

## **General Information**

State Report No.:

This section	provides (	general informa	ation about the	e operator and	d the site where	e the spill occurred.
	P. C	90110101111	40,011 WWOWL (11)	, opo.a.o. a	a o	, op oodaoa.

Date: October 23, 2012

Client: LINN Energy

Site Name: JL Keel B 10

County: Eddy

State: NM

Site Coordinates

Latitude: N32.85446

Longitude: W103.88899

Property Owner: Federal

## **Release Description and Assessment**

2RP-1181

The information	below is related to the spill (Date, Type, Cause and Quantity) and the area impacted.
Date of Spill:	06/15/2012
Type of Spill:	☐ Oil ☐ Produced Water ☐ Condensate ☐ Other (Specify):
Cause of Spill:	☐ Equipment Failure ☐ Valve Failure ☐ Line Rupture ☐ Leaking Tank ☐ Tank Overfil
	Other (List):
Other Contributi	ng Factors or Comments:
<b>Quantity Spilled:</b>	: 2/14 bbls. Quantity Recovered: 0 bbls. Total Released: 2/14 bbls.
Method of Recov	very: ☐ Vacuum Truck ☐ Other (Specify):
OCD Notified:	Yes □ No C-141 Completed and Submitted: □ Yes □ No
Spill Area Impac	ted: ☐ Inside Firewall ☐ On Production Pad ☒ In Pasture ☐ In Cultivated Land
	Other (List):
<b>Total Square Foo</b>	otage Impacted: 900 Estimated Depth: 1-5' Volume (Cu. Yds): 140
Other Comments	2.

#### **Remediation Activity Summary**

The following summarizes the activities used to remediate the spill.

Impacted soils above regulatory threshold levels were manually and mechanically excavated from the spill area and transported off-site to Lea Land Landfill.

However, there is still impacted soil at SP1. A soil boring was performed at SP1 to a depth of 15-16 ft. The delineation determined the chloride levels to be 965mg at 16ft. Additional excavation is not practical at this point due to, numerous flow lines that traverse through all parts of the excavation, which restricts any further excavation due to safety concerns.

As discussed in section 5 of the Corrective Action Plan dated June 22, 2012, LINN is proposing to apply a calcium amendment to the bottom of the excavation (gypsum) then backfill with clean compacted fill material to within 1.5 – 2ft of surface then complete the backfill with compatible soil which is conducive to growing vegetation. Using gypsum will effectively assist in ensuring that any residual chlorides in the bottom of the excavation will not migrate further and cause any adverse impact to the reclamation of the site.

Once the impacted soils were removed to acceptable levels, and the gypsum installed, the pasture area was backfilled with like materials and smoothed to grade, then seeded with a BLM mix #2 & #4. Water bars were installed to prevent wind and water erosion.

## **Analytical Summary**

Results of analyses following remediation activities are as follows:

To				ampling Analytic I (mg/kg)] & Chlo	al Results prides [Chl (mg/kg]	)]
Sample #	Depth (ft)	Date	TPH C6-C10	TPH C10-C28	Total TPH	Chl
SP1 South Wall	1	7/23/12				32
SP1 West Wall	3	7/23/12				32
SP1 North Wall	2	7/23/12				16
SP1 Bottom	6	7/23/12				1920
SP2 Bottom	4	7/23/12				32
SP2 North Wall	3	7/23/12				16
SP2 South Wall	1	7/23/12				16
SP3 Bottom	4	7/23/12				32
SP3 North Wall	2	7/23/12				16
SP3 South Wall	2	7/23/12				16
SP4 Bottom	6	7/23/12				208
SP4 South Wall	3	7/23/12				16
SP4 East Wall	3	7/23/12				16
SP5 Bottom	2	7/23/12				928
SP5 West Wall	3	7/23/12				<16.0
SP5 South Wall	3	7/23/12				32
SP5 East Wall	3	7/23/12				<16.0
SP6 Bottom	2	7/25/12				400
SP6 South Wall	1	7/23/12				32
SP6 East Wall	11	7/23/12				112
SP6 West Wall	1	7/25/12				<16.0

