HOBBSOCD						
District I 1625 N. French Dr., Hobbs, NM 88240 6 8 2013 Stat District II 1301 W. Grand Avenue, Artesia, NM 88210	e of New Mex erals and Natur	al Resources		Form C-141 Revised October 10, 2003		
1220 Store In the second secon	onservation Di South St. Franci ta Fe, NM 87:	cis Dr.		Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form		
Release Notifica						
Name of Company -Legacy Reserves Operating, LP	OPER	evin Bracey		itial Report 🛛 Final Report		
Address – PO Box 10848, Midland, TX 79702-7848		No. : (432) 221-	6312			
Facility Name – Lea Federal Unit #21		pe: Tank Batter		ent al la		
Surface Owner: Mineral Ov	vner: Federal		Lease	No. API # 30-025-37525		
LOCA	<b>FION OF RE</b>	LEASE				
Unit Letter Section Township Range Feet from the	North/South Line	Feet from the 810'	East/West Line West	County Lea		
Latitude 32.589	N Longitud	e -103.521 W		100 million (1997)		
NATT	JRE OF REL					
Type of Release: Oil		Release 160 bb	s Volume	Recovered 100 bbls		
Source of Release : Hole in bottom of oil tank	Date and	Hour of Occurren	ce Date and	1 Hour of Discovery		
Was Immediate Notice Given?	If YES, T	10/17/2012 @ 11:00         10/17/2012 at 11:00 am           If YES, To Whom?         10/17/2012 at 11:00 am				
By Whom?	Date and	Hour :	1			
Was a Watercourse Reached?		olume Impacting	the Watercourse.			
If a Watercourse was Impacted, Describe Fully.* Describe Cause of Problem and Remedial Action Taken.* A hole in the bottom of an oil tank caused a loss of 160 barrels of o berm area. A vacuum truck was immediately called to the location			of the battery. A	I fluids were contained within the		
Describe Area Affected and Cleanup Action Taken.* The impacted used to hand dig around the tanks and flow lines taking great care transported to an NMOCD approved solid waste disposal facility. A and at the base of the storage tanks. The excavated area was bac contoured to match the surrounding location and the berms were real	l soil within the tar not to compromise A mixture of Micro kfilled to grade us	ik battery was ex the structural int Blaze and water	egrity of the stora was spray-applied	ge tanks. The excavated soil was to the open excavation, sidewalls		
I hereby certify that the information given above is true and complete regulations all operators are required to report and/or file certain rel public health or the environment. The acceptance of a C-141 report should their operations have failed to adequately investigate and ren or the environment. In addition, NMOCD acceptance of a C-141 re- federal, state, or local laws and/or regulations.	ease notifications a t by the NMOCD r nediate contamina	and perform corre- narked as "Final I ion that pose a th	ctive actions for re Report" does not re reat to ground wat	eleases which may endanger elieve the operator of liability er, surface water, human health		
Signature: Konin Bracen			ISERVATION	<u>N DIVISION</u>		
Printed Name: Kevin Bracey	Approved b	y District Supervi	sor:			
Title: Production Superintendent	Approval D	ate:	Expiratio	n Date:		
E-mail Address: kbracey@legacylp.com	Conditions	of Approval:		Attached		
Date: 7/2/2013 Phone: (432) 221-6312 Attach Additional Sheets If Necessary						

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

# State of New Mexico Energy Minerals and Natural Resources

Revised August 8, 2011

Form C-141

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

**Release Notification and Corrective Action OPERATOR** X Initial Report Final Report Contact: Berry Johnson Name of Company: Legacy Reserves Operating, LP Address: PO Box 10848, Midland, TX 79702-7848 Telephone No.: 432-689-5200 Facility Name: Lea Federal Unit #21 Facility Type: Tank Battery Surface Owner Mineral Owner: Federal API No. 30-025-37525 LOCATION OF RELEASE Range Unit Letter Section Township Feet from the North/South Line Feet from the East/West Line County D 12 20S 34E 810' 810' West North Lea Longitude 103.521 Latitude 32.589 NATURE OF RELEASE Type of Release: Oil Volume of Release: 160 bbls Volume Recovered: 100 bbls Source of Release: Hole in bottom of oil tank Date and Hour of Occurrence: Date and Hour of Discovery 10/17/12 at 11:00am 10/17/12 at 11:00am Was Immediate Notice Given? If YES, To Whom? Yes X No Not Required By Whom? Date and Hour Was a Watercourse Reached? If YES, Volume Impacting the Watercourse. Yes X No If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* Hole in bottom of oil tank. Fluid contained within the firewalls. Widest point of the spill is around 50'X 40', the rest is around 10'X 150'. Recovered 100 bbls.

