

## Remediation Summary Report Form

### General Information

This section provides general information about the operator and the site where the spill occurred.

Date: October 15, 2012

Client: LINN Energy

Site Name: Turner B 106

County: Eddy

State: NM

Site Coordinates Latitude: 32° 49' 38.5"  
Longitude: 103° 53' 15.2"

Property Owner: BLM

State Report No.: 2RP-970

### Release Description and Assessment

The information below is related to the spill (Date, Type, Cause and Quantity) and the area impacted.

Date of Spill: 11/28/2011

Type of Spill: ☒ Oil ☒ Produced Water ☐ Condensate ☐ Other (Specify):

Cause of Spill: ☐ Equipment Failure ☐ Valve Failure ☒ Line Rupture ☐ Leaking Tank ☐ Tank Overfill  
☐ Other (List):

#### **Other Contributing Factors or Comments:**

Quantity Spilled: 11 bbls. Quantity Recovered: 4 bbls. Total Released: 7 bbls.

Method of Recovery: ☒ Vacuum Truck ☐ Other (Specify):

OCD Notified: ☒ Yes ☐ No C-141 Completed and Submitted: ☒ Yes ☐ No

Spill Area Impacted: ☐ Inside Firewall ☒ On Production Pad ☐ In Pasture ☐ In Cultivated Land  
☐ Other (List):

Total Square Footage Impacted: 2100 Estimated Depth: 1-5' Volume (Cu. Yds): 80

Other Comments:

### 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. Please note sample site SP1 was next to the wellhead area and SP 1A was adjacent to the pumping unit and the limits of excavation had been reached due to the proximity of the wellhead and pumping unit.

Impacted soils were transported off-site for disposal at Lea Land Landfill. Once the impacted soils were removed to acceptable levels, the production pad and the pasture areas were backfilled with like materials and smoothed to grade, then the pasture area was 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:

Summary of Remediation Sampling Analytical Results Total Petroleum Hydrocarbons - [TPH (mg/kg)] & Chlorides [Chl (mg/kg)]						
Sample #	Depth (ft)	Date	TPH C6-C10	TPH C10-C28	Total TPH	Chl
SP1 Wellhead	1	12/20/11				1620
SP1A Pumping Unit	5	12/20/11				1120
SP2 Bottom	2	12/20/11				112
SP2A Bottom	4	12/20/11				784
SP3 Bottom	3	12/20/11				32
SP4 Bottom	2	12/20/11				<16.0
SP5 Bottom	2	12/20/11				<16.0
SP6 Bottom	2	12/20/11				<16.0

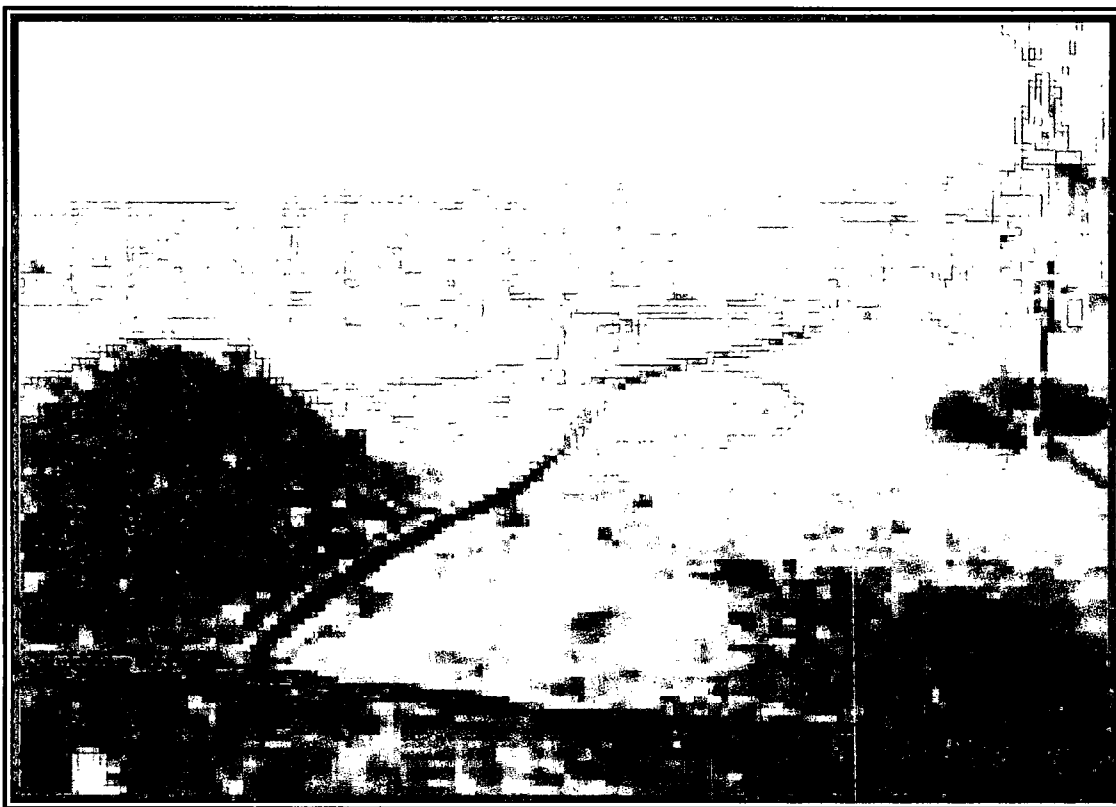
\* ND = Non-Detect; concentration below                      mg/kg.