<sup>\*</sup> ND = Non-Detect; concentration below

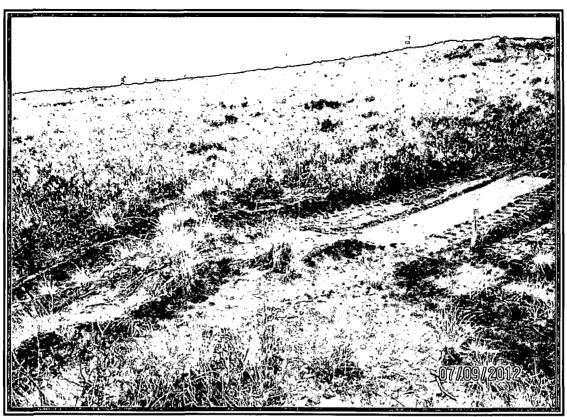
mg/kg.

A review of the analytical data indicated the sample is within the Oil Conservation Division (OCD) regulatory threshold limits. Based upon this information it has been determined that remediation of the site is complete. Copies of analytical reports, seed tickets, photographs, BLM closure and final C-141 are attached.

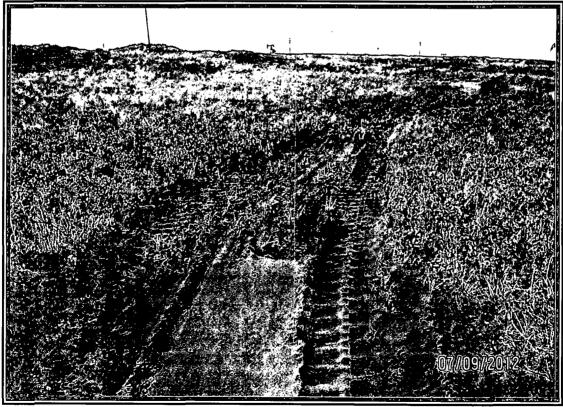
Prepared by:

Kit Prichard

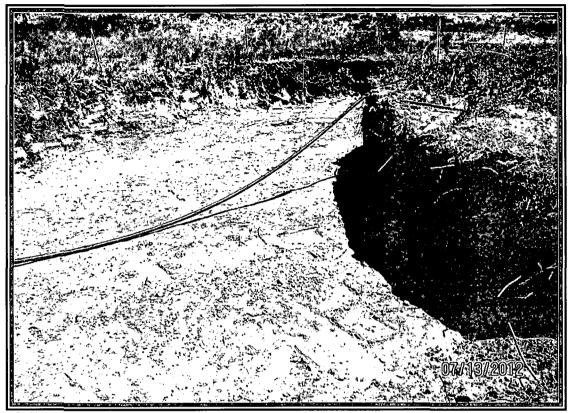
Etech Environmental & Safety Solutions, Inc.



Spill area before excavation.



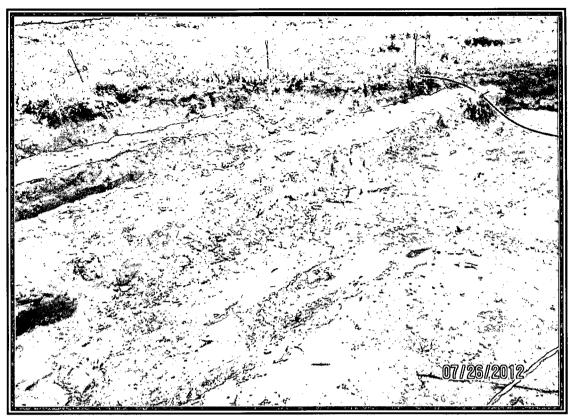
Spill area before excavation.



Spill area after excavation.



Spill area after excavation.



Spill area during backfill.



Spill area during backfill.



July 23, 2012

**FRED HOLMES** 

ETECH Environmental & Safety Solutions, Inc.

P. O. BOX 8469

MIDLAND, TX 79708

RE: J. L. KEEL B #10

Enclosed are the results of analyses for samples received by the laboratory on 07/19/12 13:30.

