
Address: P.O	. Box 8469		Company: Etech					
City: Midland	State: TX	Zip: 79708	Attn: Fred Holmes					
Phone #: 432-	-563-2200 Fax #:	432-563-2213	Address: PO Box 8469					
Project #:	164-2830 Project Owner	Legacy	City: Midland					
Project Name:	Jalmot Yates #17		State: TX Zip: 7970	3				
Project Location	n: Jal New Mexico	1.4 H	Phone #: 432-563-2200					
Sampler Name:	Shane		Fax #: 432-563-2213					
FOR LAB USE ONLY		MATRIX	PRESERV. SAMPLI	١G				
Lab I.D.	Sample I.D.	OR (C)OMI AINERS DWATER MATER	SOL	15)	t (TX 1005) es			
		ABB ONT. ONN STEV L	HER / CC HER	H (80	4 Ext orid			
HID1:883		(G)H (G)H (GR (GR (GR (C)H (G)H (C)H (G)H (G)H (G)H (G)H (G)H (G)H (G)H (G	DATE OF THE	тіме 🚊	ChI TPI			
	SB-2 (24')	G 1 X	9/1/2011	1109	X			
2	SB-2 (26')	G 1 X	9/1/2011	1112	X			
0	SB-2 (28)		9/1/2011	1114		a a a		
4	SB-2 (30)	G 1 X	9/1/2011	1121	X			
	SB-2 (34')	G 1 X	9/1/2011	1118	X			
4	SB-2 (36')	G 1 X	9/1/2011	1124	X			
8	SB-2 (38')	G 1 X	9/1/2011	1127	Х			
9	SB-2 (40')	G 1 X	9/1/2011	1133	X			
PLEASE NOTE: Liability ar analyses. All claims includi service. In no event shall C affiliates or successors arisi	nd Damages, Cardinai's liability and client's exclusive remedy for ar ng those for negligence and any other cause whatsoever shall be c ardinal be liable for incidental or consequental damages, including ng out of or related to the performance of services hereunder by C	y claim arising whether based in contrac leemed waived unless made in writing ar without limitation, business interruptions, ardinal, regardless of whether such claim	tor tort, shall be limited to the amount paid d received by Cardinal within 30 days after loss of use, or loss of profits incurred by d is based upon any of the above stated res	by the client for the completion of the appli ient, its subsidiaries, sons or otherwise.	cable	Terms and C 30 days past o and all costs o	onditions: Interest will be charged or lue at the rate of 24% per annum fror of collections, including attorney's feet	n all accounts more than m the original date of invoice, s.
Sampler Reling Relinguished B	v: Date: 1 2/4 Time: 37cst Date: 1 2/4 Time: 37cst Date: 1 2/4 Time: 37cst	Received By: Received By:	Tion	Phone Result: Fax Result: REMARKS: Analyze the f continue unti	□ Yes □ □ Yes □ first 5 sample I there are te	No Add'l Phone No Add'l Fax #: es for Cl. If Cl are n continuous fee	#: 250 mg/kg or less, a bt of sample with Cl o	stop. If not of 250 mg/kg or
Delivered By	: (Circle One)	Temp. Sample Condit	tion CHECKED BY:	less are foun	id.			
Sampler - UPS	- Bus - Other:	752 Pres Pres	o (Hilling)					

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

Analytical Report 427304

for Etech Environmental & Safety Solutions, Inc

Project Manager: Darren Harris

Jalmet Yates #17

164-002830-000

19-SEP-11

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002) Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054) New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610) Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046): Florida (E87429), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85) Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco Tucson (EPA Lab code: AZ00989): Arizona (AZ0758)



19-SEP-11



Project Manager: **Darren Harris Etech Environmental & Safety Solutions, Inc** 12800 E. Hwy 80 W. Odessa, TX 79765

Reference: XENCO Report No: 427304 Jalmet Yates # 17 Project Address: Jal, NM

Darren Harris:

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 427304. 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. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. 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. 427304 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,

Brent Barron II Odessa Laboratory Manager

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Sample Cross Reference 427304