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.

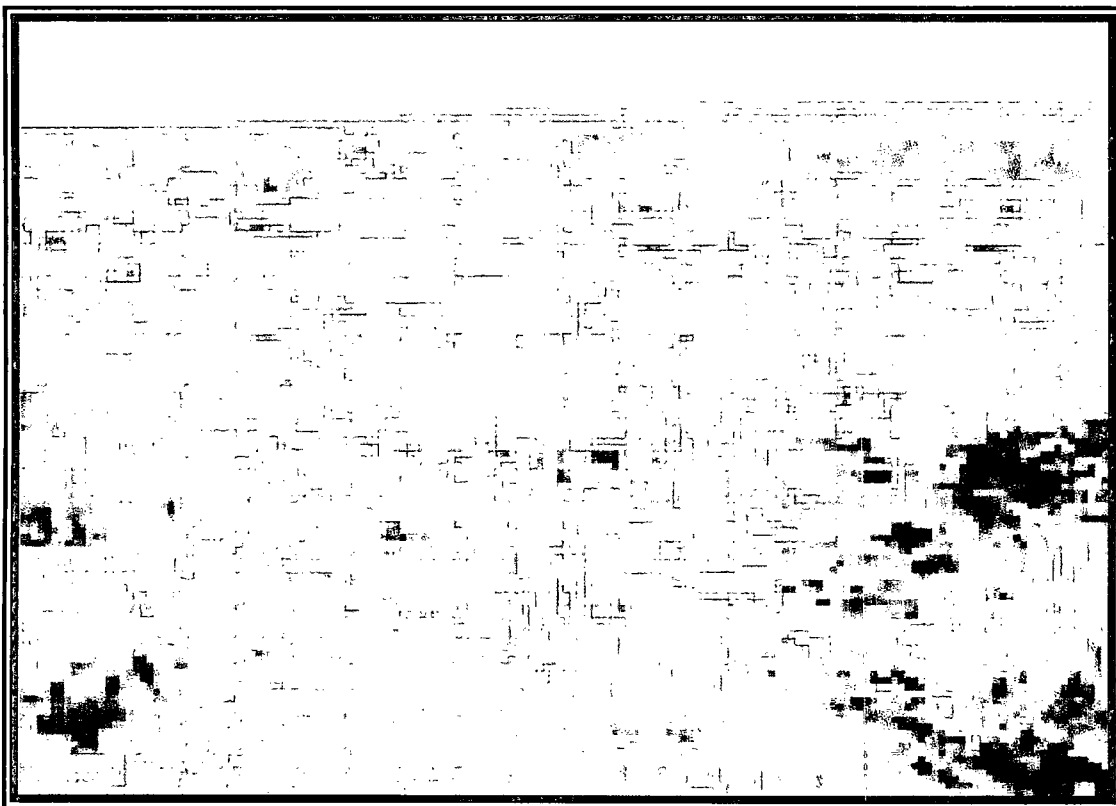
Prepared by:



Kit Prichard  
Etech Environmental & Safety Solutions, Inc.