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">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited certif.html.

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

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celeg D. Keine

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



ETECH Environmental & Safety Solutions, Inc.

**FRED HOLMES** P. O. BOX 8469 MIDLAND TX, 79708

(432) 563-2213 Fax To:

Received:

07/19/2012

Sampling Date:

07/19/2012

Reported:

07/23/2012

Sampling Type:

Soil

Sampling Condition:

Project Name:

J. L. KEEL B #10

\*\* (See Notes)

Project Number:

253-3472-000

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY, NEW MEXICO

#### Sample ID: SP 1 S WALL 1' (H201656-01)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/23/2012	ND	448	112	400	3.64	
Sample ID: SP 1 W WALL 3	-	-							
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
a	22.0	16.0	07/23/2012	ND	448	112	400	3.64	
Cnioriae	32.0	10.0	07/25/2012	110	110				
			07/23/2012	ND	110				
Sample ID: SP 1 N WALL 2		5-03)	, ,	d By: HM	110				
Sample ID: SP 1 N WALL 2	' (H201656	5-03)	, ,		BS	% Recovery	True Value QC	RPD	Qualifier
Sample ID: SP 1 N WALL 2 Chloride, SM4500Cl-B	' (H201650 mg,	5-03) /kg	Analyze	d By: HM					Qualifier
Sample ID: SP 1 N WALL 2 Chloride, SM4500CI-B Analyte Chloride	' (H201656 mg, Result 16.0	<b>5-03)</b> //kg  Reporting Limit  16.0	<b>Analyze</b> Analyzed	d By: HM Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sample ID: SP 1 N WALL 2 Chloride, SM4500CI-B  Analyte Chloride  Sample ID: SP 1 BOTTOM 6	' (H201656 mg, Result 16.0	5-03) /kg  Reporting Limit 16.0	Analyzed 07/23/2012	d By: HM Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride  Sample ID: SP 1 N WALL 2 Chloride, SM4500CI-B  Analyte  Chloride  Sample ID: SP 1 BOTTOM 6 Chloride, SM4500CI-B  Analyte	' (H201656 mg, Result 16.0	5-03) /kg  Reporting Limit 16.0	Analyzed 07/23/2012	d By: HM Method Blank ND	BS	% Recovery	True Value QC	RPD	Qualifier

#### Cardinal Laboratories

\*=Accredited Analyte

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Celeg D. Keens



ETECH Environmental & Safety Solutions, Inc.

FRED HOLMES
P. O. BOX 8469
MIDLAND TX, 79708

Fax To: (432) 563-2213

Received:

07/19/2012

Sampling Date:

07/19/2012

Reported:

07/23/2012

Sampling Type:

Soil

Project Name:

J. L. KEEL B #10

Sampling Condition:

\*\* (See Notes)

Project Number:

253-3472-000

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY, NEW MEXICO

#### Sample ID: SP 2 BOTTOM 4' (H201656-05)

Result								
	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
32.0	16.0	07/23/2012	ND	448	112	400	3.64	
656-06)		•						
mg/	/kg	Analyze	d By: HM					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
16.0	16.0	07/23/2012	ND	448	112	400	3.64	
i56-07)								
mg/	/kg	Analyze	d By: HM					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
16.0	16.0	07/23/2012	ND	448	112	400	3.64	
(H20165	6-08)							
mg/	/kg	Analyze	d By: HM					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
32.0	16.0	07/23/2012	ND	448	112	400	3.64	
556-09)								
mg/	/kg	Analyze	d By: HM					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
16.0	16.0	07/23/2012	ND	448	112	400	3.64	
	Result 16.0  556-07) mg,  Result 16.0  (H20165 mg,  Result 32.0  656-09) mg,  Result	Result Reporting Limit 16.0 16.0  556-07)  mg/kg  Result Reporting Limit 16.0 16.0  (H201656-08)  mg/kg  Result Reporting Limit 32.0 16.0  656-09)  mg/kg  Result Reporting Limit	Analyzee           Result Reporting Limit Analyzed           16.0         16.0         07/23/2012           556-07)         Mag/kg         Analyzee           Result Reporting Limit Analyzed         16.0         07/23/2012           (H201656-08)         Mag/kg         Analyzee           Result Reporting Limit Analyzed         32.0         16.0         07/23/2012           6566-09)         Mag/kg         Analyzee           Result Reporting Limit Analyzed         Analyzee	## Analyzed By: HM    Result   Reporting Limit   Analyzed   Method Blank	## Analyzed By: HM    Result   Reporting Limit   Analyzed   Method Blank   BS	Analyzed By: HM   Result   Reporting Limit   Analyzed   Method Blank   BS   % Recovery	Result   Reporting Limit   Analyzed By: HM	Result   Reporting Limit   Analyzed   By: HM

