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 - Chalupa SWD #004	Facility Type - Injection

Surface Owner – State of New Mexico	Mineral Owner	API No. 30-025-29184

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	South Line	Feet from the	East/West Line	County
M	13	14S	33E	330	South Line	330	West Line	Lea

Latitude 33.10041 **Longitude** -103.57570

NATURE OF RELEASE

Type of Release - Produced Water/Saltwater – approximately 30,400 PPM chloride content	Volume of Release – estimated 30bbls	Volume Recovered - 0bbls
Source of Release – Flow Line	Date and Hour of Occurrence ?	Date and Hour of Discovery 10/8/08
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom? Unknown Rancher	Date and Hour - 11/18/08 at 3:30 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken *
A flow line connection/swing developed a leak resulting in the brine water spill. The spill at this site is considered to be approximately 30bbls. The line was shut in. A vacuum truck was used to pick up 20bbls of produced water. All connections The leak has been properly repaired. No remedial action has been taken yet. A remediation plan along with a sampling investigation and report will submitted and implemented upon NMOCD approval. Please see attached Sampling Investigation Report and recommended Remediation Action.

Describe Area Affected and Cleanup Action Taken.*
The approximate effected area is 305ft X 20ft. A minor amount of vegetation shows signs of stress within approximately 50% of the contaminated area. The entire area indicating elevated levels of chlorides will be remediated. Recommended remediation is to conduct "dig & haul" operation with lab analysis. Contaminated soil will be removed to a locally approved disposal site, back filled with clean soil and properly reseeded. 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: Elroy Ardoin	OIL CONSERVATION DIVISION	
Printed Name: Elroy L. Ardoin	Approved by District Supervisor: ENVIRONMENTAL ENGINEER	
Title: HSE COORDINATOR	Approval Date: 2.26.09	Expiration Date:
E-mail Address: eardoin@enervest.net	Conditions of Approval:	Attached ☐ IRP# 09.3.2140
Date: 3-2-09 Phone: 713 495 6534		

* Attach Additional Sheets If Necessary

fGRL0914242785

PHASE II
ENVIRONMENTAL SAMPLING ASSESSMENT

EnerVest Operating, LLC

Chalupa #4 SWD
Environmental Sampling
Produced Water Flow Line Leak/Spill
Section 13, T14S – R33E – API #30-025-29184
Lea County, NM
Coordinates:
Longitude -103.57570
Latitude 33.10041

March 5th, 2009

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

Prepared by:
Baseline Solutions LLC
Andy Price
511 West Ohio, Suite 400
Midland, Texas 79701

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Baseline Solutions conducted a Phase II Environmental Sampling Assessment at the Chalupa #4 SWD saltwater spill site. The discharge was the result of a flowline pipe connection leak located approximately 400yds north of the wellhead. Approximately 30 barrels of saltwater was released.

Section 13, T14S – R33E, Lea County, NM
Coordinates: Longitude -103.57570 Latitude 33.10041

A summary of the lab analysis data, research and observations gathered during the sampling investigation is as follows:

Chalupa #4 SWD

Lab results for Chloride levels are listed below (please see app. B).

Sample field code	**Chloride PPM**		Sample field code	**TPH PPM**
AS - surface	28600		AS - surface	1200
BS - surface	24100		BS - surface	<50.0
CS - surface	21000		CS - surface	<50.0
DS - surface	16300		DS - surface	<50.0
ES - surface	12700		ES - surface	<50.0
FS - surface	15400		FS - surface	104
GS - surface	19500		GS - surface	132
A3' - 3ft depth	176		A3' - 3ft depth	<50.0
B1' - 1ft. depth	<100		B1' - 1ft. depth	<50.0
C1' - 1ft. depth	<100		C1' - 1ft. depth	<50.0
D2' - 2ft. depth	<100		D2' - 2ft. depth	<50.0
E2' - 2ft. depth	<100		E2' - 2ft. depth	<50.0
F1' - 1ft. depth	<100		F1' - 1ft. depth	<50.0
G1' - 1ft. depth	<100		G1' - 1ft. depth	<50.0

NMOCD acceptable level for Chlorides is 250ppm and less.
NMOCD acceptable level for Total Petroleum Hydrocarbons is 5000ppm and less.