Etech Environmental & Safety Solutions, Inc, Odessa, TX

Jalmet Yates # 17

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
WTEW	S	09-02-11 12:15		427304-001
ETEW	S	09-02-11 12:05		427304-002
ETWW	S	09-02-11 12:00		427304-003
WTWW	S	09-02-11 12:10		427304-004
NTNW # 1	S	09-02-11 11:30		427304-005
NTSW # 1	S	09-02-11 11:45		427304-006
NTSW # 2	S	09-02-11 11:30		427304-007
NTNW # 2	S	09-02-11 11:35		427304-008
NTNW # 3	S	09-02-11 11:40		427304-009
NTSW # 3	S	09-02-11 11:50		427304-010



CASE NARRATIVE

Client Name: Etech Environmental & Safety Solutions, In Project Name: Jalmet Yates # 17

 Project ID:
 164-002830-000

 Work Order Number:
 427304

Report Date: 19-SEP-11 Date Received: 09/09/2011

Sample receipt non conformances and comments: None

Sample receipt non conformances and comments per sample:

None Analytical non nonformances and comments:

Batch: LBA-870315 TPH by SW8015 Mod SW8015MOD_NM

Batch 870315, o-Terphenyl recovered above QC limits Data confirmed by re-analysis. Samples affected are: 611531-1-BLK,427304-007,427304-010,427304-003.



Certificate of Analysis Summary 427304

Etech Environmental & Safety Solutions, Inc, Odessa, TX

Project Name: Jalmet Yates #17



Project Id: 164-002830-000 **Contact:** Darren Harris

Project Location: Jal, NM

Date Received in Lab: Fri Sep-09-11 09:45 am

Report Date: 19-SEP-11

								Project Mar	nager:	Brent Barron I	Ι		
	Lab Id:	427304-0	01	427304-0	02	427304-0	03	427304-0	04	427304-0	05	427304-0)06
Anglusia Degregated	Field Id:	WTEW	7	ETEW		ETWW	7	WTWW	7	NTNW #	1	NTSW #	ŧ 1
Analysis Kequesiea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-02-11	12:15	Sep-02-11 12:05 Sep-02-11 12:00		Sep-02-11 12:10		Sep-02-11 1	1:30	Sep-02-11	11:45		
Anions by E300	Extracted:		p-11-11 19:03										
	Analyzed:	Sep-11-11	19:03	Sep-11-11 1	9:03	Sep-11-11 1	9:03	Sep-11-11 1	9:03	Sep-11-11 1	9:03	Sep-11-11	19:03
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		263	8.55	226	4.26	10.6	4.29	ND	4.20	7.78	4.23	207	8.51
Percent Moisture	Extracted:												
	Analyzed:	Sep-09-11	11:15	Sep-09-11 1	1:15	Sep-09-11 1	1:15	Sep-09-11 1	1:15	Sep-09-11 1	1:15	Sep-09-11	11:15
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		1.73	1.00	1.52	1.00	2.03	1.00	ND	1.00	ND	1.00	1.31	1.00
TPH By SW8015 Mod	Extracted:	Sep-09-11	13:50	Sep-13-11 1	6:15	Sep-13-11 1	6:15	Sep-13-11 1	6:15	Sep-13-11 1	6:15	Sep-13-11	16:15
	Analyzed:	Sep-12-11	06:33	Sep-19-11 1	3:30	Sep-19-11 1	3:51	Sep-19-11 1	4:12	Sep-19-11 1	4:33	Sep-19-11	14:54
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	15.2	ND	15.2	ND	15.3	ND	15.0	ND	15.1	ND	15.2
C12-C28 Diesel Range Hydrocarbons		43.3	15.2	ND	15.2	ND	15.3	ND	15.0	ND	15.1	ND	15.2
C28-C35 Oil Range Hydrocarbons		ND	15.2	ND	15.2	ND	15.3	ND	15.0	ND	15.1	ND	15.2
Total TPH		43.3	15.2	ND	15.2	ND	15.3	ND	15.0	ND	15.1	ND	15.2

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 judgment 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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Brent Barron II