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\*=Accredited Analyte

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Celeg D. Kuna



ETECH Environmental & Safety Solutions, Inc.

FRED HOLMES P. O. BOX 8469 MIDLAND TX, 79708

Fax To: (432) 563-2213

Received:

07/19/2012

Sampling Date:

07/19/2012

Reported:

Sampling Type:

Soil

Chloride, SM4500CI-B

07/23/2012

Project Name:

J. L. KEEL B #10

mg/kg

Sampling Condition:

\*\* (See Notes)

Project Number:

253-3472-000

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY, NEW MEXICO

## Sample ID: SP 3 S 2' (H201656-10)

	9	, ·- <del>-</del> 9	,,						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/23/2012	ND	416	104	400	3.77	
Sample ID: SP 4 BOTTOM	6' (H2016	56-11)							
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	07/23/2012	ND	416	104	400	3.77	
Sample ID: SP 4 S WALL	3' (H201656	5-12)							
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/23/2012	ND	416	104	400	3.77	
Sample ID: SP 4 E WALL	3' (H201656	5-13)							
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
•	Result <b>16.0</b>	Reporting Limit	Analyzed 07/23/2012	Method Blank	BS 416	% Recovery	True Value QC 400	RPD 3.77	Qualifier
Chloride	16.0	16.0	•			,	•		Qualifier
Chloride Sample ID: SP 5 BOTTOM	16.0	16.0 6 <b>6-14)</b>	07/23/2012			,	•		Qualifier
Analyte  Chloride  Sample ID: SP 5 BOTTOM Chloride, SM4500CI-B  Analyte	16.0 2' (H20165	16.0 6 <b>6-14)</b>	07/23/2012	ND		,	•		Qualifier  Qualifier

Analyzed By: HM

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Celego Kenna



ETECH Environmental & Safety Solutions, Inc.

**FRED HOLMES** P. O. BOX 8469 MIDLAND TX, 79708

Fax To: (432) 563-2213

Received:

07/19/2012

Sampling Date:

07/19/2012

Reported:

Sampling Type:

Soil

07/23/2012

Sampling Condition:

\*\* (See Notes)

Project Name: Project Number: J. L. KEEL B #10 253-3472-000

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY, NEW MEXICO

# Sample ID: SP 5 W WALL 3' (H201656-15)

mg	/kg	Analyze	d By: HM					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<16.0	16.0	07/23/2012	ND	416	104	400	3.77	
-	-							
mg	/kg	Analyze	d By: HM					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
32.0	16.0	07/23/2012	ND	416	104	400	3.77	
•	•	Analyze	d By: HM					
Result	Reporting Limit	Analyzed	Method Blank	RS	% Recovery	True Value OC	RPD	Qualifier
<16.0	16.0	07/23/2012	ND	416	104	400	3.77	Qualifici
•								
mg	/kg	Analyze	d By: HM					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
1860	16.0	07/23/2012	ND	416	104	400	3.77	
(H201656	5-19)							
mg	/kg	Analyze	d By: HM					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
	Result <16.0  (H201656 mg  Result 32.0  (H201656 mg  Result <16.0  2' (H20165 mg  Result 1860  (H201656 mg	<16.0	Result         Reporting Limit         Analyzed           <16.0	Result         Reporting Limit         Analyzed         Method Blank           <16.0	Result         Reporting Limit         Analyzed         Method Blank         BS           <16.0	Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery           <16.0	Result   Reporting Limit   Analyzed   Method Blank   BS   % Recovery   True Value QC	Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery         True Value QC         RPD           <16.0

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ETECH Environmental & Safety Solutions, Inc.