Contaminated Area Delineated: Soil borings with field and laboratory analysis indicate the saltwater spill to be an approximate averaged surface area of 305ft X 20ft. An estimated 338cuyds of soil will need to be removed and backfilled.

OCD Site Ranking: No Surface hydrology issues were identified for surface run-off due to topographical gradient and rain fall average. Subsurface hydrology data indicates groundwater for this area to be at an approximate average depth of 76.6ft. **The OCD site ranking is considered to be 10 or less (please see section 5 in the body of this report).**

Conclusion:
Chloride contamination for spill area is to an average depth of 1' to 1 ½ '. TPH contamination consists in most part within a 20' radius of the point source of flowline leak.

Recommendation: Conduct "Dig & Haul" remediation for spill area to an average depth of 1ft to 2 ft. Estimated soil disposal and backfill is 338cuyds.

1.0 INTRODUCTION

Baseline Solutions, (Andy Price) was retained by EnerVest Operating, LLC of Houston Texas, to conduct a Phase II Environmental Sampling Investigation at the Chalupa #4 SWD, Section 13, T14S – R33E, Lea County, NM, Coordinates: Longitude - 103.57570 Latitude 33.1004.

1.1 Site Description / Location

A. Spill Location

- Legal Description:
  Chalupa #004
  Flow Line Leak/Spill approximately 400yds north of wellhead
  330' FSL & 330' FSL Unit "M"
  Section 13, T14S – R33E
  Lea County, NM
  Coordinates: Longitude -103.57570 - Latitude 33.10041
  Lease #LG-2414 – API#30-025-29184
- Driving Directions: The location may be reach by heading west out of Lovington on Hwy 82 about 25 miles – come to Hwy 459 and turn north/right, go approximately 8 miles to Anderson Rd., turn east/right, immediately past S curve turn south, follow lease road south, arriving at the Chalupa #004, SWD injection well. The spill area is approximately 400yds north of well head.

2.0 Purpose

The purpose of this investigation was to quantify the level of Chlorides and Total Petroleum Hydrocarbons (TPH), and to delineate the area of contamination for spill site.

3.0 PROCEDURES AND METHODS

The procedures and methods for this project were conducted according to EPA protocol and conducted in a professional manner within parameters established by regulatory and industry standards.

A. Sampling Methods and Procedures

- Visual site reconnaissance of entire property with photos
- Grab samples were taken and screened for Chlorides with an Electrical Conductivity Meter (Milwaukee Model SM802). This process is used to identify any elevated levels for chlorides for a specific depth and area.
- Grab samples were taken and screened for Total Petroleum Hydrocarbons (TPH), with a Photoionization Detector (Mini Rae Plus - model # PGM-76IS). This process is used to identify any elevated levels for TPH for a specific depth and area.
- The parameter of the spill area was delineated first by visual reconnaissance and screening surface samples and then with soil borings.

- A site grid was developed from data collected with grab sample screening.
- Grid samples were taken and combined within specific areas which made up the identified composite samples.
- Samples were systematically taken from soil borings at surface and 1ft intervals. Samples were screened with an EC meter and PID detector.
- Sampling Grid: Areas were identified as A, B, C, D, E, F, G.
  - **Chlorides:** Highest chloride levels were **28600ppm** at surface level in grid area "A". This was the source point where the actual leak occurred. Acceptable levels for chlorides were reached at a 3ft depth for grid area A. Grid areas D & E had acceptable levels at a 1ft to 2ft depths. Areas B, C, F, & G were at an acceptable level at a 1ft depth.
  - **TPH:** Highest TPH levels were **1200ppm** at surface level in area A.
- Lab Samples: Samples were taken from grid areas A, B, C, D, E, F, & G.
- Decontamination procedures were maintained
- All samples were kept on ice until delivered to lab
- A field log was maintained
- A formal chain of custody was maintained
- Composite samples were delivered to Trace Analysis in Midland, TX - an EPA approved lab.