Describe Area Affected and Cleanup Action Taken.\* All fluid contained within burm area, Contacted Talon Environmental to begin remediation.

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

$\beta \wedge 1$	OIL CON	<b>ISERVATION DIVISION</b>
Signature: Demy Johnson	Approved by Environmental	Specialist:
Title: Operations Superintendent	Approval Date:	Expiration Date:
E-mail Address: bjohnson@legacylp.com	Conditions of Approval:	Attached
Date: 10/22/2012 Phone: 432-689-5200	Julia Car	and the second

\* Attach Additional Sheets If Necessary



AMARILLO 921 North Bivins Amarillo. Texas 79107 Phone 806.467.0607 Fax 806.467.0622

ARTESIA 408 West Texas Ave. Artesia, New Mexico 882I0 Phone 575.746.8768 Fax 575.746.8905

HOBBS 318 East Taylor Street Hobbs, New Mexico 88240 Phone 575.393.4261 Fax 575.393.4658

> MIDLAND 290I State Hwy 349 Midland, Texas 79706 Phone 432.522.2133 Fax 432.522.2180

OKLAHOMA CITY 7700 North Hudson Avenue Suite 10 Oklahoma City, Oklahoma 73116 Phone 405.486.7030 Fax 806.467.0622

> SAN ANTONIO II Commercial Place Schertz, Texas 78154 Phone 210.265.8025 Fax 210.568.2191

ENVIRONMENTAL CONSULTING ENGINEERING DRILLING CONSTRUCTION SPILL MANAGEMENT GENERAL CONTRACTING

Toll Free: 866.742.0742 www.talonlpe.com July 2, 2013

Mr. Geoffrey Leking NMOCD District 1 1625 N. French Drive Hobbs, NM 88240

Subject:

# Remediation and Closure Report

Legacy Reserves Operating, LP Lea Federal Unit #21 API # 30-025-37525

Dear Mr. Leking,

Legacy Reserves Operating, LP has contracted Talon/LPE (Talon) to perform soil assessment and remediation services for the Lea Federal Central Tank Battery release. The results of our soil assessment, completed remediation activities and closure request are submitted herein.

# **Incident Date**

October 17, 2012

# **Background Information**

The Lea Federal Central Tank Battery is located approximately forty-nine (49) miles northeast of Carlsbad, New Mexico. The legal location for the site is Section 12, Township 20 South and Range 34 East in Lea County, New Mexico. More specifically, the latitude and longitude for the release are 32.589 North and -103.521 West.

According to the soil survey provided by the United States Department of Agriculture National Resources Conservation Services, the soil in this area is made up of Wink Fine Sand. The local surface and shallow geology is Quaternary in Age with sedimentary deposits which are comprised of calcareous-loamy alluvium and calcareous-loamy eolian sands, including silty soils under lain by sedimentary rock and hard caliche. Drainage courses in this area are normally dry. The New Mexico State Engineer web site indicates the nearest ground water data to be in S24-T20S-R34E. The ground water in Section 24 is reported to be at depth of 270' below ground surface (bgs). The referenced groundwater data is attached.

The ranking for this site is 0 based on the as following:

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

HOBBS OCD AUG 0 8 2013

RECEIVED

# **Incident Description**

A hole in the bottom of an oil tank caused a loss of 160 barrels of oil to be released inside the firewalls of the battery. All fluids were contained within the bermed area. A vacuum truck was immediately called to the location and recovered 100 barrels of oil.

# **Remedial Actions**

On April 30, 2013 Talon personnel mobilized to the site to begin excavation of the impacted area inside the tank battery in accordance with the work plan. (Appendix I) The impacted soil within the tank battery was excavated to a depth of 3-feet. A roustabout crew was used to hand dig around the tanks and flow lines taking great care not to compromise the structural integrity of the storage tanks. The excavated soil was transported to an NMOCD approved solid waste disposal facility, Lea Land LLC.

A mixture of Micro Blaze and water was prepared per manufacture's specifications and spray-applied to the open excavation, sidewalls and at the base of the storage tanks.

The excavated area was backfilled to grade using new caliche transported from a local borrow pit. The area was contoured to match the surrounding location and the tank battery berms were reconstructed.

### Closure

On behalf of Legacy Reserves Operating LP, we respectfully request that no further actions be required and that closure with respect to this release be granted.

If we can provide additional information or be of further assistance please contact our office at 575.746.8768.