Odessa Laboratory Manager



Certificate of Analysis Summary 427304

Etech Environmental & Safety Solutions, Inc, Odessa, TX

Project Name: Jalmet Yates # 17



Date Received in Lab: Fri Sep-09-11 09:45 am

Project Location: Jal, NM

Project Id: 164-002830-000

Contact: Darren Harris

Report Date: 19-SEP-11

Tojeet Location. Sul, Thi								Project Ma	nager:	Brent Barron II	
	Lab Id:	427304-0	007	427304-0	08	427304-0)09	427304-0	010		
Anglusis Degrasted	Field Id:	NTSW #	2	NTNW #	\$ 2	NTNW #	# 3	NTSW #	3		
Analysis Kequesiea	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL			
	Sampled:	Sep-02-11	11:30	Sep-02-11	1:35	Sep-02-11	11:40	Sep-02-11	11:50		
Anions by E300	Extracted:										
	Analyzed:	Sep-11-11	19:03	Sep-11-11	19:03	Sep-11-11	19:03	Sep-11-11	19:03		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		486	8.59	503	8.62	276	8.51	614	8.59		
Percent Moisture	Extracted:										
	Analyzed:	Sep-09-11	11:15	Sep-09-11	11:15	Sep-09-11	11:15	Sep-09-11	11:15		
	Units/RL:	%	RL	%	RL	%	RL	%	RL		
Percent Moisture		2.16	1.00	2.50	1.00	1.35	1.00	2.26	1.00		
TPH By SW8015 Mod	Extracted:	Sep-13-11	16:15	Sep-13-11	16:15	Sep-13-11	16:15	Sep-13-11	16:15		
	Analyzed:	Sep-19-11	15:15	Sep-19-11	15:36	Sep-19-11	15:57	Sep-19-11	16:18		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
C6-C12 Gasoline Range Hydrocarbons		ND	15.4	ND	15.4	ND	15.3	ND	15.3		
C12-C28 Diesel Range Hydrocarbons		ND	15.4	ND	15.4	ND	15.3	ND	15.3		
C28-C35 Oil Range Hydrocarbons		ND	15.4	ND	15.4	ND	15.3	ND	15.3		
Total TPH		ND	15.4	ND	15.4	ND	15.3	ND	15.3		

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 judgment 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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Brent Barron II

Odessa Laboratory 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.
- **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	LOQ Limit of Quantitation
DL Method Detection Limit		

NC Non-Calculable

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Project Name: Jalmet Yates # 17

Vork Orders : 427304	,	Project ID: 164-002830-000								
Lab Batch #: 869691	Sample: 427304-001 / SMP	Batcl	h: ¹ Matrix:	Soil						
Units: mg/kg	Date Analyzed: 09/12/11 06:33	SU	RROGATE RE	ECOVERY S	STUDY					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		92.1	99.9	92	70-135					
o-Terphenyl		44.5	50.0	89	70-135					
Lab Batch #: 870315	Sample: 427304-002 / SMP	Batcl	h: ¹ Matrix:	Soil						
Units: mg/kg	Date Analyzed: 09/19/11 13:30	SURROGATE RECOVERY STUDY								
TPH]	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		106	100	106	70-135					
o-Terphenyl		67.1	50.0	134	70-135					
Lab Batch #: 870315	Sample: 427304-003 / SMP	Bote	h. 1 Matrix	Soil						
Lab Datch #: 070515	Date Analyzed: 09/19/11 13:51	SU	RROGATE RE	ECOVERY S	STUDY					
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane	Anary CS	108	100	108	70.135					
o-Terphenyl		69.6	50.1	139	70-135	**				
Lab Patch #: 870315	Sample: 427304-004 / SMP	Dota	h. 1 Matrix	Soil	10 100					
Lab Batch #: 070313	Date Analyzed: 09/19/11 14·12	Batch: Matrix: Soll SURROGATE RECOVERY STUDY								
TPH 1	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1-Chlorooctane		105	100	105	70-135					
o-Terphenyl		61.5	50.0	123	70-135					
Lab Batch #: 870315	Sample: 427304-005 / SMP	Batcl	h: 1 Matrix:	Soil						
Units: mg/kg	Date Analyzed: 09/19/11 14:33	SU.	RROGATE RE	ECOVERY	STUDY					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		155	200	78	70-135					
o-Terphenyl		95.0	100	95	70-135					

