

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
404458598

Receive Date:

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Report taken by:

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: PAINTED PEGASUS PETROLEUM LLC	Operator No: 10711	<b>Phone Numbers</b>
Address: 16820 BARKER SPRINGS RD #521		Phone: (303) 894-2100
City: HOUSTON State: TX Zip: 77084		Mobile: (720) 653-5045
Contact Person: Mat Succo (East OWP EPS)	Email: mat.succo@state.co.us	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 1666 Initial Form 27 Document #: 1121867

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: Proposed Remediation Workplan

SITE INFORMATION

Yes Multiple Facilities

Facility Type: SPILL OR RELEASE Facility ID: 320365 API #: County Name: ADAMS

Facility Name: HELIX-62S64W 30NWNW Latitude: 39.852802 Longitude: -104.599262

\*\* correct Lat/Long if needed: Latitude: 39.855309 Longitude: -104.599053

QtrQtr: NWNW Sec: 30 Twp: 2S Range: 64W Meridian: 6 Sensitive Area? Yes

Facility Type: TANK BATTERY Facility ID: 485158 API #: County Name: ADAMS

Facility Name: HELIX-62S64W 30NWNW Latitude: 39.852802 Longitude: -104.599262

\*\* correct Lat/Long if needed: Latitude: 39.855321 Longitude: -104.598647

QtrQtr: NWNW Sec: 30 Twp: 2S Range: 64W Meridian: 6 Sensitive Area? Yes

## SITE CONDITIONS

General soil type - USCS Classifications ML

Most Sensitive Adjacent Land Use PASTURE,  
RANGELAND

Is domestic water well within 1/4 mile? Yes

Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? Yes

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

There are five DWR Permitted water wells shown within 1/4 mile. DWR Permit #190766- Receipt 0389834 (Domestic Expired)[Top of Perf Casing = 355 ft bgs, TD = 500 ft bgs, ~215 ft SW] Residence 150 ft west; DWR Permit #90463-VE Receipt #0016851 Depth to Groundwater reported at 15ft by Kerr McGee in 2003 for REM #1666. Upper Arapahoe aquifer wells in the area (DWR Permit #224692) Static = 110' TD = 475'; An unnamed tributary drainage to Box Elder Creek and NWI Riverine mapped wetlands are located approximately 1,070 feet W-NW of the tank battery. Tank Battery is ~150 ft from CPW mapped Aquatic Native Species Conservation Waters HPH. Surrounding land use is rural residential, and as agricultural - pasture, rangeland.

# 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
Yes	GROUNDWATER	SITE INVESTIGATION	ANALYTICAL
Yes	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 ECMC Orphaned Well Program (OWP). The previous Form 27 Supplemental proposed site investigation activities to be performed during decommissioning of Oil and Gas Facilities, specifically sampling activities for decommissioning of the Helix #1 Tank Battery and Separator. A spill was reported at the separator in 2002 - 2003 and the operator at that time installed five groundwater monitoring wells and installed a vertical culvert ("tinhorn") for recovering impacted groundwater. It does not appear that these activities were continued or that the remediation project #1666 was resolved. Soil and groundwater samples will be collected and analyzed in accordance with CECMC 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, soil suitability for reclamation).

### Proposed Groundwater Sampling

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

Groundwater samples will be collected if groundwater is encountered in sufficient quantity to enable sample collection from each of the monitoring wells and the tinhorn. Grab groundwater 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. If warranted, alternative investigative actions will be described on a supplemental Form 27 to be performed under a separate scope of work.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 5 -- Highest concentration of TPH (mg/kg) 552  
 Number of soil samples exceeding 915-1 1 Highest concentration of SAR \_\_\_\_\_  
 Was the areal and vertical extent of soil contamination delineated? Yes BTEX > 915-1 No  
 Approximate areal extent (square feet) 100 Vertical Extent > 915-1 (in feet) 5

**Groundwater**

Number of groundwater samples collected 17 -- Highest concentration of Benzene (µg/l) 8430  
 Was extent of groundwater contaminated delineated? No -- Highest concentration of Toluene (µg/l) 1660  
 Depth to groundwater (below ground surface, in feet) 15 -- Highest concentration of Ethylbenzene (µg/l) 1.8  
 Number of groundwater monitoring wells installed 5 -- Highest concentration of Xylene (µg/l) 2480  
 Number of groundwater samples exceeding 915-1 4 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?  
 Site-specific background samples were not collected as part of a previous Operator's site investigation. The OWP will collect site-specific background samples to assess naturally occurring Table 915-1 metals concentrations and soil suitability for reclamation parameter levels during a future project.