Respectfully submitted,

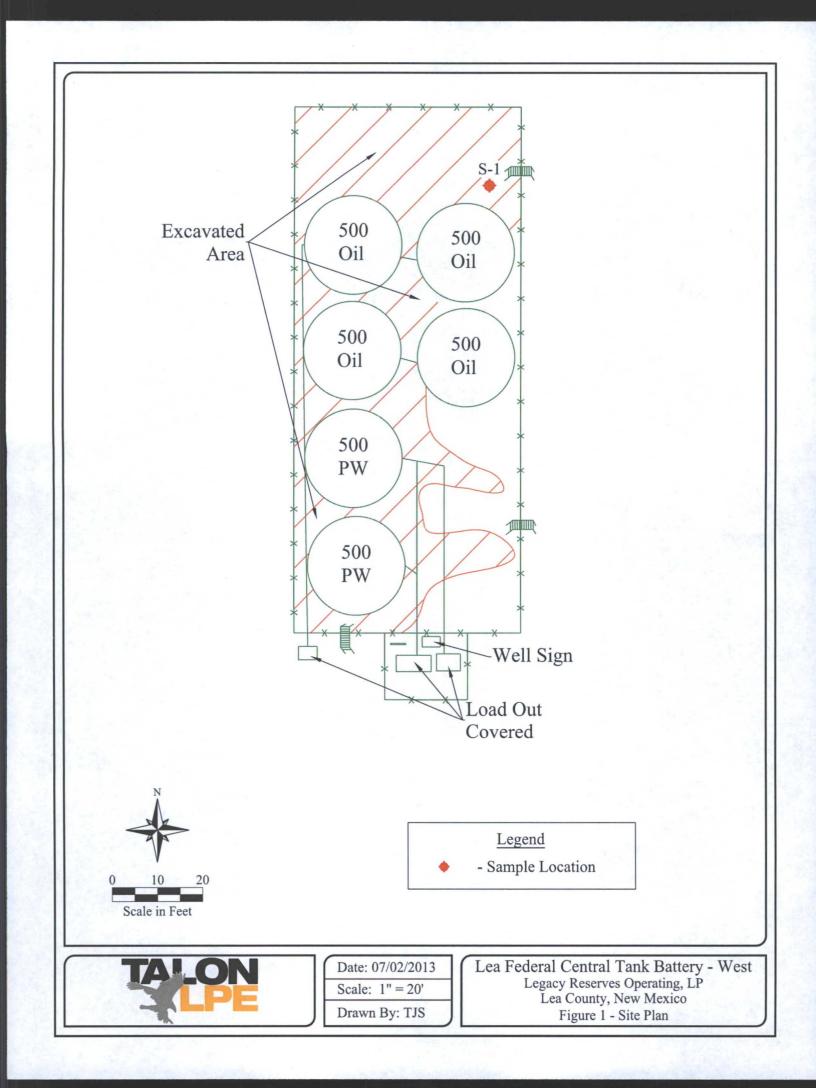
TALON/LPE

mberly M. Welson

Kimberly M. Wilson Project Manager

7e 26

David J. Adkins District Manager





AMARILLO 92I North Bivins Amarillo. Texas 79107 Phone 806.467.0607 Fax 806.467.0622

ARTESIA 408 West Texas Ave. Artesia, New Mexico 88210 Phone 575.746.8768 Fax 575.746.8905

> AUSTIN 9II West Anderson Lane Suite 202 Austin, Texas 78757 Phone 512.989.3428 Fax 512.989.3487

HOBBS 318 East Taylor Street Hobbs, New Mexico 88240 Phone 575.393.4261 Fax 575.393.4658

> MIDLAND 290I State Hwy 349 Midland, Texas 79706 Phone 432.522.2133 Fax 432.522.2180

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ENVIRONMENTAL CONSULTING ENGINEERING DRILLING CONSTRUCTION SPILL MANAGEMENT GENERAL CONTRACTING

Toll Free: 866.742.0742 www.talonlpe.com December 18, 2012

Mr. Geoffrey Leking NMOCD District 1 1625 N. French Drive Hobbs, NM 88240

Subject:

:: Soil Assessment and Remediation Work Plan Legacy Reserves Operating, LP Lea Federal Unit #21 API # 30-025-37525

Dear Mr. Leking,

Legacy Reserves Operating, LP has contracted Talon/LPE (Talon) to perform soil assessment and remediation services for the Lea Federal Central Tank Battery release. Talon's site assessment, soil sampling results and proposed work plan to perform remediation activities consist of the following:

# **Incident Date**

October 17, 2012

# **Background Information**

The Lea Federal Central Tank Battery is located approximately forty-nine (49) miles northeast of Carlsbad, New Mexico. The legal location for the site is Section 12, Township 20 South and Range 34 East in Lea County, New Mexico. More specifically, the latitude and longitude for the release are 32.589 North and -103.521 West.

