

State of Colorado  
Oil and Gas Conservation Commission

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Document Number:  
402802247  
Receive Date:  
09/03/2021  
Report taken by:  
Jason Kosola

Site Investigation and Remediation Workplan (Initial Form)

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. However, this shall not preclude the Operator from taking immediate action to protect public health or safety, the environment, wildlife, or livestock.

This Form 27 describes site conditions as currently understood by the Operator; approval of this Form 27 by COGCC is based on the site conditions accurately described herein; any changes in site conditions identified during or subsequent to the performance of the approved workplan may necessitate additional investigation or remediation which shall be described on a supplemental Form 27. This Form 27 is intended to provide basic information regarding the proposed site investigation and remediation actions, but the workplan may be more fully described in attached documentation.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

OPERATOR INFORMATION

Name of Operator: <u>ENERVEST OPERATING LLC</u>	Operator No: <u>10098</u>	<b>Phone Numbers</b>
Address: <u>1001 FANNIN ST STE 800</u>		Phone: <u>(713) 970-1884</u>
City: <u>HOUSTON</u> State: <u>TX</u> Zip: <u>77002</u>		Mobile: <u>(713) 458-8719</u>
Contact Person: <u>KELLY ROBERTS</u>	Email: <u>kroberts@enervest.net</u>	

PROJECT, PURPOSE & SITE INFORMATION

**PROJECT INFORMATION**  
Remediation Project #: 19874 Initial Form 27 Document #: 402802247

**PURPOSE INFORMATION**

- Rule 913.c.(1): Pit or Cuttings Trench closure.
- Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- Rule 913.g: Changes of Operator.
- Rule 915.b: Request to leave elevated inorganics in situ.
- Other: \_\_\_\_\_

**SITE INFORMATION**

No Multiple Facilities

Facility Type: <u>LOCATION</u>	Facility ID: <u>324810</u>	API #: _____	County Name: <u>KIOWA</u>
Facility Name: <u>FLUKE-CHIVINGTON GR.ASSOC-618S45W 31NWNE</u>		Latitude: <u>38.452661</u>	Longitude: <u>-102.497896</u>
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWNE</u>	Sec: <u>31</u>	Twp: <u>18S</u>	Range: <u>45W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

**SITE CONDITIONS**

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use Location is 215 feet west of Big Sandy Creek  
Is domestic water well within 1/4 mile? No Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? No

**Other Potential Receptors within 1/4 mile**

### SITE INVESTIGATION PLAN

**TYPE OF WASTE:**

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> E&P Waste       | <input checked="" type="checkbox"/> Other E&P Waste             | <input type="checkbox"/> Non-E&P Waste |
| <input type="checkbox"/> Produced Water  | <input type="checkbox"/> Workover Fluids                        | _____                                  |
| <input type="checkbox"/> Oil             | <input type="checkbox"/> Tank Bottoms                           |  |
| <input type="checkbox"/> Condensate      | <input type="checkbox"/> Pigging Waste                          |  |
| <input type="checkbox"/> Drilling Fluids | <input type="checkbox"/> Rig Wash                               |  |
| <input type="checkbox"/> Drill Cuttings  | <input type="checkbox"/> Spent Filters                          |  |
|  | <input type="checkbox"/> Pit Bottoms                            |  |
|  | <input checked="" type="checkbox"/> Other (as described by EPA) | impacted soil _____                    |

**DESCRIPTION OF IMPACT**

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	minor	preliminary soil samples, (7) total

**INITIAL ACTION SUMMARY**

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

Seven preliminary soil samples were taken to a depth of 24 inches below ground surface. Elevated arsenic were found in all samples. Elevated TPH and one had an elevated benzo(a) pyrene level were identified in two boring samples. Detailed information regarding the soil testing is attached.