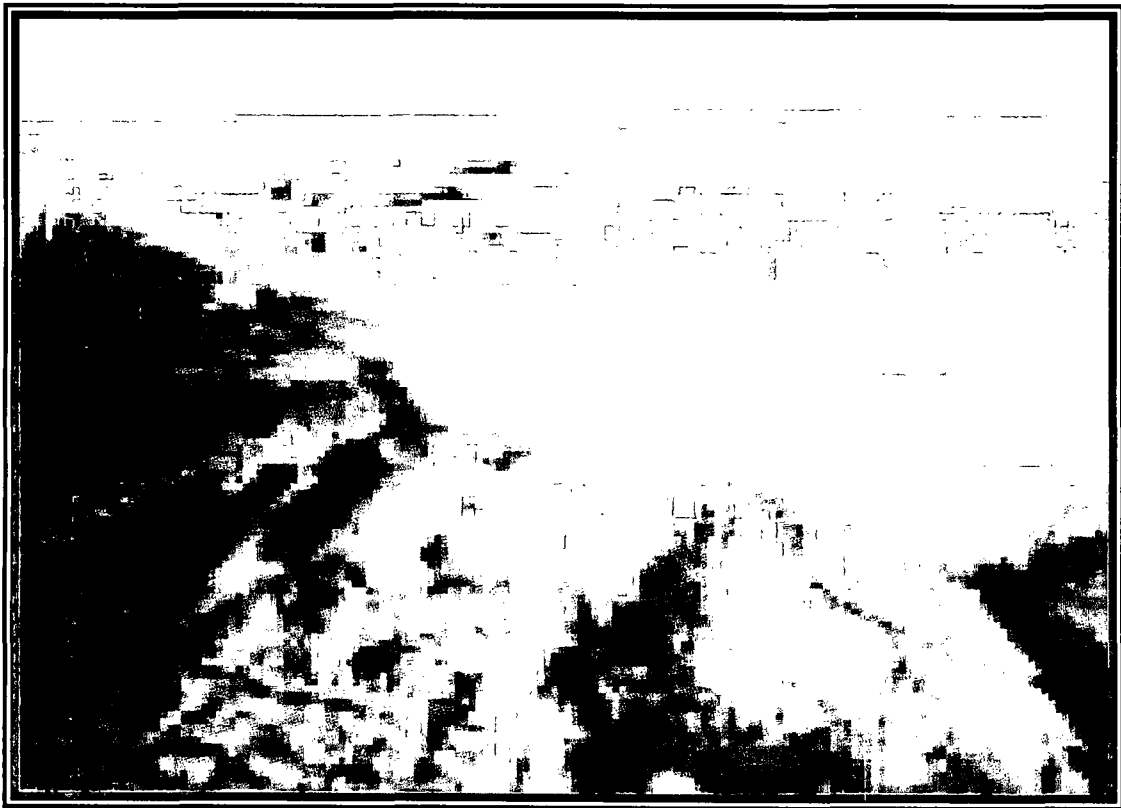
View of the pumping unit area on the production pad before excavation.