According to the soil survey provided by the United States Department of Agriculture National Resources Conservation Services, the soil in this area is made up of Wink Fine Sand. The local surface and shallow geology is Quaternary in Age with sedimentary deposits which are comprised of calcareous-loamy alluvium and calcareous-loamy eolian sands, including silty soils under lain by sedimentary rock and hard caliche. Drainage courses in this area are normally dry. The New Mexico State Engineer web site indicates the nearest ground water data to be in S24-T20S-R34E. The ground water in Section 24 is reported to be at depth of 270' below ground surface (bgs). The referenced groundwater data is presented in Appendix I.

The ranking for this site is 0 based on the as following:

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

# **Incident Description**

A hole in the bottom of an oil tank caused a loss of 160 barrels of oil to be released inside the firewalls of the battery. All fluids were contained within the bermed area. A vacuum truck was immediately called to the location and recovered 100 barrels of oil.

### **Sampling Activities**

On October 22, 2012 Talon mobilized personnel to begin soil sampling for the construction of a work plan. Grab soil samples were collected utilizing a hand auger from the surface of the impacted areas.

On December 5, 2012 Talon personnel returned to the site to collect additional soil samples utilizing a backhoe for further vertical delineation. Grab soil samples were collected from a depth of 3-feet to 10-feet deep.

The soil samples were collected by Talon personnel wearing clean nitrile gloves. The samples were placed into a laboratory provided sample containers, iced and transported to Cardinal Laboratories in Hobbs, New Mexico for analysis. The samples were tested for TPH (Total Petroleum Hydrocarbons) using EPA Method 8015M, volatile organics (BTEX) using EPA Method 8021B and chlorides were analyzed per method SM4500Cl-B. The complete laboratory reports are attached as Appendix II.

# **Analytical Results**

Analytical results received from Cardinal Laboratories are summarized below:

November 29, 2012

Sample	Depth	BTEX	Chlorides	<u>TPH</u> (mg/kg)
S-1	0.75'	1322	7000	8830
	1'	356.32	8200	8850

December 13, 2012

Sample	Depth	BTEX	Chlorides	<u>TPH</u> (mg/kg)
S-1	3'	289.87	2480	5380
	4'	0.674	160	394.2
	6'	2.681	496	443
	8'	< 0.150	64	40.2
	10'	< 0.150	<16	<10

# **Proposed Remedial Actions**

- The impacted soil will be excavated to a depth of approximately 3-feet deep. Care will be taken not to compromise the structural integrity of the storage tanks. The excavated soil will be transported to an NMOCD approved solid waste disposal facility.
- A mixture of Micro Blaze and water will be spray-applied to the open excavation, sidewalls and at the base of the storage tanks.
- The excavated area will be backfilled to grade using new caliche transported from a local borrow pit. The area will be contoured to match the surrounding location.
- A final report documenting all field activities and lab reports will be provided to the NMOCD Hobbs Office including Form C-141.

If we can provide additional information or be of further assistance please contact our office at 575.746.8768.