**PROPOSED SAMPLING PLAN**

**Proposed Soil Sampling**

Will soil samples be collected as part of this investigation? ( Number, type (grab/composite), analyses, and locations of samples ):

Preliminary soil sampling has been conducted. After excavation of impacted soil, confirmation soil testing will be conducted. Upon State approval the area will be backfilled and remediated with approved materials. The area will be reseeded and monitored for release as 'reclaimed'.

**Proposed Groundwater Sampling**

Will groundwater samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

**Proposed Surface Water Sampling**

Will surface water samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

**Additional Investigative Actions**

Additional alternative investigative actions described in attached Site Investigation Plan ( summary ):

Follow up soil samples required after excavation and removal of impacted soil.

### SITE INVESTIGATION REPORT

**SAMPLE SUMMARY**

**Soil**

Number of soil samples collected 7  
Number of soil samples exceeding 915-1 7  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 7400

**NA / ND**

-- Highest concentration of TPH (mg/kg) 1170  
-- Highest concentration of SAR 19.1  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 2

**Groundwater**

Number of groundwater samples collected 0  
Was extent of groundwater contaminated delineated? No  
Depth to groundwater (below ground surface, in feet)           
Number of groundwater monitoring wells installed           
Number of groundwater samples exceeding 915-1         

Highest concentration of Benzene (µg/l)           
Highest concentration of Toluene (µg/l)           
Highest concentration of Ethylbenzene (µg/l)           
Highest concentration of Xylene (µg/l)           
Highest concentration of Methane (mg/l)         

**Surface Water**

0 Number of surface water samples collected  
         Number of surface water samples exceeding 915-1  
If surface water is impacted, other agency notification may be required.

**OTHER INVESTIGATION INFORMATION**

Were impacts to adjacent property or offsite impacts identified?  
        

Were background samples collected as part of this site investigation?  
See attached background sample informaton

Was investigation derived waste (IDW) generated as part of this investigation?  
Volume of solid waste (cubic yards)          Volume of liquid waste (barrels)         

Is further site investigation required?  
Confirmation after impacted soil removal and disposal.

**REMEDIAL ACTION PLAN**

**SOURCE REMOVAL SUMMARY**

Describe how source is to be removed.  
Impacted soil, approximately 960 cubic yards, is to be excavated, stored on-site on plastic and removed for disposal at approved landfill.

**REMEDIATION SUMMARY**

Describe how remediation of existing impacts to soil and groundwater is to be accomplished (i.e. summarize remedial action plan). Provide a brief narrative description including: technical justification, schedule for implementation, estimated time to attain NFA status, plus plans and specifications for the selected remedial action technology.  
Following removal of impacted soil, confirmation that soil is within standards and approval of State, the excavaton site will be backfilled with suitable material. The area will be reseeded and monitored for release as 'reclaimed'.

**Soil Remediation Summary**

In Situ  Ex Situ  
         Bioremediation ( or enhanced bioremediation ) Yes Excavate and offsite disposal  
         Chemical oxidation          If Yes: Estimated Volume (Cubic Yards) 960  
         Air sparge / Soil vapor extraction          Name of Licensed Disposal Facility or COGCC Facility ID #

\_\_\_\_ Natural Attenuation  
\_\_\_\_ Other \_\_\_\_\_

\_\_\_\_ Excavate and onsite remediation  
\_\_\_\_ Land Treatment  
\_\_\_\_ Bioremediation (or enhanced bioremediation)  
\_\_\_\_ Chemical oxidation  
\_\_\_\_ Other \_\_\_\_\_

### Groundwater Remediation Summary

\_\_\_\_ Bioremediation ( or enhanced bioremediation )  
\_\_\_\_ Chemical oxidation  
\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_ Natural Attenuation  
\_\_\_\_ Other \_\_\_\_\_

### GROUNDWATER MONITORING

If groundwater has been impacted, describe proposed monitoring plan, including # of wells or sample points, monitoring schedule, analytical methods, points of compliance. Attach a groundwater monitoring location diagram.

none

## REMEDIATION PROGRESS UPDATE

### PERIODIC REPORTING

#### Approved Reporting Schedule:

Quarterly  Semi-Annually  Annually  Other \_\_\_\_\_

#### Request Alternative Reporting Schedule:

Semi-Annually  Annually  Other \_\_\_\_\_

Rule 913.e:

After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

Report Type:  Groundwater Monitoring  Land Treatment Progress Report  O&M Report

Other P&A remediation status \_\_\_\_\_

### WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? Yes

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

None, impacted soil is to be disposed.