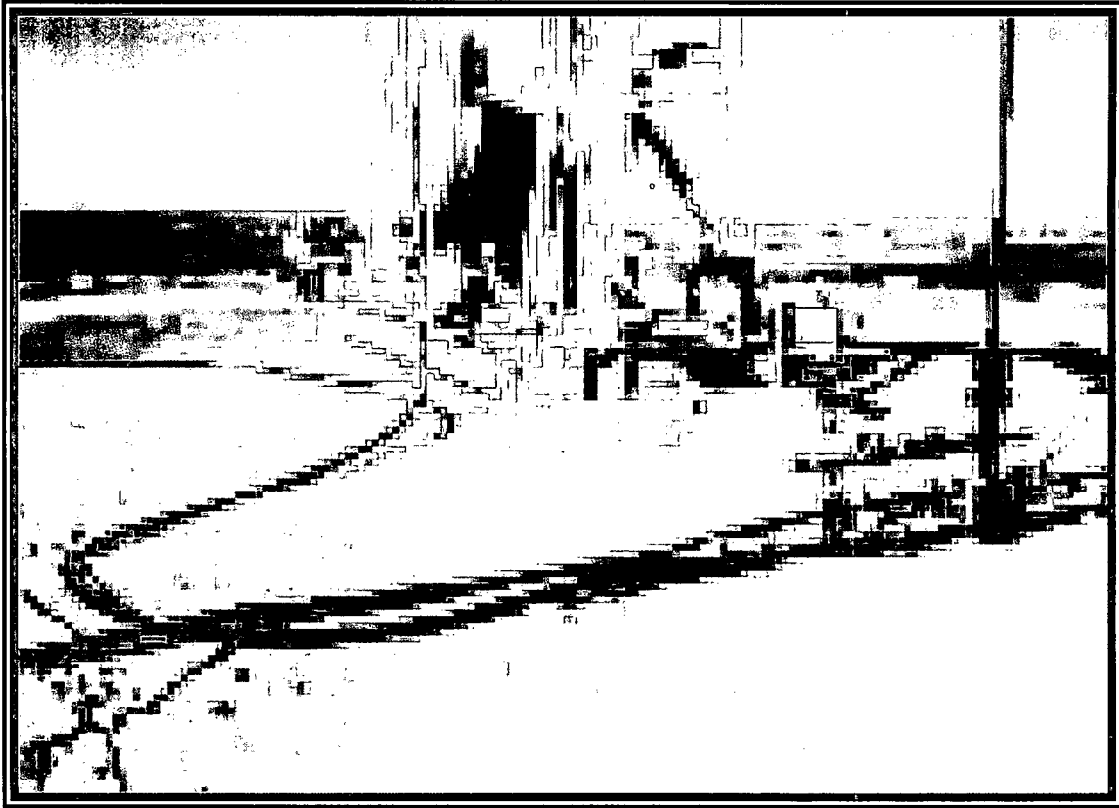
View of the pasture area before excavation.



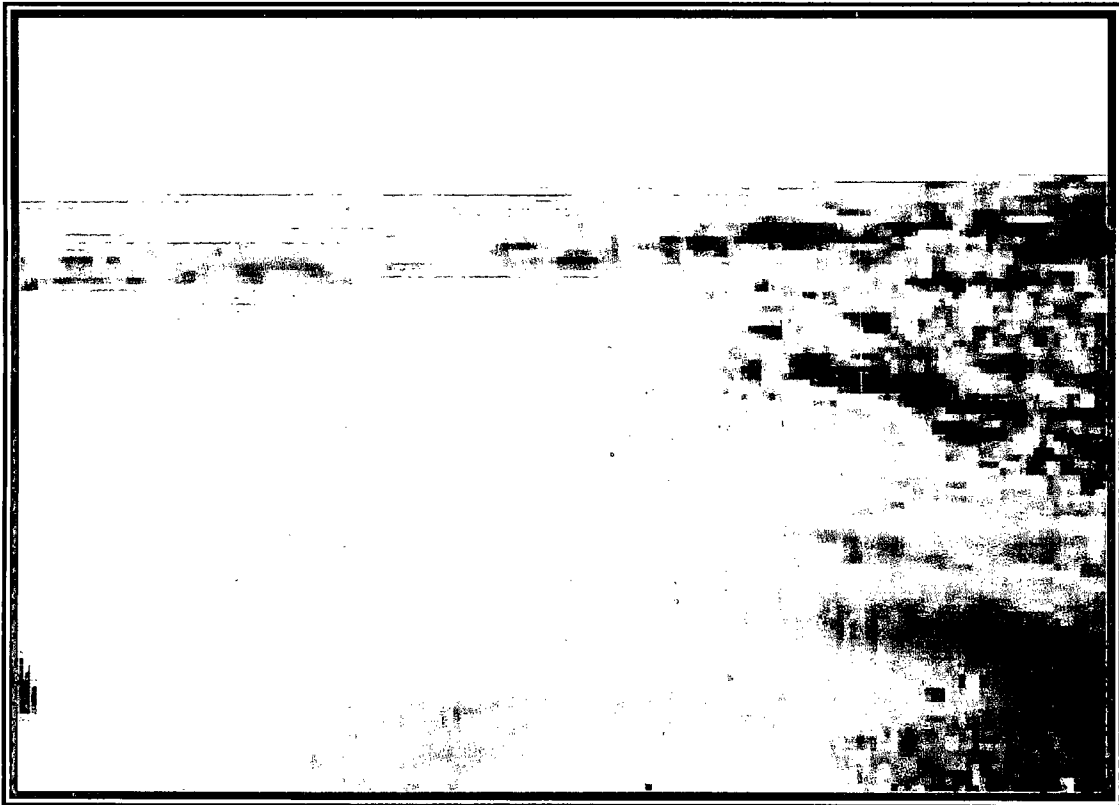
View of the pumping unit area on the production pad during excavation after a rain event.