Respectfully submitted,

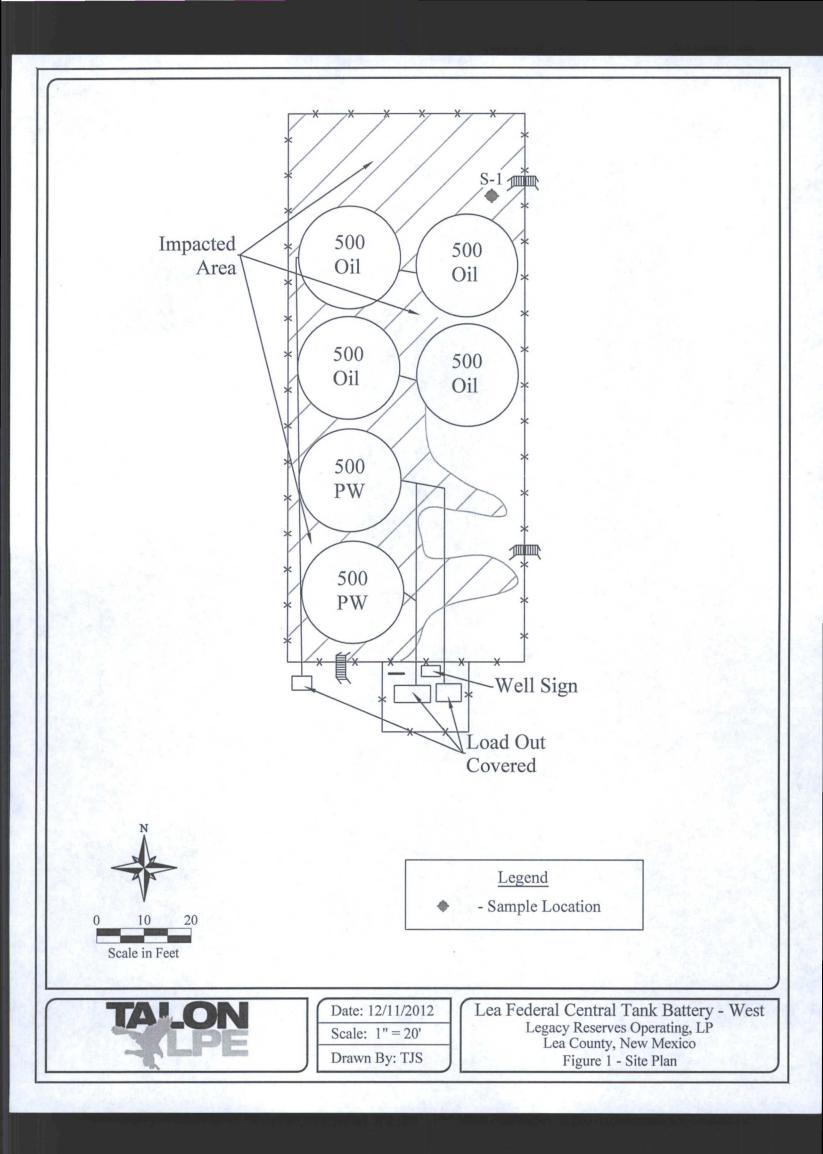
TALON/LPE

m'al Stuble field

Mike Stubblefield Project Manager

dotte

David J. Adkins District Manager





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

(A CLW###### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)	(R=POD has been replaced O=orphaned, C=the file is closed)	(quarters are						!=SE) (NAD83 UT№	/in meters)		(In fee	et)
	POD	G	Q	Q						Depth	Depth	Water
POD Number	Code Subbas	in County 64	4 16	4	Sec	Tws	Rng	x	Y	10,010,000	second and the second s	Column
CP 00665		LE	1	4	24	20S	34E	639740	3603128*	698	270	428
CP 00750		LE	3	4	07	20S	34E	631639	3605834*	320		
								Avera	age Depth to	o Water	: 270	feet
									Minimun	n Depth	: 270	feet
									Maximun	n Depth	270	feet

### Record Count: 2

### PLSS Search:

Township: 20S

Range: 34E

\*UTM location was derived from PLSS - see Help

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.

10/30/12 1:10 PM

Page 1 of 1

WATER COLUMN/ AVERAGE DEPTH TO WATER



October 26, 2012

DAVID ADKINS TALON LPE 408 W. TEXAS AVE. ARTESIA, NM 88210

RE: LEA FEDERAL TANK BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 10/24/12 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

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. Keene

Celey D. Keene Lab Director/Quality Manager

Page 1 of 5



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

Received:	10/24/2012	Sampling Date:	10/22/2012
Reported:	10/26/2012	Sampling Type:	Soil
Project Name:	LEA FEDERAL TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701047.062.01	Sample Received By:	Jodi Henson
Project Location:	LEGACY		

#### Sample ID: S-1 0.75' (H202589-01)

BTEX 8021B	mg	/kg	Analyze	d By: MS				in the second	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	22.3	5.00	10/25/2012	ND	1.76	87.9	2.00	0.815	
Toluene*	137	5.00	10/25/2012	ND	1.92	95.9	2.00	1.02	
Ethylbenzene*	62.3	5.00	10/25/2012	ND	1.89	94.4	2.00	0.726	
Total Xylenes*	159	15.0	10/25/2012	ND	5.72	95.3	6.00	0.867	
Total BTEX	381	30.0	10/25/2012	ND					

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM				Sec. 2	file Be
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7000	16.0	10/25/2012	ND	416	104	400	3.77	
TPH 8015M	mg	/kg	Analyze	d By: MS	-		and the second	1.24	S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	3420	50.0	10/25/2012	ND	195	97.7	200	2.56	
DRO >C10-C28	5410	50.0	10/25/2012	ND	216	108	200	9.52	
Surrogate: 1-Chlorooctane	211	% 65.2-14	0		1 .				
Surrogate: 1-Chlorooctadecane	166	% 63.6-15	4						

#### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 5



#### PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

### Analytical Results For:

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

Received:	10/24/2012	Sampling Date:	10/22/2012
Reported:	10/26/2012	Sampling Type:	Soil
Project Name:	LEA FEDERAL TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701047.062.01	Sample Received By:	Jodi Henson
Project Location:	LEGACY		