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution



Project Name: Jalmet Yates # 17

Vork Orders: 427304	,	Project ID: 164-002830-000								
Lab Batch #: 870315	Sample: 427304-006 / SMP	Batcl	h: ¹ Matrix:	Soil						
Units: mg/kg	Date Analyzed: 09/19/11 14:54	SU	RROGATE RE	ECOVERY S	STUDY					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		220	200	110	70-135					
o-Terphenyl		133	99.9	133	70-135					
Lab Batch #: 870315	Sample: 427304-007 / SMP	Batcl	h: ¹ Matrix:	Soil	·					
Units: mg/kg	Date Analyzed: 09/19/11 15:15	SURROGATE RECOVERY STUDY								
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane	Anaryus	112	100	112	70-135					
o-Terphenyl		68.7	50.2	112	70-135	**				
Lab Batch #: 870315	Sample: 427304-008 / SMP	Bata	h. 1 Matriv	Soil						
Lab Batch #: 070315	Date Analyzed: 00/10/11 15:36	SU	RROGATE RE	COVERY S	STUDY					
TPH 1	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1-Chlorooctane		101	100	101	70-135					
o-Terphenyl		64.5	50.1	129	70-135					
Lab Batch #: 870315	Sample: 427304-009 / SMP	P Batch: 1 Matrix: Soil								
Units: mg/kg	Date Analyzed: 09/19/11 15:57	SU	RROGATE RE	ECOVERY S	STUDY					
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			נטן						
1-Chlorooctane		151	201	75	70-135	I				
o-Terphenyl		94.1	100	94	70-135	<u> </u>				
Lab Batch #: 870315	Sample: 427304-010 / SMP	Batcl	h: 1 Matrix:	Soil						
Units: mg/kg	Date Analyzed: 09/19/11 16:18	SU.	RROGATE RE	COVERY	STUDY					
TPH]	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		110	99.9	110	70-135					
o-Terphenyl		71.6	50.0	143	70-135	**				

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution



Project Name: Jalmet Yates # 17

Vork Orders: 427304	ŀ,		Project II): 164-00283	30-000					
Lab Batch #: 869691	Sample: 611195-1-BLK / B	BLK Batch	h: ¹ Matrix:	Solid						
Units: mg/kg	Date Analyzed: 09/11/11 19:16	SU	RROGATE RE	ECOVERY S	STUDY					
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		78.6	99.5	79	70-135					
o-Terphenyl		42.1	49.8	85	70-135					
Lab Batch #: 870315	Sample: 611531-1-BLK / B	LK Batcl	h: ¹ Matrix:	Solid	<u>.</u>					
Units: mg/kg	Date Analyzed: 09/19/11 12:27	SURROGATE RECOVERY STUDY								
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane	Anaryus	119	99.9	119	70-135	<u> </u>				
o-Terphenyl		77.6	50.0	155	70-135	**				
I ah Batah #1 869691	Somnler 611195-1-BKS/B	VKS Batel	L. 1 Matrix:	l Solid						
Lab Datch #: 007071	Data Analyzad: 00/11/11 18:15	SU SU	RROGATE RE	COVERY (STUDY					
	Date Analyzeu: 07/11/11 10.13		T							
TPH J	A polytos	Amount Found [A]	Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane	Anaryus	88.6	100	 	70-135	l				
o-Terphenyl		45.6	50.2	91	70-135					
I ab Ratab #. 870315	Somnley 611531-1-BKS / B	PKC Batel	L. 1 Matrix	Solid	· · · ·					
Units: mg/kg	Date Analyzed: 09/19/11 12:47	SURROGATE RECOVERY STUDY								
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags				
	Analytes			[D]						
1-Chlorooctane		111	99.7	111	70-135					
o-Terphenyl		63.5	49.9	127	70-135					
Lab Batch #: 869691	Sample: 611195-1-BSD / B	SD Batcl	h: 1 Matrix:	Solid						
Units: mg/kg	Date Analyzed: 09/11/11 18:44	SU	RROGATE RE	COVERY	STUDY					
TPH	By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags				
1-Chlorooctane		94.0	100	94	70-135					
o-Terphenyl		43.3	50.1	86	70-135					
1			1	1	1 1	1				

