

ENVIRONMENTAL REMEDIATION

Completed “Dig & Haul” Operations

EnerVest Operating, LLC

Abalone “AMB” State #1 Tank Battery
(Saltwater and oil release from separator)

Section 26, T14S – R33E – API #30-025-01153
Lea County, NM
Coordinates: Latitude 33.08115 Longitude -103.59174

October 17th, 2014

A Report For:
New Mexico Oil Conservation Division, Hobbs District
&
EnerVest Operating LLC
Mr. Elroy Ardoin

Prepared by:
Baseline Solutions LLC
Andy Price
1030 Andrews Hwy, Suite 105F
Midland, Texas 79701

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EXECUTIVE SUMMARY

Completed Operations Review:

EnerVest Operating, LLC of Houston Texas, contracted Baseline Solutions to conduct an environmental sampling investigation at a spill site west of Lovington, New Mexico. The site is approximately 2 miles east of Hwy 457 and the Saunders Plant. The location name is the Abalone AMB State #1 Tank Battery

The release occurred on December 9th, 2010. An estimated 100bbbls of produced water with some oil was released from a hole that developed at the bottom of the separator. Remediation action was taken and 55bbbls was recovered with a transport pump truck. This left an estimated 45bbbl release. The spill area included the section within the tank battery dike which is 12yds X 11yds, the caliche pad area in front of the tank battery which is an estimated 12yds X 36yds, and the area across the location to the east side which about 10yds X 15yds.

A sampling investigation was conducted to delineate the extent of contamination. The sampling investigation report was submitted to NMOCD, Hobbs office. Site location is described as:

- API #30-025-01153 - Section 26, T14S – R33E
- Lea County, NM
- Coordinates: Latitude 33.08115 Longitude -103.59174

Dig & Haul Operations were completed on January, 10th, 2014.

Dig & Haul Operations:

- The Dig and Haul method was used to remove contaminated soils. Samples were screened on site during excavation with field instrumentation. Formal composite samples were taken for lab analysis from five separate areas when screening indicated chloride and TPH levels were below required limits.
- Formal lab samples were taken at the total depth of the excavation and photos were taken as well to document the completed excavation. Please see enclosed photos. Over all excavation depths ranged from 1' to 3' depths.
Please see lab results chart listed at the end of this report with depths of excavation and levels for TPH and chlorides.
- A total of 250 cubic yards of contaminated soil was removed and disposed of at Gandy's Disposal facility. (Please see appendices A for photos)
- Backfill soil was purchased from Gandy's disposal facility and is staged on site.
- Backfill operations have not been completed. Backfill for excavated area will not be completed until approval from NMOCD.

Conclusion:

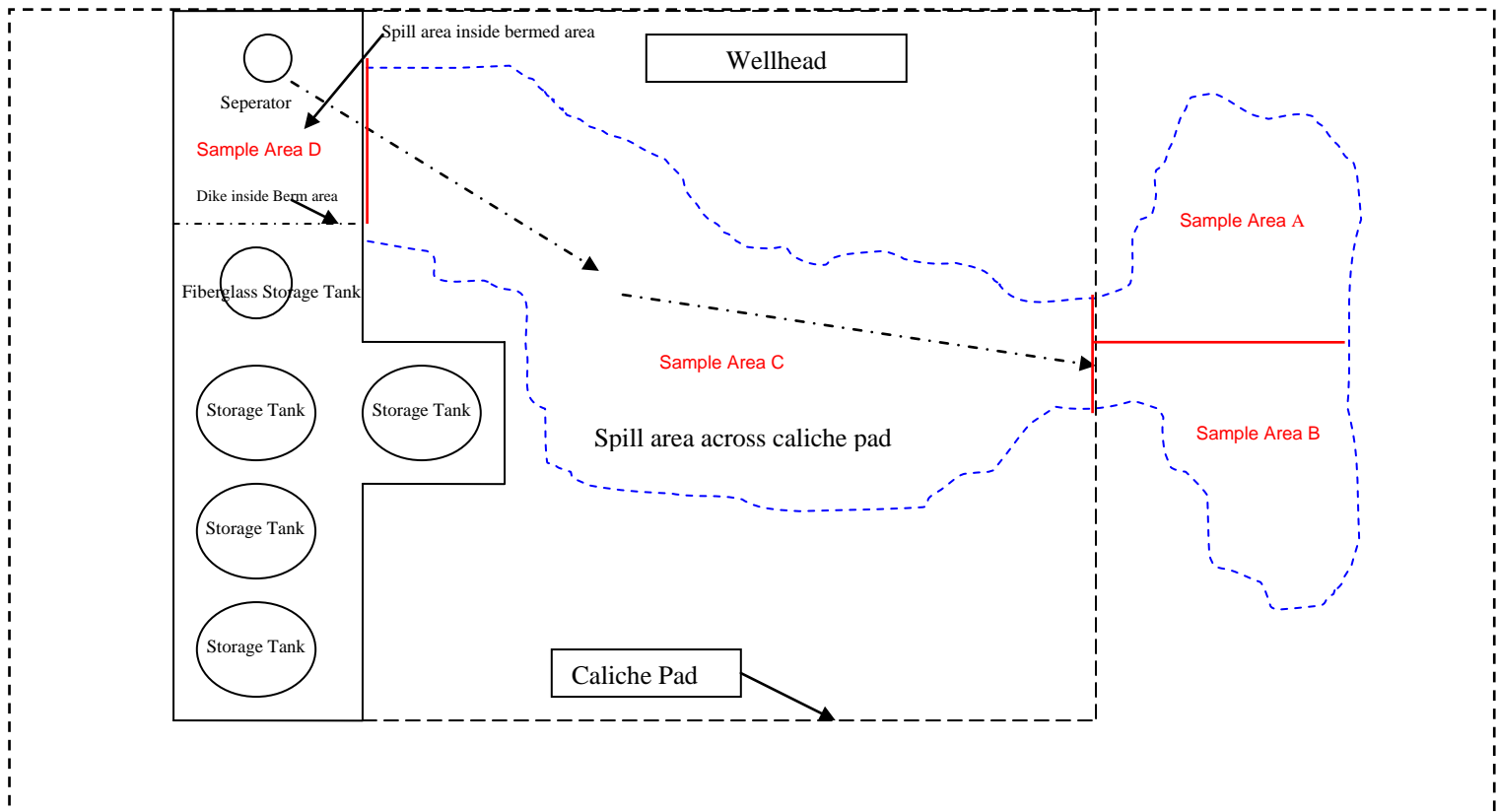
- Total Petroleum Hydrocarbon (TPH) levels were determined to be below the required limit of 2,500ppm.
- Chloride levels for the spill area were determined to be below the required limit of 1000ppm in all areas.
- No further backfill will be completed until proper approval from BLM.
- Please see enclosed:
 - Site diagram
 - Project photos

- Laboratory analysis report/results

RECOMMENDATION:

- Backfill site with soil that is staged on site
- Grade site to match original topography and reseed with appropriate seed mix
- Submit formal closing report along with Final c141 to NMOCD Hobbs office

Sample field code	Chloride PPM		Sample field code	TPH PPM
A - 3' depth	103		A - 3' depth	<50.0
B - 2' depth	176		B - 2' depth	<50.0
C - 1' depth	78.2		C - 1' depth	72.6
D - 3' depth	29.3		D - 3' depth	<50.0



8.0 Limitations

This report was prepared exclusively for use by EnerVest Operating. The contents of the report shall not be disseminated to, or used by any other party without EnerVest Operating written consent.

Baseline Solutions hereby gives notice that any statement or opinion in this report shall not be construed to create any warranty or representation that the real property on which the investigation was conducted is free of pollution or complies with any or all applicable regulatory or statutory requirements, or that the property is fit for any particular purpose.

Unless otherwise indicated in this report, no attempt was made to check on the compliance of present or past owners of the site with federal, state or local laws and regulations.

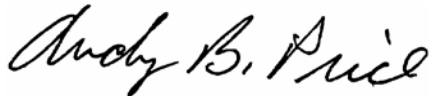
The conclusions presented in this report were based on the services described, and not on specific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by EnerVest Operating.

Person or entity considering use, acquisition, or other involvement or activity concerning the property shall be solely responsible for determining the adequacy of the property for any and all uses for which that person or entity shall use the property. Any person or entity considering the use, acquisition, or other involvement or activity concerning the property which is the subject of this report should enter into any use, occupation, acquisition, or the like on sole reliance of its own judgment and on its own personal investigation of such property, and not in reliance on any representation made by Baseline Solutions regarding such property, the character quality, or its value. Baseline Solutions performed environmental services in a professional manner using that degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants. Baseline Solutions shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the environmental services were conducted.