# Sample ID: S-1 1.0' (H202589-02)

BTEX 8021B	mg	/kg	Analyze	d By: MS	1. 11 A.			a think	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	4.92	2.50	10/25/2012	ND	1.76	87.9	2.00	0.815	
Toluene*	51.8	5.00	10/25/2012	ND	1.92	95.9	2.00	1.02	
Ethylbenzene*	30.0	5.00	10/25/2012	ND	1.89	94.4	2.00	0.726	
Total Xylenes*	91.6	15.0	10/25/2012	ND	5.72	95.3	6.00	0.867	
Total BTEX	178	30.0	10/25/2012	ND					
	And the second second								

Surrogate: 4-Bromofluorobenzene (PIL 117 % 89.4-126

Chloride, SM4500CI-B	п	ng/kg	Analyze	d By: HM	10			a Charles	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8200	16.0	10/25/2012	ND	416	104	400	3.77		
TPH 8015M	n	mg/kg		Analyzed By: MS			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	2580	50.0	10/25/2012	ND	195	97.7	200	2.56		
DRO >C10-C28	6270	50.0	10/25/2012	ND	216	108	200	9.52		

Surrogate: 1-Chlorooctadecane

182 % 63.6-154

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and clent's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by clent for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed valved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by clent, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approal of Cardinal Laboratories.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 5



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

# **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.
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 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

**Cardinal Laboratories** 

\*=Accredited Analyte

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Celeg D. Kune

Celey D. Keene, Lab Director/Quality Manager

Page 4 of 5

CARDINAL Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ANALYSIS REQUEST ators or oftendiat. Phone Result: 7 Yes 0 No Add'I Phone #: Fax Result: 7 Yes 0 No Add'I Fax #: REMARKS: Sapis 0 Ì Ka 1 PLEASE NOTE: Liability and Danages, Cardina's liability and clant's exchance amody for any daim anising whether tassed in contract or fort, shall be finded to the amount paid by the offent for the analyzes. All claims including those for negligence and any other cause whatbeever shall be deemed waived unders made in writing and received by Cardinal which 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidential damages, including without fimilation, base of vase of loss of vase of loss of section at the time subsidiation. 1 f-2. d 1 10/32/12 (10/32/12 214122101 TIME SAMPLING DATE. BILL TO ECKED BY: ol services hereunder by Cardinal, regardness of whether such cleim is based upon any of the above stated Date: / / Received By: Zip: **NAHER** PRESERV Company: 1 Address: ICE / COOL Phone #: P.O. #: State: Attn: Fax #: City: ACID/BASE: STURPOR ABHTO Cool Intact SLUDGE OIL MATRIX 88.211 Project #: 7 01 047. 062.01 Project Owner: lagacy TIOS RATAWATEAW ROUNDWATER 20 JULLS ADIE WS # CONTAINERS ---406 w. Texas Aut State: N Zip: Project Manager: DAU (D) ADIC US (G)RAB, DR (C)OMP. 1 101 East Mariand, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476 10/24/0 Blog III 0.751 Fax #: 1.C Sample I.D. Sampler - UPS - Bus - Other mal Swall Circle One) related to the p 5-1 5-1 city: Artesia litiates or successors arising out of or elinquished By: Project Location: Relinquished By: H202585 N Sampler Name: FOR LAB USE ONLY Lab I.D. Address: Phone #:

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

Page 5 of 5



December 13, 2012

MIKE STUBBLEFIELD TALON LPE 408 W. TEXAS AVE. ARTESIA, NM 88210

RE: LEA FEDERAL CENTRAL TANK BATTERY WEST

Enclosed are the results of analyses for samples received by the laboratory on 12/07/12 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

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

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

Received:	12/07/2012	Sampling Date:	12/05/2012
Reported:	12/13/2012	Sampling Type:	Soil
Project Name:	LEA FEDERAL CENTRAL TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701047.062.01	Sample Received By:	Jodi Henson
Project Location:	SEC. 12 - T20S - R34E		

# Sample ID: S - 1 3' (H202949-01)

BTEX 8021B	mg	/kg	Analyze	d By: AP	6. h		11	4	S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	1.37	0.200	12/13/2012	ND	2.05	102	2.00	5.24	
Toluene*	41.0	0.200	12/13/2012	ND	2.22	111	2.00	5.18	
Ethylbenzene*	25.5	0.200	12/13/2012	ND	2.16	108	2.00	5.33	
Total Xylenes*	77.0	0.600	12/13/2012	ND	6.51	109	6.00	5.20	
Total BTEX	145	1.20	12/13/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	338	% 89.4-12	6	15.4					
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP				1	000
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2480	16.0	12/12/2012	ND	448	112	400	3.64	
TPH 8015M	mg	/kg	Analyze	d By: MS			1. St. 1.	1	S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