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution



Project Name: Jalmet Yates # 17

Work Orders : 427304 Lab Batch #: 869691	, Sample: 427262-008 S / MS	S Batc	Project II h: ¹ Matrix:	D: 164-00283 Soil	30-000	
Units: mg/kg	Date Analyzed: 09/12/11 07:06	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		102	100	102	70-135	
o-Terphenyl		41.6	50.0	83	70-135	
Lab Batch #: 869691	Sample: 427262-008 SD / M	ASD Bate	h: ¹ Matrix:	Soil		
Units: mg/kg	Date Analyzed: 09/12/11 07:38	SU	RROGATE RI	ECOVERY	STUDY	
TPH	By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane		98.1	100	98	70-135	
o-Terphenyl		46.9	50.1	94	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution





Project Name: Jalmet Yates # 17

Work Order #: 427304			Pro	oject ID:		164-002	830-000
Lab Batch #: 870315	Sa	mple: 611531-	1-BKS	Matrix:	Solid		
Date Analyzed: 09/19/2011	Date Prep	ared: 09/13/20)11	Analyst:	JAH		
Reporting Units: mg/kg	Bat	tch #: 1	BLANK /F	BLANK SPI	KE REC	COVERY S	STUDY
TPH By SW8015 Mod		Blank Result	Spike Added	Blank Spike Bogult	Blank Spike	Control Limits	Flags
Analytes		[A]	[B]	[C]	%K [D]	% K	
C6-C12 Gasoline Range Hydrocarbons		<15.0	997	804	81	70-135	
C12-C28 Diesel Range Hydrocarbons		<15.0	997	942	94	70-135	

Blank Spike Recovery [D] = 100*[C]/[B] All results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit





Project Name: Jalmet Yates # 17

Work Order #: 427304								Proj	ject ID: 1	64-002830	-000	
Analyst: BRB		Da	ate Prepar	ed: 09/11/201	1			Date A	nalyzed: (9/11/2011		
Lab Batch ID: 869667	Sample: 869667-1-B	KS	Batch	n#: 1					Matrix: S	Solid		
Units: mg/kg			BLAN	K /BLANK S	SPIKE / E	BLANK S	PIKE DUPI	ICATE 1	RECOVE	ERY STUD	Y	
Anions by E3	00	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes			[B]	[C]	[D]	[E]	Result [F]	[G]				
Chloride		< 0.840	20.0	21.9	110	20.0	21.9	110	0	75-125	20	
Analyst: BBH		Da	ate Prepar	ed: 09/09/201	1			Date A	nalyzed: (09/11/2011		
Analyst: BBH Lab Batch ID: 869691	Sample: 611195-1-B	Da KS	ate Prepar Batcl	ed: 09/09/201 n#: 1	1			Date A	nalyzed: (Matrix: S	9/11/2011 Solid		
Analyst: BBH Lab Batch ID: 869691 Units: ^{mg/kg}	Sample: 611195-1-B	Da KS	ate Prepar Batch BLAN	ed: 09/09/201 n #: 1 K /BLANK S	1 SPIKE / F	BLANK S	PIKE DUPI	Date A	nalyzed: (Matrix: S RECOVE	99/11/2011 Solid E RY STUD	Y	
Analyst: BBH Lab Batch ID: 869691 Units: ^{mg/kg} TPH By SW8015 Analytes	Sample: 611195-1-B Mod	Da KS Blank Sample Result [A]	ate Prepar Batcl BLAN Spike Added [B]	ed: 09/09/201 n #: 1 K /BLANK S Blank Spike Result [C]	1 SPIKE / F Blank Spike %R [D]	BLANK S Spike Added [E]	Blank Blank Spike Duplicate Result [F]	Date An JICATE 1 Blk. Spk Dup. %R [G]	nalyzed: (Matrix: ^S RECOVE RPD %	99/11/2011 Solid ERY STUD Control Limits %R	Y Control Limits %RPD	Flag
Analyst: BBH Lab Batch ID: 869691 Units: mg/kg TPH By SW8015 Analytes	Sample: 611195-1-B Mod	Da KS Blank Sample Result [A]	ate Prepar Batcl BLAN Spike Added [B]	ed: 09/09/201 n #: 1 K/BLANK S Blank Spike Result [C]	1 SPIKE / F Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Date An JCATE 1 Blk. Spk Dup. %R [G]	nalyzed: () Matrix: S RECOVE RPD %	99/11/2011 Solid CRY STUD Control Limits %R	Y Control Limits %RPD	Flag
Analyst: BBH Lab Batch ID: 869691 Units: mg/kg TPH By SW8015 Analytes C6-C12 Gasoline Range Hydrocarbo	Sample: 611195-1-B Mod	Da KS Blank Sample Result [A] <15.1	ate Prepar Batcl BLAN Spike Added [B] 1000	ed: 09/09/201 n #: 1 K /BLANK \$ Blank Spike Result [C] 851	1 SPIKE / F Blank Spike %R [D] 85	Spike Added [E]	Blank Spike Duplicate Result [F] 869	Date An JCATE 1 Blk. Spk Dup. %R [G] 87	Analyzed: () Matrix: S RECOVE	09/11/2011 Solid ERY STUD Control Limits %R 70-135	Y Control Limits %RPD 35	Flag

