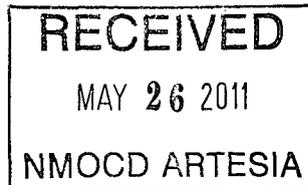




May 23, 2011



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

Mr. Mike Bratcher
NMOCD District 2
1301 West Grand Avenue
Artesia, NM 88210

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

Subject: Soil Assessment and Remediation Work Plan
Linn Operating, New Mexico
Keel A No. 34 release
API No. 30-015-28233

AUSTIN
911 West Anderson Lane
Suite 202
Austin, Texas 78757
Phone 512.989.3428
Fax 512.989.3487

Dear Mr. Bratcher,

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

Linn Operating has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the referenced Keel A No. 34 release. The results of Talon's soil assessment and our proposed remediation activities consist of the following:

Incident Date

MIDLAND
2901 State Hwy 349
Midland, Texas 79706
Phone 432.522.2133
Fax 432.522.2180

September 23, 2010

Background Information

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

The Keel A No. 34 release is located approximately thirty-one (31) miles east of Artesia, New Mexico. The legal location for the site is Section 7, Township 17S and Range 31E in Eddy County, New Mexico. More specifically, the latitude & longitude for the release are 32.84473 North and -103.90761 West.

TULSA
525 South Main Street
Suite 535
Tulsa, Oklahoma 74103
Phone 918.742.0871
Fax 918.382.0232

This site lies on undulating plains and low hills consisting of wind worked sandy deposits. Drainage courses in this area are normally dry. The local surface and shallow geology includes silty and clayey soils under lain by dense caliche and sand stone layers. The New Mexico State Engineer web site indicates the nearest ground water data to be in S19-T16S-R32E. The ground water in Section 19 is reported to be at an average depth of 220' below ground surface (bgs). A copy is attached as Appendix I.

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

ENVIRONMENTAL CONSULTING
ENGINEERING
DRILLING
CONSTRUCTION
SPILL MANAGEMENT
GENERAL CONTRACTING

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

Incident Description

On October 23, 2010 a below grade, 2-inch high pressure fiberglass injection line ruptured. The injection system was shut-in, excavated and repaired. Eighty (80) barrels of produced water were released. A vacuum truck was brought to the location and sixty (60) barrels of produced water were subsequently recovered. The release flowed to the south of the injection line in a narrow flow path estimated to be eight (8) feet wide by fifty-nine (59) feet long. The produced water then pooled between the sand dunes located south of the injection line. The pooling area was measured to be eighty-seven feet (87') long by forty-seven feet (47') wide.

Actions Taken

On October 21, 2010 Talon personnel and a geoprobe rig were on site to begin the assessment and soil sampling for the construction of a work plan. A Geoprobe unit is a small skid-mounted drill rig that utilizes direct-push sampling technology to collect undisturbed soil samples. Two (2) soil borings were advanced into the impacted area. Soil boring S-1 was drilled and then abandoned after the core barrel was stuck in the borehole. A second soil boring, S-2, was then advanced to a depth of thirty-two feet (32') bgs. Soil samples were collected from soil boring S-2 by Talon personnel wearing clean nitrile gloves. The soil samples were placed in laboratory provided sample containers, stored on ice and transported to Cardinal Lab in Hobbs, New Mexico for analysis. The chlorides were tested using method SM4500CL-B. All analytical testing was performed on a standard turn-around basis. The complete laboratory report is attached as Appendix II.

Analytical Results

Analytical results received from Cardinal Laboratories are summarized below:

<u>Sample, Depth</u>	<u>Chlorides</u>	<u>Sample, Depth</u>	<u>Chlorides</u>
S-2, 0'-feet	2400 mg/kg	S-2, 12'	4080 mg/kg
S-2, 2'	5440	S-2, 16'	4840
S-2, 4'	4080	S-2, 20'	6000
S-2, 6'	2560	S-2, 24'	5200
S-2, 8'	6320	S-2, 32'	7720
S-2, 10'	1340		

Summary and Conclusions

- Ground water in the project vicinity is greater than 100-feet below land surface per the New Mexico State Engineer Database.
- Refusal occurred at 32-feet below ground surface when a hard rock barrier was encountered.
- Based on the depth to groundwater and the hard rock barrier encountered, it is unlikely that the chloride impacts from this release will pose a threat to groundwater.