ND

ND

183

199

91.4

99.3

200

200

3.20

5.48

12/10/2012

12/10/2012

**Cardinal Laboratories** 

GRO C6-C10 DRO >C10-C28

Surrogate: 1-Chlorooctane

Surrogate: 1-Chlorooctadecane

\*=Accredited Analyte

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1510

3870

154 %

147 %

50.0

50.0

65.2-140

63.6-154

Celey D. Keene, Lab Director/Quality Manager

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

Received:	12/07/2012	Sampling Date:	12/05/2012
Reported:	12/13/2012	Sampling Type:	Soil
Project Name:	LEA FEDERAL CENTRAL TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701047.062.01	Sample Received By:	Jodi Henson
Project Location:	SEC. 12 - T20S - R34E		

# Sample ID: S - 1 4' (H202949-02)

BTEX 8021B	mg,	/kg	Analyze	d By: AP	21.1		Car and As in		S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.050	0.050	12/13/2012	ND	2.05	102	2.00	5.24	
Toluene*	0.056	0.050	12/13/2012	ND	2.22	111	2.00	5.18	
Ethylbenzene*	<0.050	0.050	12/13/2012	ND	2.16	108	2.00	5.33	
Total Xylenes*	0.281	0.150	12/13/2012	ND	6.51	109	6.00	5.20	
Total BTEX	0.337	0.300	12/13/2012	ND					

Surrogate: 4-Bromofluorobenzene (PIL 127 % 89.4-126

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP			542	-	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	12/12/2012	ND	448	112	400	3.64	
TPH 8015M	mg/kg		Analyzed By: MS					200.16	South 1
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	20.2	10.0	12/10/2012	ND	183	91.4	200	3.20	
DRO >C10-C28	374	10.0	12/10/2012	ND	199	99.3	200	5.48	
Surrogate: 1-Chlorooctane	88.2	% 65.2-14	0						184.50
Surrogate: 1-Chlorooctadecane	97.4	% 63.6-15	4						

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

Received:	12/07/2012	Sampling Date:	12/05/2012
Reported:	12/13/2012	Sampling Type:	Soil
Project Name:	LEA FEDERAL CENTRAL TANK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	701047.062.01	Sample Received By:	Jodi Henson
Project Location:	SEC. 12 - T20S - R34E		

### Sample ID: S - 1 6' (H202949-03)

BTEX 8021B	mg	/kg	Analyze	d By: AP				512	S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/12/2012	ND	2.05	102	2.00	5.24	
Toluene*	0.063	0.050	12/12/2012	ND	2.22	111	2.00	5.18	
Ethylbenzene*	0.238	0.050	12/12/2012	ND	2.16	108	2.00	5.33	
Total Xylenes*	1.04	0.150	12/12/2012	ND	6.51	109	6.00	5.20	
Total BTEX	1.34	0.300	12/12/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	173	89.4-12	6						ne.
Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AP	1.		- all -	a	1.23
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	12/12/2012	ND	448	112	400	3.64	
TPH 8015M	mg,	/kg	Analyze	d By: MS			in the second		S. M
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	46.0	10.0	12/10/2012	ND	183	91.4	200	3.20	
DRO >C10-C28	397	10.0	12/10/2012	ND	199	99.3	200	5.48	
Surrogate: 1-Chlorooctane	93.2	% 65.2-14	0	100	201		·		48
Surrogate: 1-Chlorooctadecane	105	63.6-15	4						

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#### PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

#### Analytical Results For:

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

Received:	12/07/2012	Sampling Date:	12/05/2012	
Reported:	12/13/2012	Sampling Type:	Soil	
Project Name:	LEA FEDERAL CENTRAL TANK BATTERY	Sampling Condition:	Cool & Intact	
Project Number:	701047.062.01	Sample Received By:	Jodi Henson	
Project Location:	SEC. 12 - T20S - R34E			

# Sample ID: S - 1 8' (H202949-04)

BTEX 8021B	mg/	kg	Analyze	d By: AP			a set a		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Benzene*	<0.050	0.050	12/12/2012	ND	2.05	102	2.00	5.24	
Toluene*	<0.050	0.050	12/12/2012	ND	2.22	111	2.00	5.18	
Ethylbenzene*	<0.050	0.050	12/12/2012	ND	2.16	108	2.00	5.33	
Total Xylenes*	<0.150	0.150	12/12/2012	ND	6.51	109	6.00	5.20	
Total BTEX	<0.300	0.300	12/12/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	118 9	89.4-12	6				1		
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP				1.26.44	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
Chloride	64.0	16.0	12/12/2012	ND	448	112	400	3.64	
TPH 8015M	mg/	kg	Analyze	d By: MS				(int)	18 M
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifie
GRO C6-C10	<10.0	10.0	12/10/2012	ND	183	91.4	200	3.20	
	40.2	10.0	12/10/2012	ND	199	99.3	200	5.48	