4.0 INVESTIGATION RESULTS

Lab results are listed below (please see app. C).

Sample field code	**Chloride PPM**		Sample field code	**TPH PPM**
AS - surface	28600		AS - surface	1200
BS - surface	24100		BS - surface	<50.0
CS - surface	21000		CS - surface	<50.0
DS - surface	16300		DS - surface	<50.0
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E2' - 2ft. depth	<100		E2' - 2ft. depth	<50.0
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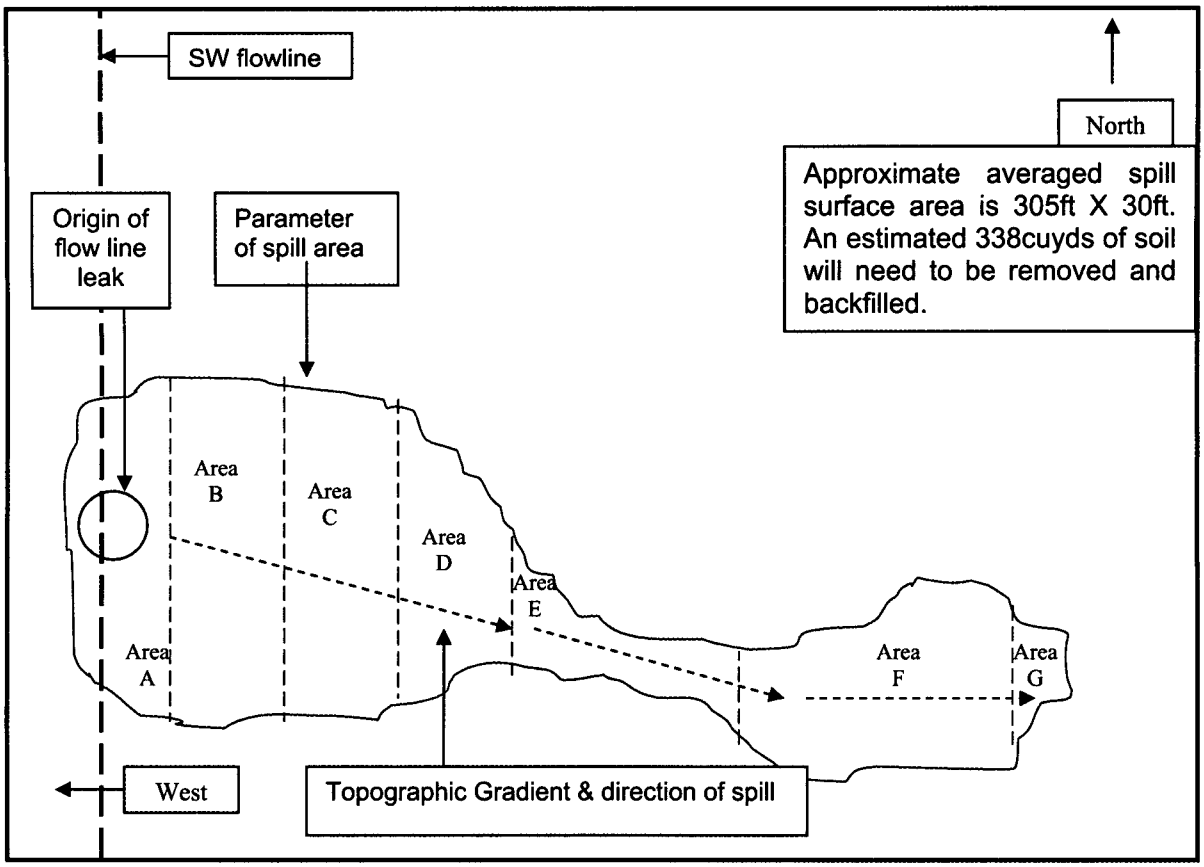
NMOCD acceptable level for Chlorides is 250ppm and less.
NMOCD acceptable level for Total Petroleum Hydrocarbons is 5000ppm and less.