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



Form 3 - MS Recoveries

Project Name: Jalmet Yates # 17



Work Order #: 427304							
Lab Batch #: 869667				Pr	oject ID:	164-00283	0-000
Date Analyzed: 09/11/2011	Date P	repared: 09/1	1/2011	A	Analyst: B	RB	
QC- Sample ID: 427256-001 S		Batch #: 1			Matrix: S	oil	
Reporting Units: mg/kg		MATE	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300		Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes		[A]	[B]				
Chloride		19100	4830	24200	106	75-125	
Lab Batch #: 869667							
Date Analyzed: 09/11/2011	Date F	repared: 09/1	1/2011	A	Analyst: B	RB	
QC- Sample ID: 427304-005 S	Batch #: 1				Matrix: S	oil	
Reporting Units: mg/kg		MATE	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300 Analytes		Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride		7.78	101	99.8	91	75-125	

Matrix Spike Percent Recovery [D] = 100*(C-A)/BRelative Percent Difference [E] = 200*(C-A)/(C+B)All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries

Project Name: Jalmet Yates # 17



Work Order #: 427304 Project ID: 164-002830-000 QC- Sample ID: 427262-008 S Lab Batch ID: 869691 Batch #: Matrix: Soil 1 **Date Prepared:** 09/09/2011 Analyst: BBH Date Analyzed: 09/12/2011 Reporting Units: mg/kg MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY Parent Spiked Sample Spiked Duplicate Spiked Control Control TPH By SW8015 Mod Sample Result Spiked Sample RPD Limits Spike Sample Spike Dup. Limits Flag Result Added [C] %R Added Result [F] %R %R %RPD % Analytes [A] [B] [D] [E] [G] C6-C12 Gasoline Range Hydrocarbons <15.7 1040 1020 98 1050 978 93 4 70-135 35 804 77 808 77 C12-C28 Diesel Range Hydrocarbons <15.7 1040 1050 0 70-135 35

Matrix Spike Percent Recovery $[D] = 100^{*}(C-A)/B$ Relative Percent Difference $RPD = 200^{*}|(C-F)/(C+F)|$ Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

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Project Name: Jalmet Yates # 17

Work Order #: 427304

			Project I	D: 164-0028	330-000
Date Prepare	ed: 09/11/2011	Anal	yst:BRB		
Batch	#: 1	Mat	rix: Soil		
	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
		[B]			
	19100	18800	2	20	
Date Prepare	ed: 09/09/2011	Anal	yst:BRB		
Batch	#: 1	Mat	rix: Soil		
	SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
	Date Prepar Batch	Date Prepared: 09/11/2011 Batch #: 1 SAMPLE / Parent Sample Result [A] Date Prepared: 09/09/2011 Batch #: 1 SAMPLE / Parent Sample Result [A]	Date Prepared: 09/11/2011 Anal Batch #: 1 Mat Batch #: 1 Mat SAMPLE / SAMPLE Sample Duplicate Result [A] Sample [A] 19100 18800 Date Prepared: 09/09/2011 Anal Batch #: 1 Mat SAMPLE / SAMPLE Mat Batch #: 1 Mat Batch #: 1 Mat [B] [B] [B]	Project I Date Preparet: 09/11/2011 Analyst: BRB Batch #: 1 Matrix: Soil Batch #: 1 Matrix: Soil SAMPLE / SAMPLE / SAMPLE / DUPLIC Parent Sample Sample RPD Parent Sample Sample RPD Parent Date Preparet: 09/09/2011 18800 2 Date Preparet: SAMPLE / SAMPLE / DUPLIC Matrix: Soil Sample Matrix: Soil RPD Date Preparet: 1 Matrix: Soil Sample Matrix: Soil RPD Parent Sample Sample RPD Parent Sample Sample RPD Result I I Matrix: Soil	Project ID: 164-0023 Date Prepared: 09/11/2011 Analyst: BRB Batch #: 1 Matrix: Soil SAMPLE / SAMPLE DUPLICATE RECU Parent Sample Sample RPD Control Duplicate RPD Imits %RPD [A] [B] 20 20 Date Prepared: 09/09/2011 Analyst: BRB Batch #: 1 Matrix: Soil SAMPLE / SAMPLE DUPLICATE RECU Date Prepared: 09/09/2011 Analyst: BRB Batch #: 1 Matrix: Soil SAMPLE / SAMPLE DUPLICATE RECU Parent Sample Sample Control Duplicate RPD Control [A] [B] Natrix: Soil