**FRED HOLMES** P. O. BOX 8469 MIDLAND TX, 79708

Fax To:

(432) 563-2213

Received:

07/19/2012

Sampling Date:

07/19/2012

Reported:

07/23/2012

Sampling Type:

Soil

Project Name:

\*\* (See Notes)

J. L. KEEL B #10

Sampling Condition:

Project Number:

253-3472-000

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY, NEW MEXICO

#### Sample ID: SP 6 E WALL 1' (H201656-20)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	07/23/2012	ND	416	104	400	3.77	
Sample ID: SP 6 W WAL	.L 1'(H20165	6-21)							
Chloride, SM4500Cl-B	mg/kg		Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1330	16.0	07/23/2012	ND	416	104	400	3.77	

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Celeg & Keens



#### **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 SM4500CI-B does not require samples be received at or below 6°C

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

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Celeg & Keine



101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name	Etach Environ meral				BI	LL TO					ANA	YSIS	RE	QUE	ST			
Project Manager	Fred Holmes			P.O. #.	:													
Address:				Comp	any:				ŀ								1	
City:	State:	Zip:		Attn:					İ		1							
Phone #:	Fax #:			Addre	ss:			<b>]</b>	1		1						}	İ
Project #: 25	3- 3472-000 Project Owner			City:														
Project Name:	JL Keel B 10			State:		Zip:					İ							- 1
Project Location	3-3472-000 Project Owne.  JL Kcej B 10 1: Eddy COUNty			Phone	#:					ŀ								
Sampler Name:	Terry Osborn			Fax #:					i		:					ĺ	l	
FOR LAB USE ONLY			MATRIX	PR	ESERV.	SAMPL	NG	S		ï								
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER	WASTEWATER SOIL OIL SLUDGE	OTHER: ACID/BASE:	CE/COOL DTHER:	DATE	TIME	Ch 1010										
1	501 5 Wall 17		V			7-19-12	I	V										
2	Spi Wwall 31 Spi N wall 2) Spi Bottom 6)			†		Ī		171										
3	SPIN Wallz)																	
빈	SPI BOTTOM 6)			<u> </u>	<u> </u>	<u> </u>		<u> </u>										
D-10-C	Sp2 Borton 4' Sp2 N 2'																	
7	5p2 5 2,																	
<u> </u>	5 p 2 S 2' 5 p 3 Bottom 4'			<u> </u>		<u> </u>												
Ci.	5P3 N 2'	<u>                                     </u>		ļ <b>.</b>				<u> </u>			<u> </u>							
10	5 P 3 5 Z		tion to the		15-1-4-4		4 5 - 45 - 45				<u> </u>		L					
analyses. All claims includio	ng those for negligence and any other cause who speeds shall be audinal be liable to incidental or consequental damages, includin	deemed waived unle	ess made in writing an	a received b	y Cardinal ·	within 30 days afti	er completion of t	he applicable										
affiliates or successors arisi	ng cut of or related to the performance of services hereunder by	ardinal, regardless	of whether such claim				easons or otherwi	se.	7 Voc	D No	i A alai'i	Dhone	<i>#</i> .		<u>-</u>			
	7-19-12 Time: 30	Received	li I	len	DO	11	Phone Re Fax Resu REMARK	it: [	⊒ Yes ⊒ Yes	□ No □ No	Add'l	Phone Fax #:	#.					
Relinquished B	Time:	Received	Ву:															
	: (Circle One) - Bus - Other:		Sample Condit Cool Intact Yes Ye	_	CHEC	(ED BY: Jaks)												