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?  
 The OWP oversaw decommissioning of the Helix #1 (OWP) tank battery and conducted the required site investigation and groundwater monitoring during a future project. One soil sample (SEP-S3) beneath the separator was reported with elevated diesel range organics and motor oil range organics. The total petroleum hydrocarbons for this sample were reported as non-detect. Since there are minor impacts in this area, the OWP proposes to excavate impacted soil and collect confirmation background samples.

**REMEDIAL ACTION PLAN**

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? Yes

**SOURCE REMOVAL SUMMARY**

Describe how source is to be removed.  
 Impacted soils were reportedly previously excavated and disposed in the vicinity of the onsite separator. The OWP proposes that up to 1,500 cubic yards of impacted soil is removed by excavating in two (2) site specific locations, 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.  
 Up to 1,500 cubic yards of the E&P Waste impacted 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 ) \_\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ Other \_\_\_\_\_

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.

Grab groundwater samples will be collected from the existing groundwater monitoring wells and tinhorn around the separator. See Attached Map from Kerr McGee from 2002.

# REMEDIATION PROGRESS UPDATE

## PERIODIC REPORTING

### Approved Reporting Schedule:

Quarterly     Semi-Annually     Annually     Other    Supplemental Form 27 submitted within 90 days from date results are received.

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

## 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 PAINTED PEGASUS PETROLEUM LLC - HELIX #1 (OWP) well and associated TANK BATTERY are in the ECMC Orphaned Well Program. The former Operator's bond(s) and other funding will be used to decommission oil and gas facilities, investigate, remediate, and reclaim the Orphaned oil and gas location.

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

## 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 ECMC OWP will reclaim this oil and gas location in accordance with 1000 Series Rules including grading/recontouring of disturbed areas. The reclamation plan will include the method and testing of compaction alleviation, development of a reseeding program that describes preparation of a new seed bed, seed mix, and noxious weed prevention. This will be performed under a separate scope of work. Final reclamation will be conducted per ECMC 1000 Series Rules and prioritized based on OWP 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. 08/31/2023

Actual Spill or Release date, or date of discovery. 03/14/2002

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/13/2023

Proposed site investigation commencement. 07/24/2025

Proposed completion of site investigation. 09/24/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/19/2026

Proposed date of completion of Remediation. 12/31/2026

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 HELIX 1 (OWP) wellhead (API #05-001-09112) is in the ECMC OWP. Based on a review of ECMC's database, subsurface soil samples collected during decommissioning activities were reported with concentrations that exceed the Table 915-1 soil screening levels (SSL) for total petroleum hydrocarbons (TPH), pH, and metals.

This Form 27 Supplemental presents a remediation workplan to excavate E&P Waste impacted soils at two (2) specific locations. Impacted soil remains near the former separator and wellhead. The OWP proposes to remove and replace up to 1,500 cubic yards of impacted soil, collect up to 20 confirmation soil samples, and six (6) background samples.

Groundwater samples will be collected if groundwater is encountered in excavations in sufficient quantities to enable sample collection. Groundwater samples will be submitted for analysis of Table 915-1 groundwater parameters. Site investigation and remediation will proceed under Remediation Project #1666.

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

Signed: Mat Succo

Title: East OWP EPS

Submit Date: \_\_\_\_\_

Email: mat.succo@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: \_\_\_\_\_

Date: \_\_\_\_\_

Remediation Project Number: 1666

**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**

404523674	LABORATORY ANALYTICAL REPORT
404524085	SITE INVESTIGATION REPORT
404529745	REMEDIAL ACTION PLAN

Total Attach: 3 Files

**General Comments****User Group****Comment****Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)