Proposed Remedial Actions

- The chloride impacted soil will be excavated to a depth of four feet (4') bgs. The removed soil will be transported to an NMOCD approved solid waste disposal facility (Lea Land, LLC) for disposal. A compacted 1-foot thick clay barrier will be installed into the excavated area. The excavated area will be backfilled to grade using new soil from a local borrow pit.
- A final report including Form C-141 will be provided to the NMOCD Artesia Office.

If we can be of further assistance or if additional information is required, please contact our office at 575-746-8768 or by email at mstubblefield@talonlpe.com

Respectfully submitted,

TALON/LPE



Mike Stubblefield
Project Manager



David J. Adkins
District Manager

APPENDIX I

INITIAL C-141 FORM
GROUND WATER DATA

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 October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company Linn operating	Contact Dennis Potter
Address 13694 Lovington hwy. Loco Hills, N.M. 88255	Telephone No. 505-206-7673
Facility Name Keel A # 34	Facility Type Producing well

Surface Owner B.L.M.	Mineral Owner Fed. Gov't.	Lease No. API #: 30-015-28233
----------------------	---------------------------	-------------------------------

30-015-28233

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	7	17S	31E		1053' FSL		2604' FWL	EDDY

Latitude 32.84473 Longitude 103.90761
60 23 30 30 35 124

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 80 bbls.	Volume Recovered 60 bbls
Source of Release Injection Line	Date and Hour of Occurrence <u>10/23/2010</u>	Date and Hour of Discovery <u>10/23/2010 10:00 AM</u>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Terry Gregston and Jim Amos	
By Whom? Dennis Potter	Date and Hour <u>10/23/2010 11:00 AM</u>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

RECEIVED
 DEC 27 2010
 NMOCD ARTESIA

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
 Injection leak on a 2" H.P. Fiberglass injection line was found approx. at 9:30 A.M. We immediately blocked in section of line where the leak was. I called Out a vacuum truck to start recovering water. Then I notified my office, then the BLM office. I then notified Holly corp. because the leak was by their lines. I then had the gang dig the leak out by hand and prepare to repair.

Describe Area Affected and Cleanup Action Taken.*
 Affected area was approx 100 yards due south of the location all wtr had run into a sand dune area and was contained there. Talon LPE was called out to take soil samples and they were sent to Cardinal labs for analysis. Further soil remediation will be determined after tests results are received.

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.

OIL CONSERVATION DIVISION	
Signature: 	Approved by District Supervisor:
Printed Name: Dennis J. Potter	Approval Date: _____ Expiration Date: _____
Title: Production Specialist / Ass't. Production Foreman.	Conditions of Approval: _____ Attached <input type="checkbox"/>
E-mail Address: dpotter@linenergy.com	
Date: _____ Phone: 505-206-7673	