101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name	Etech Environmet	5		BI	LL TO				ANAL	YSIS	REC	UEST		
Project Manage	r Fled Holmes			P.O. #:		$\Gamma$								
Address:	****			Company:		]								
City:	State:	Zip:		Attn:			j				į			
Phone #:	Fax #:			Address:			1	-		1	1	-		
Project #: こら	3-3472-000 Project Own	er:		City:			1							
Project Name:	JL Keel B 10 n: Eddy county			State:	Zip:	1		-						
Project Location	n: Eddy county			Phone #:			Ì			ĺ				
Sampler Name:	Terry Osborn			Fax #:			İ							
FOR LAB USE CNLY			MATRIX	PRESERV.	SAMPLING	10	)	.	1		- 1	ŀ		
		(C)OMP ERS	g.			13	}				į	l		
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12	Spy 5 Wall 3'													
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10	SP5 5, W11 31 SP5 E.Wall 31	4 4			] },					ļ ·				 
	Sp5 E. Wall, 3'			!	<b></b>									 
10	SP6 bottom Z			;					-					 
20	SP6 E. wall)	+ }	l. 1	· _					·	[			.	 
PLEASE NOTE: Liability a	nd Damages. Cardinal's liability and client's exclusive remedy fo								<u> </u>	1				
service. In no even 1 shall C	ng those for negligenon and any other cause whatsoever shall b ardinal be liable for incidental or consequental damages, includ	ng váthaat limi	tation, business interruptions, i	lass of use, or lass of p	rafits incurred by client, its subsid	ilaties.								
Relinquished B	V: Date:		edless of whether such claim in	is based upon any of th	Phone R		⊇ Yes ⊒ Yes	□ No □ □ No		Phone #	<b>#</b> :			 
10	Dark Time: 30	- ///	2di	DOMA	Fax Resu	ult:i (S:	Yes	□ No	Add'l	Fax#:				 
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Telliquistied B		. ∠€bei	vea by.											
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Sampler - UPS	- Bus - Other:	212	Cool Intact Yes Yes		好"									



101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name		i /		-		4 16	i i	BI	L	L TO	lar I					ANA	LYSI	S RE	QUE	ST		
Project Manage	r: Fred Holmes					Ρ.	0. #:															
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City:	State:	Zip	:			At	tn:										}	į				
Phone #:	Fax #:					Ac	ldres	ss:														
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Project Location	1:					Ph	one	#:														
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service. In no event shall Co	ardinal be liable for incidental or consequental damages, including out of or related to the performance of services because by	g withou	ı: limita	tion, business	s interruation	ns, loss d	of use, c	r loss of p	profits	ts incurred by clie	ent, its subsidia	aries.										
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July 27, 2012

FRED HOLMES

ETECH Environmental & Safety Solutions, Inc.

P. O. BOX 8469

MIDLAND, TX 79708

RE: J. L. KEEL B #10

Enclosed are the results of analyses for samples received by the laboratory on 07/25/12 16:10.

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.qov/field/qa/lab">www.tceq.texas.qov/field/qa/lab</a> accred certif.html.

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

Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keene

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



ETECH Environmental & Safety Solutions, Inc.

FRED HOLMES
P. O. BOX 8469
MIDLAND TX, 79708

Fax To: (432) 563-2213

Received:

07/25/2012

Sampling Date:

07/25/2012

Reported:

07/27/2012

Sampling Type:

Soil

Project Name:

J. L. KEEL B #10

Sampling Condition:

\*\* (See Notes)

Project Number:

253-3472-000

Sample Received By:

Jodi Henson

Project Location:

EDDY COUNTY, NEW MEXICO

## Sample ID: SP 6 BOTTOM 2' (H201719-01)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	07/26/2012	ND	400	100	400	7.69	
Sample ID: SP 6 W WAL	L 1' (H201719	-02)						÷	
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/26/2012	ND	400	100	400	7.69	

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 approved of Cardinal Laboratomes.

