

**State of Colorado**  
**Energy & Carbon Management Commission**

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Document Number:  
404276973  
Receive Date:  
07/11/2025

Report taken by:  
Alexander Ahmadian

**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 ECMC 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>PAINTED PEGASUS PETROLEUM LLC</u>	Operator No: <u>10711</u>	<b>Phone Numbers</b>
Address: <u>16820 BARKER SPRINGS RD #521</u>		Phone: <u>(303) 894-2100</u>
City: <u>HOUSTON</u> State: <u>TX</u> Zip: <u>77084</u>		Mobile: <u>(303) 905-5341</u>
Contact Person: <u>James Hix - East OWP EPS</u>	Email: <u>james.hix@state.co.us</u>	

**PROJECT, PURPOSE & SITE INFORMATION**

**PROJECT INFORMATION**

Remediation Project #: 37927 Initial Form 27 Document #: 403981311

**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**

Yes  Multiple Facilities

Facility Type: <u>PIT</u>	Facility ID: <u>114219</u>	API #: _____	County Name: <u>ADAMS</u>
Facility Name: <u>ABBOTT 43-10 &amp; 33-10</u>	Latitude: <u>39.975700</u>	Longitude: <u>-104.529514</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NESE</u>	Sec: <u>10</u>	Twp: <u>1S</u>	Range: <u>64W</u> Meridian: <u>6</u> Sensitive Area? <u>No</u>

Facility Type: <u>LOCATION</u>	Facility ID: <u>320029</u>	API #: _____	County Name: <u>ADAMS</u>
Facility Name: <u>ABBOTT-61S64W 10NESE (OWP)</u>	Latitude: <u>39.976160</u>	Longitude: <u>-104.529880</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NESE</u>	Sec: <u>10</u>	Twp: <u>1S</u>	Range: <u>64W</u> Meridian: <u>6</u> Sensitive Area? <u>No</u>

## SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Rangeland

Is domestic water well within 1/4 mile? No

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**

There are no DWR permitted water wells within 1/4 mile of the Location. The surface owners submitted a Basin Determination (DWR Permit #3964-BD; Receipt #10002673) in April 2020 for a determination of a right to an allocation of designated groundwater from the Laramie-Fox Hills aquifer. Proposed well is 2160 ft NW of the Location. DWR Permit #0451919A, Receipt 051919A Residential (2000) [Aquifer = Upper Arapahoe (Ka) SWL = 140 ft, Top of Perf Casing = 220 ft, TD = 440 ft, ~3300 ft SW], DWR Permit #132887- Receipt #9005205 [Aquifer: All Unnamed, TD = 160 ft, ~2485 ft N] No surface water is located within 1/4 mile of the Location. There is a NWI Mapped Freshwater Emergent wetlands located 1150 ft NE along a drainage that leads to an intermittent drainage to Prospect Reservoir. There are no residential building units (RBU) located within 1/4 mile of the Location. There are no CPW mapped HPH located within 1/4 mile of the Location.

# SITE INVESTIGATION PLAN

## TYPE OF WASTE:

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste      | <input type="checkbox"/> Other E&P Waste             | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids             | _____                                  |
| <input checked="" 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 type="checkbox"/> Other (as described by EPA) | _____                                  |

## DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	SOILS	UNKNOWN	VISUALLY, FIELD SCREENING, ANALYTICAL

## 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 oil and gas Location is in the Colorado Energy and Carbon Management Commission (ECMC) Orphaned Well Program (OWP). Carbon Shield plugged and abandoned (PA) the Abbott #43-10 (OWP) well as part of a voluntary project for the ECMC OWP. Cut and cap soil samples following the well PA were submitted under Remediation Project #36106. This Form 27 Supplemental presents results of the site investigation activities performed during decommissioning of Oil and Gas Facilities, specifically sampling activities conducted during decommissioning of the tank battery (Remediation Project #37927). Field screening was performed of the four sidewalls and base of the wellhead excavation to investigate for evidence of E&P Waste impacts. Soil samples were submitted to an accredited environmental laboratory for analysis of Table 915-1 parameters from beneath key pieces of production equipment (i.e. aboveground storage tanks (AST), produced water vault (PWV), pit, separator, and beneath flowline risers. Soil samples were collected and analyzed in accordance with Colorado ECMC 900 Series Rules.

## 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 ):

Grab soil samples will be collected from areas most likely to exhibit E&P Waste impacts. Soil samples will be submitted for analysis of Table 915-1 parameters including organic compounds (TPH ranges C6-C36; BTEX; 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Naphthalene, PAH) and inorganic compounds [metals (As, Ba, Cd, Cu, Cr6+, Pb, Ni, Ag, Zn) and soil suitability for reclamation parameters (pH, EC, SAR, hot water soluble boron)].