5.0 NMOCD SITE RANKING (see app. F)

SITE RANKING – According to NMOCD "Spill Clean up Guidelines" for "Unsaturated Contaminated Soils"

The general site characteristics obtained during the site assessment were used to determine the appropriate soil remediation action level. A risk based approach was taken for the site evaluation. Site soils were contaminated by saltwater and petroleum constituents. The site was scored according to the ranking criteria below to determine the relative threat (if any), to public health, fresh waters and the environment.

Ranking Criteria

Depth To Ground Water	Ranking Score
<50 feet	20
50 - 99	**10**
>100	0

- **Depth to ground water is approximately 76'**, according to NM State Engineers Office and USGS information (please app. F). Measurements were taken from the nearest water wells (on record). Depth to groundwater is estimated to be approximately 76'.

- **The NMOCD rating is considered to be 10 or less.**
  Wellhead Protection Area

<1000 feet from a water source, or;	
<200 feet from private domestic water source	
Yes	20
No	**0**

Distance To Surface Water Body

<200 horizontal feet	20
200 - 1000 horizontal feet	10
>1000 horizontal feet	**0**

From NMOCD "Spill Clean up Guidelines"
Recommended remediation action level. The total ranking score determines the degree of remediation that may be required at any given site. The total ranking score is the sum of all four individual ranking criteria listed in Section IV.A.2.a.

Total Ranking Score for this spill site is considered to be 10.

Recommended remediation action is to conduct **"dig and haul"** operations with soil being disposed of at the nearest OCD approved disposal site.

6.0 REGULATORY REVIEW

A. The NMOCD form C141 was submitted and approved on October 23rd, 2007. The expiration date for remedation, listed by OCD on the C141 of the site is December 23rd, 2007. This sampling investigation is intended to be in compliance with New Mexico Oil Conservation Division:

- Rule 116 RELEASE NOTIFICATION AND CORRECTIVE ACTION [1-1-50...2-1-96; A, 3-15-97]
  1. 116.D. CORRECTIVE ACTION: The responsible person must complete Division approved corrective action for releases which endanger public health or the environment. Releases will be addressed in accordance with a remediation plan submitted to and approved by the Division or with an

  abatement plan submitted in accordance with Rule 19 (19 NMAC 15.A. 19). [3-15-97]
- Rule 19 (19 NMAC 15.A. 19). [3-15-97].

7.0 CONCLUSIONS / RECOMMENDATIONS

Conclusion:
Chloride contamination for spill area is to an average depth of 1' to 1 ½ '. TPH contamination consists in most part within a 20' radius of the point source of flowline leak.
Recommendation:

- **Conduct "Dig & Haul"** remediation for spill area to an estimated average depth of 1ft to 2 ft. Deliver excavated soil to the nearest approved OCD disposal site. Estimated soil for disposal is 338cuyds and the same amount for backfill.

- **Complete Closing Report** in compliance with OCD requirements.
  - Lab analysis insuring chloride contamination has been removed to less than 250ppm
  - Lab analysis insuring TPH removed to less than 5000ppm
  - List OCD approved disposal site where contaminated soil disposed of.
  - Grade site to match original topography and reseed according to listed BLM seed mix.
  - Submit formal closing report to NMOCD office in Hobbs, NM

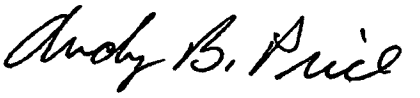
8.0 Limitations

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



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