Celeg & Keens



ND

#### **Notes and Definitions**

RPD Relative Percent Difference

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

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

- 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

Analyte NOT DETECTED at or above the reporting limit

Cardinal Laboratories \*=Accredited Analyte

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Celeg E. Kune



101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name:	Extech Environenta	BILL TO					ANALYSIS REQUEST					
Project Manager:	Fred Holmes		P.O. #:									
Address:			Company:						- 1			1 !
City:	State:	Zip:	Attn:								1	
Phone #:	Fax #:		Address:			}						
Project #: 253	Project Owner	City:										
Project Name:	JL Keel B 10		State: Zip:		] [	)						
Project Location:	Eddy county		Phone #:		1 1				1			
Sampler Name:	Terry Osbora		Fax #:			ļ						
FOR LAB USE ONLY		MATRIX	PRESERV. SAMPL	ING	اد اد	l						
Lab I.D.  1201719 2	Sample I.D.	(G)RAB OR (C)OMP  # CONTAINERS  GROUNDWATER  WASTEWATER  C SOIL  OIL  SLUDGE	OTHER:	TIME	~ C11101: de							
analyses. All claims including t	Damages. Cardinal's liability and client's exclusive romety for a those for negligence and any other cause whatsnever shall be final be liable for incidental or consequental damages, including	deemed waived unless made in witing an	d received by Cardinal within 30 days after	or completion of th	he apolicabl	· · · · · · · · · · · · · · · · · · ·	<del></del>					
	out of or related to the performance of services hereunder by C				suit:	☐ Yes □	No 'Ad	d'i Phone f	<i>t</i> :			
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Delivered By:	(Circle One)	Sample Condit		]								
Sampler - UPS -	Bus - Other:	Cool Intact Yes Tree	(Initials)									
† Cardinal ca	annot accept verbal changes. Please											Pag

# **Chloride Probe Field Analysis Sheet**

Client:	LINN Energy				
Site:	JL Keel B 10		Project Number:	253-3472-000	
Technican:	Terry Osborn		Contaminant:	Chlorides	
Instrument:	YSI PRO 1030		Model/SN:	PRO 1030 / 114100517	
Calibration Ch	ecks Good:	✓ Yes 🗌	No Claibration Standard:	250	

Date	Sample I.D.	Milliliters of Sample Used	Dilution	Reading (mg/kg)	Final Result (mg/kg)	Notations
06/20/12	SP1 0-1'	10	5.00	454.00	2,270.00	GPS N32.85463
06/20/12	SP1 1-2'	10	5.00	248.00	1,240.00	W103.88754
06/20/12	SP1 2-3'	10	5.00	245.00	1,225.00	
06/20/12	SP1 3-4'	10	5.00	185.00	925.00	
06/20/12	SP1 4-5'	10	5.00	216.00	1,080.00	
06/20/12	SP1 5-6'	10	5.00	228.00	1,140.00	
06/20/12	SP1 6-7'	10	5.00	174.00	870.00	
06/20/12	SP1 7-8'	10	5.00	102.00	510.00	
06/20/12	SP1 8-9'	10	5.00	145.00	725.00	
06/20/12	SP1 9-10'	10	5.00	108.00	540.00	
06/20/12	SP1 10-11'	10	5.00	99.00	495.00	
06/20/12	SP1 11-12'	10	5.00	72.00	360.00	
06/20/12	SP1 12-13'	10	5.00	63.00	315.00	
06/20/12	SP1 13-14'	10	5.00	48.00	240.00	
06/20/12	SP1 14-15'	10	5.00	93.00	465.00	
06/20/12	SP1 15-16'	10	5.00	193.00	965.00	
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# Etech Env.