Surrogate: 1-Chlorooctadecane

94.5 %

63.6-154

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

12/07/2012	Sampling Date:	12/05/2012
12/13/2012	Sampling Type:	Soil
LEA FEDERAL CENTRAL TANK BATTERY	Sampling Condition:	Cool & Intact
701047.062.01	Sample Received By:	Jodi Henson
SEC. 12 - T20S - R34E		
	12/13/2012 LEA FEDERAL CENTRAL TANK BATTERY 701047.062.01	12/13/2012Sampling Type:LEA FEDERAL CENTRAL TANK BATTERYSampling Condition:701047.062.01Sample Received By:

#### Sample ID: S - 1 10' (H202949-05)

BTEX 8021B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/12/2012	ND	2.05	102	2.00	5.24	
Toluene*	< 0.050	0.050	12/12/2012	ND	2.22	111	2.00	5.18	
Ethylbenzene*	<0.050	0.050	12/12/2012	ND	2.16	108	2.00	5.33	
Total Xylenes*	<0.150	0.150	12/12/2012	ND	6.51	109	6.00	5.20	
Total BTEX	<0.300	0.300	12/12/2012	ND					
Surrogate: 4-Bromofluorobenzene (PIL	116	89.4-12	6					il.	1 Sale
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP			_	11.8	5 No. 1
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/12/2012	ND	448	112	400	3.64	
TPH 8015M	mg	/kg	Analyze	d By: MS		1.1.2.1	1.6.14	1	Sec. Any
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/10/2012	ND	183	91.4	200	3.20	
DRO >C10-C28	<10.0	10.0	12/10/2012	ND	199	99.3	200	5.48	
Surrogate: 1-Chlorooctane	89.7	% 65.2-14	0	1.15			1.1.1	· 42 - 49 - 2	19.2
Surrogate: 1-Chlorooctadecane	102	63.6-15-	4						

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#### **Notes and Definitions**

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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CARDINAL Laboratories

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

in the second second	Talon / LPE		BILLTO	and the second	ANALYSIS REQUEST	
Project Manager:			P.O.#:			
Address:	400 WET TOKEN AVC.	Ent Ave .	Company: Telon/LOK	4		
City:	Arteria	State: N. In Zip: 86210	Attn:		8	
Phone #:		Fax #:	Address:	And a second sec	,	
Project #:	10.506. 040105	Project Owner: Legacy Res.	City:			
Project Name:	Lea Federal G	LCG Federal Central Tark Battery Nest	State: Zip:			
Project Location	Project Location: Sec. 12 . 7 205. 8 34 E	. R.34E	Phone #:			
Sampler Name:	Wards weeking	5	Fax #:			
гоя гля изе омгу Lab I.D.	Sample I.D.	C (G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER	MATRIX MATRIX Preserv SAMPLING OTHER:	Total chloridet		
	5.1 3'		21/5/21	4:386		(in the second s
2	5.1 4	2 Z	1 1215/12	11		
m	5.1 6'	5	1 12/5/12	diuze d zhih		
et.	S.1 8'	a	21/5/21	1:45P		
3	°01 1.5	3	21/5/21 /	de5:11		
PLEASE NOTE: Libbility a analyses. All claims includ	and Damages. Cardinatis linklify and fing those for regligence and any oth	PLEASE NOTE: Lability and Damages. Cardinal's insulty and clients exclusive remedy for any cliim anticipy whether based in contract or fort, shall be limited to the amount paid by the client for the another and baringses. All claims including those for regignerce and any other curee whatscever shall be deemed waived unters made in writing and received by Cardinal which 20 days and cardinal of its and	anising whether based in contract or fort, shall be imited to the amount paid by the client for the walked whether hased in contract or fort, shall be imited to the amount paid or the client for the walked whether hased in writing and received by Cardinal within 20 dray allor cardinal within 20 dray allor cardinal with a specificable	aid by the client for the ended		
affilates or successors aris Relinquished B	sing out of or related to the performance of the sectorman of the sector o	and the second s	r such claim is based upon any of the above stated r	reasons or otherwise. Phone Result:	o Add'l Phone #: o Add'l Fax #:	
Relinquished By	afreed	Time: 1000000	MUNDA			
Delivered By Sampler - UPS	Delivered By: (Circle One) Sampler - UPS - Bus - Other:	S C Cool	Sample Condition CHEQKED BY: Cool Intect (Intidals)			
+ Cardinal	I cannot accept verba	<ul> <li>Cardinal cannot accept verbal changes. Please fax written chai</li> </ul>	written changes, to $(575)$ 393-2326			

All and a second and a second

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