

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Krystal Heibel

Site Investigation and Remediation Workplan (Supplemental 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 ECOM 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>RED HAWK PETROLEUM LLC</u>	Operator No: <u>10503</u>	Phone Numbers
Address: <u>575 N DAIRY ASHFORD STE 210</u>		Phone: <u>(713) 574-7906</u>
City: <u>HOUSTON</u> State: <u>TX</u> Zip: <u>77079</u>		Mobile: <u>()</u>
Contact Person: <u>Jared Clark</u>	Email: <u>jclark@pedevco.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 35054 Initial Form 27 Document #: 403726123

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>SPILL OR RELEASE</u>	Facility ID: <u>463829</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Staudinger Heater Treater</u>	Latitude: <u>40.624300</u>	Longitude: <u>-104.242000</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWNE</u>	Sec: <u>31</u>	Twps: <u>8N</u>	Range: <u>61W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications GW Most Sensitive Adjacent Land Use HPH for pronghorn antelope

Is domestic water well within 1/4 mile? Yes Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

HPH for the pronghorn antelope

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- E&P Waste
- Other E&P Waste
- Non-E&P Waste
- Produced Water
- Workover Fluids
- Oil
- Tank Bottoms
- Condensate
- Pigging Waste
- Drilling Fluids
- Rig Wash
- Drill Cuttings
- Spent Filters
- Pit Bottoms
- Other (as described by EPA)

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	100' x 50'	Visually

INITIAL ACTION SUMMARY

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

This Form is being submitted to meet quarterly reporting requirements. The spill was the result of a fire. Briggsdale FD extinguished the fire and the well was shut in. Vessles were emptied and cleanup of the water and oil began. Stained soil was stockpiled on location and remediation has been completed. Approximately 10 bbl oil and 5 bbl produced water recovered.

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):

Fifteen (15) soil samples were collected and submitted to a NELAC-accredited laboratory for the ECMC Table 915-1 list of analytes. Based on the depth to groundwater indicated by the nearest permitted well (56' bgs DWR permit #333080) the Operator is requesting the use of residential soil screening levels. Based on soil samples collected to date the Operator is requesting a reduced analytical suite to include the ECMC Table 915-1 list of metals, pH, EC, SAR, boron, and TPH.

Proposed Groundwater Sampling

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

If groundwater is encountered during facility decommissioning activities, a minimum of one grab sample will be collected as soon as practical. Groundwater samples will be submitted to a NELAP accredited laboratory for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4-TMB, and 1,3,5-TMB using standard methods appropriate for detecting the target analytes in CECMC Table 915-1.

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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 15
Number of soil samples exceeding 915-1 8
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 5000

NA / ND

-- Highest concentration of TPH (mg/kg) 869
-- Highest concentration of SAR 8
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 1

Groundwater

Number of groundwater samples collected 0
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet) 195
Number of groundwater monitoring wells installed _____
Number of groundwater samples exceeding 915-1 _____

ND Highest concentration of Benzene (µg/l) _____
NA Highest concentration of Toluene (µg/l) _____
ND Highest concentration of Ethylbenzene (µg/l) _____
ND Highest concentration of Xylene (µg/l) _____
ND 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?
Three background samples will be collected from within the well pad area, since this is an active oil and gas location. Background samples will be analyzed by a NELAC- accredited lab for the Table 915-1 list of metals, pH, EC, SAR, and Boron.

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?

REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? No

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.
Surface material stock piled and removed to disposal.

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.
Surface material stock piled and removed to disposal. Area back-filled with road base material on location.

Soil Remediation Summary

In Situ Ex Situ
_____ Bioremediation (or enhanced bioremediation) _____ Yes _____ Excavate and offsite disposal

Chemical oxidation
 Air sparge / Soil vapor extraction
 Natural Attenuation
 Other _____

If Yes: Estimated Volume (Cubic Yards) 76
Name of Licensed Disposal Facility or ECMC Facility ID # _____
 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.

Is additional groundwater monitoring to be conducted? _____

Operator shall comply with the ECMC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

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.

Existing contaminated material has been removed and replaced with clean road base on location. Water tanks were emptied at the time of the incident to ensure no additional release. The site is remaining as an active oil and gas location, there are no current plans for decommissioning or reclamation activities.

Is the described reclamation complete? Yes

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. 04/01/2019

Proposed date of completion of Reclamation. 04/17/2019

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. 03/06/2019

Actual Spill or Release date, or date of discovery. 03/06/2019

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/06/2019

Proposed site investigation commencement. 03/06/2019

Proposed completion of site investigation. 03/06/2019

REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/06/2019

Proposed date of completion of Remediation. 04/17/2019

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:

OPERATOR COMMENT

Based on soil samples collected to date the Operator is requesting a reduced analytical suite to include the ECMC Table 915-1 list of metals, pH, EC, SAR, boron, and TPH. Three background samples will be collected from within the well pad area, since this is an active oil and gas location. Background samples will be analyzed by a NELAC- accredited lab for the Table 915-1 list of metals, pH, EC, SAR, and Boron.

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

Signed: Lauren Glazier

Title: Consultant

Submit Date: 02/21/2025

Email: lglazier@cgrs.com

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

ECMC Approved: Krystal Heibel

Date: 03/19/2025

Remediation Project Number: 35054

COA Type

Description

	<p>ECMC denies the reduced analyte request of Table 915-1 list of metals, pH, EC, SAR, boron, and TPH. Several PAHs and organics were detected.</p> <p>If analytes are detected in the characterization sample, even if they are at a concentration below the Table 915-1 SSLs, confirmation samples should still include those detected analytes. For future reference, the Rule 915.e.(2)C. states ".....If an Operator believes it is appropriate to modify the list of contaminants of concern, the Operator will submit, and obtain the Director's approval of, a modified list of contaminants of concern through a Form 19 or Form 27, as applicable. The list will be based on site specific E&P Waste profile and process knowledge. Operators will analyze samples for additional contaminants of concern upon the Director's request."</p>
	<p>Per Rule 602.h. Operators are required to provide initial notification of a reportable safety event as soon as practicable, but no more than 6 hours after the safety event. A Form 22, Accident Report, will be submitted to the Director within 3 days of the reportable safety event.</p>
	<p>Background sampling locations should be sufficiently away from the impacted area to reflect conditions not impacted by oil and gas activity, and should be obtained from similar depths and soil horizons or lithologic materials for comparison to confirmation soil samples.</p> <p>If confirmation soil samples of spill area are only within pad material and not native soil, Operator shall take this into consideration when choosing background sample location and depth.</p> <p>While delineating, if impacted materials impact native soils (past pad material), Operator shall collect background sample(s) from native material off-pad, away from oil and gas activity to compare similar lithologies. Operator shall include a case narrative to indicate if/when impacts affect native soils.</p>
3 COAs	

ATTACHMENT 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.

Att Doc Num	Name
404099326	FORM 27-SUPPLEMENTAL-SUBMITTED
404099367	ANALYTICAL RESULTS

Total Attach: 2 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	ECMC does not approve of Operator's request to use Table 915-1 Residential Soil Screening Levels at this time. Once impacts have been fully delineated, ECMC will determine if Residential SSLs is appropriate.	03/19/2025

Total: 1 comment(s)