### Proposed Groundwater Sampling

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

Groundwater samples are not expected to be collected as part of this investigation. If encountered in sufficient quantity to enable sample collection, a grab groundwater sample or samples will be collected and submitted for analysis of organic compounds (BTEX; Naphthalene; 1,2,4-Trimethylbenzene; 1,3,5-Trimethylbenzene) and inorganic parameters (total dissolved solids (TDS), chloride ion, sulfate ion).

### Proposed Surface Water Sampling

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

Surface water samples are not expected to be collected as part of this investigation

## Additional Investigative Actions

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

No additional alternative investigative actions are expected to be conducted as part of this site investigation.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 3 -- Highest concentration of TPH (mg/kg) 1040  
 Number of soil samples exceeding 915-1 2 -- Highest concentration of SAR 4.72  
 Was the areal and vertical extent of soil contamination delineated? No BTEX > 915-1 No  
 Approximate areal extent (square feet) 8100 Vertical Extent > 915-1 (in feet) 5

**Groundwater**

Number of groundwater samples collected 0 Highest concentration of Benzene (µg/l) \_\_\_\_\_  
 Was extent of groundwater contaminated delineated? No Highest concentration of Toluene (µg/l) \_\_\_\_\_  
 Depth to groundwater (below ground surface, in feet) \_\_\_\_\_ Highest concentration of Ethylbenzene (µg/l) \_\_\_\_\_  
 Number of groundwater monitoring wells installed \_\_\_\_\_ Highest concentration of Xylene (µg/l) \_\_\_\_\_  
 Number of groundwater samples exceeding 915-1 \_\_\_\_\_ 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 site-specific background soil samples, 320029\_BK01 @3', 320029\_BK02 @3', and 320029\_BK03 @3', were collected from undisturbed areas around the tank battery location and away from oil and gas operations. Analytical results reported that pH (8.47 s.u.) in 320029\_BK03 @3', was above the Table 915-1 pH level of 8.3 standard units. Soil pH was not measured in the field. Arsenic was reported in the background and characterization soil samples above Table 915-1 residential arsenic standard (0.68 mg/kg) and barium was reported above the Table 915-1 protection of groundwater soil standard for barium of 82 mg/kg.

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?  
 Field observations did not indicate historic spills or releases at the Abbott 43-10 (OWP) tank battery; however, analytical results for TPH (1040 mg/kg) was reported in soil sample, 320029\_SEP01\_B01 @5', collected beneath the separator, and exceeds the Table 915-1 TPH cleanup goal of 500 mg/kg. The pH (8.83 s.u.) was reported in soil sample 320029\_AST01\_B01 @1', collected beneath the aboveground storage tank was above the Table 915-1 pH level (8.3 s.u.); however, an elevated pH was also reported in one of the background soil samples. Further site investigation is required to define the lateral and vertical extent of impacts.

**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.  
 If E&P Waste impacts are encountered during decommissioning of Oil and Gas Facilities, approximately 10 cubic yards of impacted soils will be excavated, temporarily stockpiled on location, and hauled to a commercial disposal facility.

**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.  
 If E&P Waste impacted soils are encountered, approximately 10 cubic yards of the soils will be excavated and removed. If the horizontal and vertical extent of the E&P Waste impacts cannot be defined or removed during this initial action, then additional site investigation and remediation will be performed at a later date under an approved supplemental Form 27. Site data will be evaluated and remediation technologies implemented to meet Table 915-1 soil residential screening levels, protection of groundwater screening levels, or Table 915-1 groundwater and WQCC Regulation 41 numeric and narrative levels as applicable to site conditions.

**Soil Remediation Summary**

In Situ  Ex Situ

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

\_\_\_\_\_ Excavate and offsite disposal  
\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_  
\_\_\_\_\_ 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.

# REMEDIATION PROGRESS UPDATE

## PERIODIC REPORTING

### Approved Reporting Schedule:

Quarterly  Semi-Annually  Annually  Other

A Form 27 Supplemental will be submitted within 90 days from receipt of results.

### Request Alternative Reporting Schedule:

Semi-Annually  Annually  Other

The OWP requests an annual reporting schedule.

### 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 \_\_\_\_\_

## Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

The former PAINTED PEGASUS PETROLEUM LLC - 10711 ABBOTT #43-10 (OWP) well and associated tank battery location are in the ECMC Orphaned Well Program. The former Operator's bond and other funding will be used to plug and abandon (PA) the well, investigate, remediate, and reclaim the Location.