Project JLKzelB10

Project No. 253 - 3485-000

Date Started 9 - 20 - 12

Date Finished 9 - 20 - 12

# Bamert Seed Company

\$1897 CR 1018 Muleshoe, TX 79347 806-272-5506 Texas Permit# 60905

BLM #2 BLEND	16-BAGS		43593		
Description		Pure Seed	Germ	Dormant	Origin
VNS PLAINS BRISTLEGRASS (Setaria vulpiseta	)	51.09%	22.00%	63.00%	TX.
BEND SAND LOVEGRASS (Eraggostis trichodes)		24.47%	89.00%	0.00%	TX
SAND DROPSEED VNS (Sporobolus cryptandrus		23.03%	76.00%	19.00%	,

Purity: 98.58%

Inert Matter: 0.93%

Other Crop Seed: 0.39%

Weed Seed: 0.09%

VI KeelBID

Noxious Weeds: None

Test Date: 04-2012

. Net Wt: 25#

Supervisor Stylu Mc Column

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District II
1301 W. Grand Avenue, Artesia, NM 88210 District III
1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

# State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

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

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

Release Notification and Corrective Action													
				<b>OPERA</b>	al Report	$\boxtimes$	Final Report						
37						Contact: Joe Hernandez							
						Telephone No.: 575-942-8675  Facility Type: Injection Well							
Surface Owner: Federal Mineral Owner: I													
									ALTNO	3001303	110		
Unit Letter	Section	Township	Range	Feet from the		ON OF RELEASE  orth/South Line   Feet from the   East/West				County			
В	8	178	31E	660		North 1980			ast	Eddy			
	Latitude: N32.85446 Longitude: W103.88899												
			······································	NAT	URE	OF RELI				····			
Type of Rele Source of Re		ed Water / Oil				<del></del>	Release: 14 / 2  Iour of Occurrence			Recovered: 0 Hour of Dis			
			****			06/15/2012	2 - 1730		06/15/201		covery	'	
Was Immedia	ate Notice C		Yes	No 🗌 Not Re	quired	If YES, To Mike Brate	Whom? cher - OCD, Terry	Gregston	n - BLM				
By Whom? Jo							lour: 06/18/2012 -						
Was a Watero	course Reac		Yes 🛚	No		If YES, Vo	olume Impacting t	he Watero	course.				
If a Watercou	ırse was Imp	pacted, Descri	be Fully.*	:					<del>V.4</del>				
leak.				_		e, reset pump	o, it failed to run.	Line #5 p	oressure d	own, walke	d lines	and found	
Impacted soil Landfill.	s above reg	ulatory thresh	old levels		nd mecha	-	vated from the sp		•				
be 965mg at	16ft. Additi	onal excavati	on is not p	ractical at this po			epth of 15-16 ft. flow lines that tra						
As discussed excavation (g	in section 5	of the Correct	tive Actio	n Plan dated June	: 22, 201 rial to wi	2, LINN is p	proposing to apply t of surface then c	y a calcium	m amendn	ment to the b	ottom	of the	
conducive to	growing ve	getation. Usin	ng gypsum	will effectively a the reclamation of	assist in	ensuring that	any residual chlo	orides in th	he bottom	of the exca	vation	will not	
Once the imp	acted soils	were removed	to accepta	able levels, and th	e gypsui	m installed, tl	he pasture area wa d and water erosio		led with I	ike material	s and s	moothed to	
I hereby certi regulations al	fy that the in	nformation givere required to	ven above report an	is true and compl	lete to th	e best of my	knowledge and und perform correct	nderstand	that purs	uant to NMo	OCD ru	les and	
public health	or the envir	onment. The	acceptanc	e of a C-141 repo	rt by the	NMOCD ma	arked as "Final Re	eport" doe	es not reli	eve the oper	ator of	liability	
or the enviror	ment. In ac	ddition, NMO	CD accept	investigate and retained of a C-141 i	emediate report do	es not relieve	on that pose a three the operator of r	eat to grou responsibi	und water ility for co	, surtace wa ompliance w	ter, nur	man health other	
federal, state,	federal, state, or local laws and/or regulations.												
Signature: As Alegania Signature:													
Printed Name: Jose Hernandez							Approved by District Supervisor:						
Title: Forema	n		A	Approval Date: Ex			Expiration Date:						
E-mail Addre Date: October			gy.com ione: 575-	738-1739	c	Conditions of Approval:			Attached				
_ <u> </u>	,12	11		1137						<u> </u>			

<sup>\*</sup> Attach Additional Sheets If Necessary