View of the pasture area during excavation.



View of the pumping unit area on the production pad after backfill.



View of pasture area after backfill, water bars were installed, and seeding.



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

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December 21, 2011

FRED HOLMES

ETECH Environmental & Safety Solutions, Inc.

P. O. BOX 8469

MIDLAND, TX 79708

RE: TURNER B 106

Enclosed are the results of analyses for samples received by the laboratory on 12/20/11 12:45.

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 [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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

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: 12/20/2011  
Reported: 12/21/2011  
Project Name: TURNER B 106  
Project Number: NONE GIVEN  
Project Location: LOCO HILLS, NM

Sampling Date: 12/20/2011  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: SP 1 (H102744-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1620	16.0	12/21/2011	ND	432	108	400	3.64		

**Sample ID: SP 1A (H102744-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1220	16.0	12/21/2011	ND	432	108	400	3.64		

**Sample ID: SP 2 (H102744-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	12/21/2011	ND	432	108	400	3.64		

**Sample ID: SP 2A (H102744-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	784	16.0	12/21/2011	ND	432	108	400	3.64		

Cardinal Laboratories

\*=Accredited Analyte

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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: 12/20/2011  
 Reported: 12/21/2011  
 Project Name: TURNER B 106  
 Project Number: NONE GIVEN  
 Project Location: LOCO HILLS, NM

 Sampling Date: 12/20/2011  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: SP 3 (H102744-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	12/21/2011	ND	432	108	400	3.64		

**Sample ID: SP 4 (H102744-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/21/2011	ND	432	108	400	3.64		

**Sample ID: SP 5 (H102744-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/21/2011	ND	432	108	400	3.64	

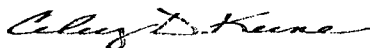
**Sample ID: SP 6 (H102744-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/21/2011	ND	432	108	400	3.64		

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\*=Accredited Analyte

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Celest D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

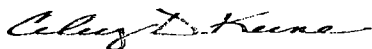
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Etech</u>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>																							
Project Manager: <u>Fred Holmes</u>		P.O. #:																									
Address:		Company:																									
City: State: Zip:		Attn:																									
Phone #: Fax #:		Address:																									
Project #: Project Owner:		City:																									
Project Name: <u>Turner B 106</u>		State: Zip:																									
Project Location: <u>Loco Hill</u>		Phone #:																									
Sampler Name: <u>Stephen McGhee</u>		Fax #:																									
FOR LAB USE ONLY		MATRIX		PRESERV		SAMPLING																					
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE	ICE / COOL	OTHER:	DATE	TIME													
<u>H102744</u>													<u>12-20</u>	<u>10:00</u>													
1	SP 1					/									✓												
2	SP 1A					/									✓												
3	SP 2					/									✓												
4	SP 2A					/									✓												
5	SP 3					/									✓												
6	SP 4					/									✓												
7	SP 5					/									✓												
8	SP 6					/									✓												

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Relinquished By: <u>Stephen McGhee</u>	Date: <u>12/20/11</u> Time: <u>12:45</u>	Received By: <u>Adelle Henderson</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:
			REMARKS: <u>email fred, terrygregsto@blm.gov, stephenmcghee56@yahoo.com</u>
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool <input type="checkbox"/> Yes <input type="checkbox"/> No Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: <u>[Signature]</u> (Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#26

Etech Env.

