



AE Order Number Banner

Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.



App Number: pKJ1605338721

1RP - 4189

LINN OPERATING, INC.

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

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JUL 29 2010

HOBBSOCD

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: Arena Resources, Inc.	Contact: Fred Holmes
Address: 2130 W. Bender Blvd. - Hobbs, NM	Telephone No.: 575-738-1739 - 432-631-3757
Facility Name: Hale State #4	Facility Type: Producing Oil Well - New

Surface Owner: Unk	Mineral Owner: State of New Mexico	Lease No.: 30-025-39785
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LOCATION OF RELEASE

Unit Letter I	Section 31	Township 17S	Range 34E	Feet from the 330	North/South Line N	Feet from the 990	East/West Line W	County Lea
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Latitude: N32 47' 51.0" Longitude: W103 36' 16.5

NATURE OF RELEASE

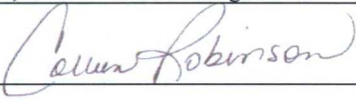
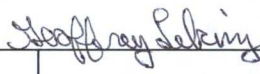
Type of Release: Drilling Mud	Volume of Release: 10-15 bbls	Volume Recovered: 0
Source of Release: Drilling Solids from Closed-Loop System	Date and Hour of Occurrence: ~12/14/08	Date and Hour of Discovery: 12/15/08-0800
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
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.*: The Hale State #4 was drilled using a closed-loop mud system. The drilling contractor placed roll-off boxes in a two-tier trench to accumulate drill solids. After the rig was removed from the site, some drilling fluids and soil residuals were observed in the trenches. Visual inspection found several penetrations of the liner. After the liner was removed initial sampling found chloride levels ranging from 56,000 mg/kg (upper NE trench) to 1820 mg/kg (upper SW trench) and TPH levels ranged from 1,010 ppm (Upper C trench) to below action levels.

Describe Area Affected and Cleanup Action Taken.*: About 1092 cubic yards of impacted soils were excavated and staged onto plastic prior to being manifested offsite. Soils were sampled at various depth intervals to evaluate the progress of the remediation. Excavation was terminated when chloride concentrations were below action levels. The excavation was backfilled with new soil that had been stockpiled at other sites. Soil was added in lifts and compacted to bring the excavation area to grade

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.

Signature: 	OIL CONSERVATION DIVISION ENV. ENGINEER Approved by District Supervisor: 	
Printed Name: Colleen Robinson	Approval Date: 09/24/10	Expiration Date: -
Title: Regulatory Analyst	Conditions of Approval:	
E-mail Address: fred@etechemv.com	Attached <input type="checkbox"/>	
Date: July 23, 2010 Phone: 432-563-2200	IRP-10-9-	

* Attach Additional Sheets If Necessary

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Remediation Summary Report Form

General Information

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

Date: 07/08/10

Client: Arena Resources

Site Name: Hale State #4

County: Lea

State: NM

Site Coordinates Latitude: 32° 47' 51.0"
Longitude: 103° 36' 16.5"

Property Owner: State of New Mexico (minerals)

State Report No.:

Release Description and Assessment

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

Date of Spill: ~12/14/2008

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

Cause of Spill: ☐ Equipment Failure ☐ Valve Failure ☐ Line Rupture ☐ Leaking Tank ☐ Tank Overfill
☒ Other (List): Leak in the liner used as secondary containment for roll-off boxes. The boxes were used as temporary tanks in a closed-loop drilling system. Leaks in the liner allowed brine to infiltrate the soils below the upper and lower trenches that were used to position the boxes.

Other Contributing Factors or Comments:

Quantity Spilled: ~10 bbls. **Quantity Recovered:** 0 bbls. **Total Released:** 0 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): Soils under the liner inside the upper and lower trenches.

Total Square Footage Impacted:

Estimated Depth: 1-10'

Volume (Cu. Yds): ~1092

Other Comments:

Remediation Activity Summary

The following summarizes the activities used to remediate the spill.

The Hale State #4 was drilled using a closed-loop mud system. The drilling contractor placed roll-off boxes in a two-tier trench to accumulate drill solids. After the rig was removed from the site, some drilling fluids and soil residuals were observed in the trenches. Visual inspection found several penetrations of the liner. After the liner was removed (see Photo #1), initial sampling found chloride levels ranging from 56,000 mg/kg (upper NE trench) to 1820 mg/kg (upper SW trench) and TPH levels ranged from 1,010 ppm (Upper C trench) to below action levels. The initial form C-141 was submitted to NMOCD on March 11, 2009.

About 1092 cubic yards of impacted soils were excavated and staged onto plastic prior to being manifested offsite. Soils were sampled at various depth intervals to evaluate the progress of the remediation (see Photo #2). Excavation was terminated when chloride concentrations were below action levels (see Photo #3). The excavation was backfilled with new soil that had been stockpiled at other sites. Soil was added in lifts and compacted to bring the excavation area to grade (see Photo #4). Final form C-141 has been prepared and is attached.

Analytical Summary

Results of analyses following remediation activities are as follows:

Sample #	Depth (ft)	Date	TPH C6-C10	TPH C10-C28	Total TPH	Chl
Upper SW	0.00	1/16/09	<10	<10	NA	1820
Upper NE	0.00	1/16/09	<10	<10	NA	40,000
Lower SW	0.00	1/16/09	<10	<10	NA	11,600
Lower C	0.00	1/16/09	<10	<10	NA	4,560
Lower NE	0.00	1/16/09	<10	<10	NA	18,000
Upper NE	3.00	3/4/09	NA	NA	NA	48
Upper SW	3.00	3/23/09	NA	NA	NA	96
Lower NE	3.00	3/04/09	NA	NA	NA	16
Lower SE	3.00	3/04/09	NA	NA	NA	112
Upper C	10.00	4/28/09	NA	NA	NA	384
Lower C	10.00	4/28/09	NA	NA	NA	512

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 soil manifests, analytical reports and photographs are attached.

Prepared by:



Environmental Professional
Etech Environmental & Safety Solutions, Inc.



#1 Initial View -- Upper and Lower Trenches



#2 Excavation in progress



#3 Excavation completed



#4 Site After Backfilling.