Spike Relative Difference RPD 200 * | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes. BRL - Below Reporting Limit

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ew</td><td></td><td>9/2/11</td><td>12:15</td><td></td><td></td><td></td><td>늼</td><td>믐</td><td></td><td></td><td>N</td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>D</td><td></td><td></td><td></td><td>5</td></tr><tr><th>R</th><td>ET</td><td>EW</td><td></td><td>4/2/11</td><td>12:05</td><td></td><td></td><td></td><td>늼</td><td></td><td></td><td></td><td>S</td><td></td><td>X</td><td></td><td>늼</td><td>믬</td><td>믜</td><td></td><td>늼</td><td>늼</td><td></td><td>X</td><td></td><td></td><td></td><td>स्र</td></tr><tr><th>03</th><td>ET</td><td>ΜM</td><td></td><td>1/1/11</td><td>12.00</td><td></td><td></td><td></td><td>늼</td><td>님</td><td></td><td></td><td>$\langle V \rangle$</td><td></td><td><u>N</u></td><td></td><td>늼</td><td>붜</td><td>믜</td><td></td><td>립</td><td>븱</td><td>믥</td><td>N</td><td></td><td></td><td></td><td></td></tr><tr><th>40</th><td>in the second second</td><td>W M 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XENCO Laboratories

Atlanta, Boca Raton, Corpus Christi, Dallas

Houston, Miami, Odessa, Philadelphia

Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist Document No.: SYS-SRC Revision/Date: No. 01, 5/27/2010 Effective Date: 6/1/2010 Page 1 of 1

Prelogin / Nonconformance Report - Sample Log-In

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Client: 21	ech Env.	
Date/Time:	9.9.11 9:45	
Lab ID # :	427303	
Initials:	<u>AE</u>	

Sample Receipt Checklist

1. Samples on ice?	Blue	Water	No	
2. Shipping container in good condition?	(Yes)	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	(Yes-)	No	N/A	
4. Chain of Custody present?	(Yes)	No		
5. Sample instructions complete on chain of custody?	(Yes)	No		
6. Any missing / extra samples?	Veste	NO		
7. Chain of custody signed when relinquished / received?	Yes	No		
8. Chain of custody agrees with sample label(s)?	(Yes)	No		
9. Container labels legible and intact?	Yes	No		
10. Sample matrix / properties agree with chain of custody?	Yes	No		
11. Samples in proper container / bottle?	Yes	No		
12. Samples properly preserved?	Yes	No	N/A	
13. Sample container intact?	Yes	No		
14. Sufficient sample amount for indicated test(s)?	Yes	No		
15. All samples received within sufficient hold time?	(Yes)	No		
16. Subcontract of sample(s)?	Yes	No	N/A >	
17. VOC sample have zero head space?	(Yes)	No	N/A	
18. Cooler 1 No. Cooler 2 No. Cooler 3 No.	Cooler 4 No	o.	Cooler 5 No.	
Ibs R. Q °C Ibs °C Ibs °C	ibs	°c	lbs	°C

Nonconformance Documentation

Contact:	Contacted by:	Date/Time:	
Regarding:			
Corrective Action Tak	en:		
Check all that apply:	□ Cooling process has begun shortly at condition acceptable by NELAC	iter sampling event and out of temperature ; 5.5.8.3.1.a.1. rm out of temperature conditions	
	Client understands and would like to	proceed with analysis	

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