Attach Additional Sheets If Necessary

G.W 12-165-31E 289' 65J



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Sub basin	Use	County	Q Q Q			Sec	Tws	Rng	X	Y Distance	Depth/Depth Water				
				64	16	4						Well	Water	Column		
RA 11590 POD4			ED	4	1	1	32	17S	31E	603308	3629253	5992	55			
RA 11590 POD3			ED	3	1	2	32	17S	31E	603932	3629260	6113	60			
RA 11590 POD1			ED	2	1	3	32	17S	31E	603315	3628545	6694	158			
L 10206	STK	LE		2	2	23	16S	31E	609045	3642204*	9687	280				
L 10203	STK	LE		4	4	2	14	16S	31E	609130	3643310*	10571	310			
L 03435 APPRO	PRO	LE		1	1	05	16S	31E	602954	3646955*	11794					
L 04639 APPRO	STK	LE		4	2	19	16S	32E	612271	3641840*	11927	251	220	31		
L 04671	PRO	LE		1	1	2	12	16S	31E	610114	3645538*	12931	340	288	52	
L 04671 APPRO	PRO	LE		1	1	2	12	16S	31E	610114	3645538*	12931	340	288	52	
RA 10175	SAN	LE		2	1	28	17S	32E	614814	3631005*	13114	158				
CP 00896	STK	ED		1	4	4	14	18S	31E	609166	3623396*	13591	400			
RA 08855	DOM	LE		4	1	1	10	17S	32E	616061	3635742*	13692	158			
L 04974	PRO	LE		3	3	16	16S	32E	614272	3642664*	14054	330	280	50		
L 04974 (3)	PRO	LE		3	3	16	16S	32E	614272	3642664*	14054	300	97	203		
RA 09505	PDL	LE		2	2	1	10	17S	32E	616462	3635944	14103	147			
RA 09505 S	PDL	LE		2	2	1	10	17S	32E	616463	3635945*	14104	144			
L 06557	STK	LE		1	4	21	16S	32E	615089	3641466*	14181	295	210	85		
CP 00672	STK	LE		4	4	07	18S	32E	612475	3624947*	14370	540	460	80		
L 04021	MUN	LE		3	4	03	17S	32E	616761	3636252*	14421	247				
L 10208	DOM	LE		2	3	32	15S	31E	607822	3648614*	14499	313				
L 10205	STK	LE		4	1	08	16S	32E	613038	3645066*	14541	330				
L 04021 S	MUN	LE		4	3	2	03	17S	32E	616850	3636955*	14579	260			
L 08084	IND	LE		1	1	1	16	16S	32E	614157	3643970*	14699	317	260	57	
CP 00566	DOM	LE		4	4	1	04	18S	32E	614960	3627280*	14851	133	65	68	
CP 00818	STK	LE		1	4	26	18S	30E	599289	3620364*	15129	240				
L 07823	PRO	LE		2	1	2	16	16S	32E	615160	3643977*	15518	269	247	22	
L 10207	STK	LE		2	2	32	15S	31E	608619	3649425*	15556	310				
RA 11684 POD1	COM	LE		1	1	4	11	17S	32E	618216	3635124	15836	275			
L 02752	DOM	LE		1	3	26	16S	32E	617521	3639880*	15855	324	280	44		

*UTM location was derived from PLSS - see Help

APPENDIX II
LABORATORY REPORT



November 19, 2010

MIKE STUBBLEFIELD

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: J. L. KEEL A #34

Enclosed are the results of analyses for samples received by the laboratory on 11/16/10 10:15.

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 Hydrocarbons

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

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 (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:

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

Received: 11/16/2010
Reported: 11/19/2010
Project Name: J. L. KEEL A #34
Project Number: 700813.003.01
Project Location: SEC. 7-17S-31E

Sampling Date: 11/04/2010
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Hope S. Moreno

Sample ID: 001 S-2 0' BGS (H021309-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2400	16.0	11/18/2010	ND	432	108	400	3.64		

Sample ID: 002 S-2 2' BGS (H021309-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5440	16.0	11/18/2010	ND	432	108	400	3.64		

Sample ID: 003 S-2 4' BGS (H021309-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4080	16.0	11/18/2010	ND	432	108	400	0.00		

Sample ID: 004 S-2 6' BGS (H021309-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2560	16.0	11/18/2010	ND	432	108	400	0.00		

Sample ID: 005 S-2 8' BGS (H021309-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6320	16.0	11/18/2010	ND	432	108	400	0.00		

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 11/16/2010
 Reported: 11/19/2010
 Project Name: J. L. KEEL A #34
 Project Number: 700813.003.01
 Project Location: SEC. 7-17S-31E

Sampling Date: 11/04/2010
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Hope S. Moreno

Sample ID: 006 S-2 10' BGS (H021309-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1340	16.0	11/18/2010	ND	432	108	400	0.00		

Sample ID: 007 S-2 12' BGS (H021309-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4080	16.0	11/18/2010	ND	432	108	400	0.00		

Sample ID: 008 S-2 16' BGS (H021309-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4840	16.0	11/18/2010	ND	432	108	400	0.00		

Sample ID: 009 S-2 20' BGS (H021309-09)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6000	16.0	11/18/2010	ND	432	108	400	0.00		

Sample ID: 010 S-2 24' BGS (H021309-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5200	16.0	11/18/2010	ND	432	108	400	0.00		

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received: 11/16/2010
 Reported: 11/19/2010
 Project Name: J. L. KEEL A #34
 Project Number: 700813.003.01
 Project Location: SEC. 7-17S-31E

Sampling Date: 11/04/2010
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Hope S. Moreno

Sample ID: 011 S-2 32' BGS (H021309-11)

Chloride, SM4500Cl-B

mg/kg

Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7720	16.0	11/18/2010	ND	432	108	400	0.00	

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*=Accredited Analyte

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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. Keene, Lab Director/Quality Manager