Operator anticipates the remaining cost for this project to be: \$ 70135 \_\_\_\_\_

## WASTE DISPOSAL INFORMATION

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

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

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

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

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

Non-ECMC Disposal Facility: \_\_\_\_\_

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

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

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

Non-ECMC Disposal Facility: \_\_\_\_\_

# REMEDIATION COMPLETION REPORT

## REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No \_\_\_\_\_

If YES:

Compliant with Rule 913.h.(1).

Compliant with Rule 913.h.(2).

Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards? \_\_\_\_\_

Does the previous reply indicate consideration of background concentrations? \_\_\_\_\_

Does Groundwater meet Table 915-1 standards? \_\_\_\_\_

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.

The Colorado ECMC OWP will prepare a reclamation plan to reclaim this oil and gas location in accordance with 1000 Series Rules including grading/recontouring of disturbed areas. The reclamation plan will be implemented under a separate scope of work. Final reclamation will be conducted per ECMC 1000 Series Rules and prioritized based on OWP ranking, project funding, and staff availability. The reclamation scope will include a plan to address and avoid any effect on reclamation from Table 915-1 inorganic and soil suitability for reclamation parameters.

Is the described reclamation complete? \_\_\_\_\_

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. \_\_\_\_\_

Proposed date of completion of Reclamation. \_\_\_\_\_

## 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. 10/22/2024

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

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/05/2024

Proposed site investigation commencement. 01/06/2025

Proposed completion of site investigation. 03/10/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. \_\_\_\_\_

Proposed date of completion of Remediation. \_\_\_\_\_

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**

The former PAINTED PEGASUS PETROLEUM LLC - 10711 ABBOTT #43-10 (OWP) oil and gas well (API #05-001-07719) ABBOTT-61S64W 10NESE (Location ID #320029) and PIT (Facility ID #114219) are in the ECMC Orphaned Well Program ("OWP"). Carbon Shield plugged and abandoned (PA) the Abbott #43-10 (OWP) well with a cut and cap date of 07/08/2024 as part of a voluntary project performed on behalf of the OWP. Cut and cap soil sampling conducted by Carbon Shield's environmental consultant was performed under Remediation Project #36106. This Form 27 Supplemental presents results for soil sampling conducted following the related Abbott #43-10 tank battery, Pit, and On-Location flowline decommissioning performed under multiple location Remediation Project #37927. Indications of historic spills/releases were not observed during the tank battery decommissioning activities; however, analytical results reported a TPH concentration of 1040 mg/kg in sample 320029\_SEP01\_B01 @5' collected beneath the separator at a depth of 5 feet bgs. The TPH concentration is above the Table 915-1 TPH cleanup level of 500 mg/kg. Concentrations of benzene, toluene, ethylbenzene, xylenes (BTEX), 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, polycyclic aromatic hydrocarbon (PAH) compounds were not detected or were reported at concentrations below Table 915-1 cleanup concentrations. The soil pH (8.83 s.u.) reported in sample 320209\_AST01\_B01@1' collected beneath the aboveground storage tank (AST) at 1 foot bgs is above the Table 915-1 pH level of 8.3 s.u. soil suitability for reclamation. A sample, FP01, was collected from the former pit. Impacted soils were not encountered. Further site investigation is required to define the vertical and lateral extent of the E&P Waste impacts beneath the separator and AST. Site-specific background soil samples were collected from undisturbed areas away from historic oil and gas operations. Arsenic and barium were reported in the site-specific background soil samples above Table 915-1 soil screening levels (SSL). A review of area water well permit records indicated a static groundwater level of 140 ft bgs and the top of perforated casing was 240 ft bgs. There are no surface water bodies within 1/4 mile. There are no residential building units (RBU) within 1/4 mile. The OWP requests to use the Table 915-1 residential SSL and site specific background levels. Site investigation and remediation will proceed under Remediation Project #37927.

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

Signed: James Hix

Title: East OWP EPS

Submit Date: 07/11/2025

Email: james.hix@state.co.us

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: Alexander Ahmadian

Date: 08/04/2025

Remediation Project Number: 37927

**COA Type****Description**

0 COA	
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**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
404276973	FORM 27-SUPPLEMENTAL-SUBMITTED
404277025	ANALYTICAL RESULTS
404277066	ANALYTICAL RESULTS
404277067	SITE INVESTIGATION REPORT

Total Attach: 4 Files

**General Comments**

User Group	Comment	Comment Date
Environmental	ECMC approves Operator's request for use of Residential SSLs based on the depth to groundwater and the local lithology suggesting a pathway to groundwater at this location is not likely.	08/04/2025
Environmental	ECMC agrees to an annual reporting schedule.	08/04/2025

Total: 2 comment(s)