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_ 960

E&P waste (solid) description impacted surface soil

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: approved disposal facility or land fill

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_ 0

E&P waste (liquid) description \_\_\_\_\_

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: \_\_\_\_\_

# RECLAMATION PLAN

## RECLAMATION PLANNING

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing.

see attached proposal

Is the described reclamation complete? No \_\_\_\_\_

Does the reclamation described herein constitute interim or final reclamation of the Oil and Gas Location?

Interim

Final

Did the Surface Owner provide the seed mix? \_\_\_\_\_

If YES, does the seed mix comply with local soil conservation district recommendations? \_\_\_\_\_

Did the local soil conservation district provide the seed mix? \_\_\_\_\_

## SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 10/01/2021

Proposed date of completion of Reclamation. 10/01/2022

## IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

### PRIOR DATES

Date of Surface Owner notification/consultation, if required. \_\_\_\_\_

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/29/2021

Proposed site investigation commencement. \_\_\_\_\_

Proposed completion of site investigation. \_\_\_\_\_

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/01/2021

Proposed date of completion of Remediation. 10/01/2022

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

P&A remediation project

**OPERATOR COMMENT**

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I hereby certify all statements made in this form are to the best of my knowledge true, correct, and complete.

Signed: KEITH BARTON

Title: Manager-Regulatory

Submit Date: 09/03/2021

Email: kbarton@enervest.net

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: Jason Kosola

Date: 09/07/2021

Remediation Project Number: 19874

### **Condition of Approval**

<b>COA Type</b>	<b>Description</b>
	Operator shall list disposal facility used for impacted material on Form 27 Subsequent.
	FACILITY CLOSURE SUPPLEMENTAL REPORT TIMING A supplemental Form 27 must be submitted within 90 days of the completion of this environmental investigation
	If Operator will propose to leave material with elevated levels of inorganics in situ, the Operator shall provide a detailed Reclamation plan that includes, but is not limited to, soil analysis from adjacent undisturbed lands, revegetation techniques, site stabilization, and details of seeded species. Operator will submit the Reclamation plan on a Form 27 Supplemental Report for Director review pursuant to Rule 915.b. Any Table 915-1 exceedances in soil intended to be left in situ shall be fully delineated and results submitted on Reclamation plan. Additional soil sampling may be required to delineate impacts planned to be left in place. Contact COGCC area Reclamation Specialist and Environmental Protection Specialist for questions on what to include in plan.
	Per Rule 913.d.(2) Operator shall submit a Supplemental Form 27 with an updated Implementation Schedule at least 14 days in advance of any schedule changes.
	Per Rule 905.b.(3) Generators of E&P waste that is transported off-site shall maintain, for not less than five (5) years, copies of each invoice, bill, or ticket and such other records as necessary to document disposal. Such records shall be signed by the transporter, made available for inspection by the Director during normal business hours, and copies thereof shall be furnished to the Director upon request.
5 COAs	

### **Attachment Check List**

Upon approval, the approved Form 27 and all listed attachments will be indexed to the Remediation Project file. Only the approved Form 27 will also be indexed to the related Facilities.

<b>Att Doc Num</b>	<b>Name</b>
402802247	FORM 27-INITIAL-SUBMITTED
402802313	RECLAMATION PLAN

Total Attach: 2 Files

### **General Comments**

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>
Environmental	Reclamation tab is blank and states see attached proposal. This tab should be completed as appropriate when Form 27 Subsequent is submitted for approval of final reclamation.	09/07/2021

Total: 1 comment(s)