QUALIFICATIONS AND SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

Prepared By:

Andy B. Price

A handwritten signature in black ink that reads "Andy B. Price". The signature is written in a cursive, flowing style.

Registered Environmental Professional Registry #9116

APPENDIXES

- A. Site Photos
- B. Lab Report
- E. OCD Form C141



















Summary Report

Andy Price
EnerVest Operating LLC
1001 Fannin Street
Suite 800
Houston, TX 77002

Report Date: January 27, 2014

Work Order: 14011501



Project Location: Sec. 26 T14S-R33E, Lea Co, NM
Project Name: Abalone State 'AMB' #1
Project Number: Abalone State #1

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
351463	A	soil	2014-01-14	09:10	2014-01-14
351464	B	soil	2014-01-14	09:20	2014-01-14
351465	C	soil	2014-01-14	09:30	2014-01-14
351466	D	soil	2014-01-14	09:55	2014-01-14

Sample - Field Code	TPH DRO - NEW	TPH GRO
	DRO (mg/Kg)	GRO (mg/Kg)
351463 - A	<50.0	<4.00
351464 - B	<50.0	<4.00
351465 - C	72.6	<4.00
351466 - D	<50.0	<4.00

Sample: 351463 - A

Param	Flag	Result	Units	RL
Chloride		103	mg/Kg	4

Sample: 351464 - B

Param	Flag	Result	Units	RL
Chloride		176	mg/Kg	4

Sample: 351465 - C

Report Date: January 27, 2014

Work Order: 14011501

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Param	Flag	Result	Units	RL
Chloride		78.2	mg/Kg	4

Sample: 351466 - D

Param	Flag	Result	Units	RL
Chloride		29.3	mg/Kg	4

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 – EnerVest Operating LLC	Contact – Elroy Ardoin	
Address – 1001 Fannin Street, Suite 800, Houston, TX 77002	Telephone No. (713) 495 6534	
Facility Name – Abalone AMB State #1 Tank Battery	Facility Type – Tank Battery	
Surface Owner – State of NM	Mineral Owner	API No. 30-025-01153

LOCATION OF RELEASE

Unit Letter D	Section 26	Township 14S	Range 33E	Feet from the	South Line	Feet from the	East/West Line	County Lea
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Latitude N 32.78634 Longitude W 104.05161

NATURE OF RELEASE

Type of Release - Saltwater and Oil	Volume of Release estimated 100bbls	Volume Recovered 55bbls
Source of Release – Hole in bottom of separator	Date and Hour of Occurrence ? 12/8/2010 – before 3:00PM	Date and Hour of Discovery 12/8/2010 - 3:00PM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Larry Johnson – NMOCD Hobbs Office	
By Whom? Andy Price – Contract Environmental Consultant for EnerVest Operating	Date and Hour – 12/9/10 2:30PM	
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.* A hole in the bottom of the separator was the source of the release. The spill was partially contained within the tank battery dike area. An estimated 100bbls was spilled with 45bbls being recovered. The faulty separator was repaired immediately. Repairs began immediately on the leaking separator. No further remedial action has been taken yet.

Describe Area Affected and Cleanup Action Taken.*

The spill area included the section within the tank battery dike which is 12yds X 11yds, the caliche pad area in front of the tank battery which is an estimated 15yds X 40yds area outside the berm, and the area across the location to the east side which about 12yds X 15yds. Remediation action taken was to recover about 45 bbls of freestanding produced water with some oil into a transport. A sampling investigation will be conducted to delineate the extent of contamination. A sampling report will be submitted to OCD with a remediation plan to be implemented **upon NMOCD approval**. The most likely remediation plan to be recommended will be to conduct “dig & haul” operation with lab analysis. A closing report will then be submitted to OCD.

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: <i>Andy B. Price</i>	OIL CONSERVATION DIVISION	
Printed Name: Andy Price	Approved by District Supervisor:	
Title: Contract Environmental Consultant for EnerVest Operating	Approval Date:	Expiration Date:
E-mail Address: andyprice@grandecom.net	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 12/21/2010 Phone: (432) 352-6400		

* Attach Additional Sheets If Necessary