Project Turner B 106

Project No. 253-3083-000

Date Started 6-9-12

Date Finished 6-9-12

**Bamert Seed Company**

1897 CR 1018  
806-272-5506

Muleshoe, TX 79347  
Texas Permit# 00905

BLM #2 MIX	16 BAGS	43152		
Description	Pure Seed	Germ	Dormant	Origin
VNS PLAINS BRISTLEGRASS ( <i>Setaria viridis</i> )	49.36%	4.00%	84.00%	TX
BEND SAND LOVEGRASS ( <i>Eragrostis trichodes</i> )	24.97%	89.00%	0.00%	TX
SAND DROPSIDE VNS ( <i>Sporobolus cryptandrus</i> )	24.63%	5.00%	88.00%	
Purity: 98.96%	Inert Matter: 0.69%	Other Crop Seed: 0.37%	Weed Seed: 0.02%	

Noxious Weeds: None

Test Date: 02-2012

Net Wt: 25#

**BLM #4**

% Pure Seed	Kind:	% Germ
74.40%	4 Wing Saltbush	67%
7.63%	Alkali Sacaton	89%

Test Date: 3/12

Purity: 82.04%

Inert: 17.92%

Other Crop: 0.01%

Weed: 0.03%

Noxious: None

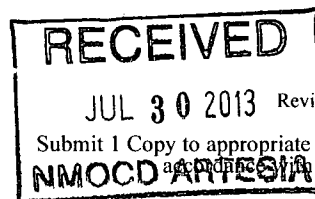
**RICHARDSON SEEDS, LTD.**  
**VEGA, TX 7962**

Supervisor

Stephen McCashe

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



Form C-141  
Revised August 8, 2011  
District Office in  
Artesia, NM 88210

### Release Notification and Corrective Action

#### OPERATOR

☐ Initial Report ☒ Final Report

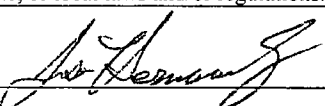
Name of Company: LINN Energy	Contact: Joe Hernandez	
Address: 2130 W Bender Blvd. - Hobbs, NM	Telephone No.: 575-942-8675	
Facility Name: Turner B 106	Facility Type: Water Flood	
Surface Owner: BLM	Mineral Owner: BLM	API No.: 3001526706

#### LOCATION OF RELEASE

Unit Letter P	Section 17	Township 17S	Range 31E	Feet from the 15	North/South Line S	Feet from the 1305	East/West Line E	County Eddy
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Latitude: 32 49' 38.5" Longitude: 103 53' 15.2"

#### NATURE OF RELEASE

Type of Release: Produced Water & Oil	Volume of Release: 7/4	Volume Recovered: 1/3
Source of Release: Poly Pipeline	Date and Hour of Occurrence: 11/28/2011 - 0730	Date and Hour of Discovery: 11/28/2011 - 0800
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? M. Bratcher OCD / T. Gregston BLM	
By Whom? Joe Hernandez	Date and Hour: 11/29/2011 - 1455	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*:		
Describe Cause of Problem and Remedial Action Taken.*: Poly line fuse failed. There was no plug in the line, and the flowline did not pressure up. Fuse repaired.		
Describe Area Affected and Cleanup Action Taken.* : The leak occurred on the production pad and trailed out into the pasture for approx. 400'. Impacted soils above regulatory threshold levels were manually and mechanically excavated from the spill area. Please note sample site SP1 was next to the wellhead area and SP 1A was adjacent to the pumping unit and the limits of excavation had been reached due to the proximity of the wellhead and pumping unit. Impacted soils were transported off-site for disposal at Lea Land Landfill. Once the impacted soils were removed to acceptable levels, the production pad and the pasture areas were backfilled with like materials and smoothed to grade, then the pasture area was seeded with a BLM mix #2 & #4. Water bars were installed to prevent wind and water erosion.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC 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 NMOC 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, NMOC 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.		
Signature: 	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Jose Hernandez	Approved by District Supervisor:	
Title: Foreman	Approval Date:	Expiration Date:
E-mail Address: jhernandez@linneenrgy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 10/15/2012 Phone: 575-738-1739		

\* Attach Additional Sheets If Necessary