

State of Colorado
Energy & Carbon Management Commission

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Report taken by:

CHRIS CANFIELD

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	Phone Numbers
Address: 16820 BARKER SPRINGS RD #521		Phone: (303) 894-2100
City: HOUSTON	State: TX	Zip: 77084
Contact Person: James Hix - East OWP EPS	Email: james.hix@state.co.us	Mobile: (303) 905-5341

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 34301 Initial Form 27 Document #: 403610241

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: PIT	Facility ID: 113940	API #: _____	County Name: ADAMS
Facility Name: ANTELOPE FARMS1 & 2	Latitude: 39.867002	Longitude: -104.397800	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENE	Sec: 23	Twp: 2S	Range: 63W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL	Facility ID: _____	API #: 001-07615	County Name: ADAMS
Facility Name: ANTELOPE FARMS 41-23 2 (OWP)	Latitude: 39.866836	Longitude: -104.397682	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENE	Sec: 23	Twp: 2S	Range: 63W Meridian: 6 Sensitive Area? Yes

Facility Type:	LOCATION	Facility ID:	320003	API #:		County Name:	ADAMS				
Facility Name:		ANTELOPE FARMS 41-23-62S63W 23NENE (OWP)		Latitude:	39.866873	Longitude:	-104.397686				
				** correct Lat/Long if needed: Latitude:		Longitude:					
QtrQtr:	NENE	Sec:	23	Twp:	2S	Range:	63W	Meridian:	6	Sensitive Area?	No

SITE CONDITIONS

General soil type - USCS Classifications	ML	Most Sensitive Adjacent Land Use	Cropland; Rural Residential (~1615 ft NW)
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

Nearest DWR Permitted Water Well, DWR Permit #914-RN ~4030 ft East-NE (DTW = 100 ft; TD = 290 ft); Intermittent drainage ~990 ft West, topographic downgradient - North; No NWI Mapped Wetlands within 1/4-mile; No CPW Mapped HPH w/in 1/4-mile

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
UNDETERMINED	SOILS	UNKNOWN	VISUAL, 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 (f.k.a. Colorado Oil and Gas Conservation Commission "COGCC") Orphaned Well Program (OWP). This supplemental Form 27 is submitted for site investigation activities performed during decommissioning of Oil and Gas Facilities, specifically the Antelope Farms 41-23 #2 (OWP) wellhead, tank battery, and pit #113940. Field screening was performed of the four sidewalls and base of the excavations to investigate for evidence of E&P Waste impacts. At a minimum, soil samples were submitted to an accredited environmental laboratory for analysis of Table 915-1 parameters from the base of the wellhead excavation and downgradient sidewall, beneath the aboveground storage tank (AST), separator, and the former unlined earthen pit. 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, 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 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

Number of soil samples collected 5

Number of soil samples exceeding 915-1 4

NA / ND

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 16.2

Was the areal and vertical extent of soil contamination delineated? Yes _____

BTEX > 915-1 No _____

Approximate areal extent (square feet) 15600 _____

Vertical Extent > 915-1 (in feet) 8 _____

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?

Site-specific background soil samples, 320003_BK01 @3' and 320003_BK02 @3', were collected and submitted for Table 915-1 metals (As, Ba, Cd, Cr +6, Cu, Ni, Pb, Ag, Se, Zn) and the soil suitability for reclamation parameters (pH, EC, SAR, and hot water soluble boron). Results indicated that arsenic was elevated in both background soil samples above Table 915-1 soil screening levels, and hot water soluble boron was elevated above the soil suitability for reclamation level of 2 mg/L in sample 320003_BK01 @3'

☒ Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 10 _____

Volume of liquid waste (barrels) 0 _____

☒ Is further site investigation required?

Analytical results indicate that arsenic was reported at concentrations above the calculated site specific arsenic value of 6.39 mg/kg in two of five soil samples. Results for pH, EC, and hot water soluble boron were reported above the Table 915-1 soil suitability for reclamation parameters in four of the soil samples.

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 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

If Yes: Estimated Volume (Cubic Yards) _____

_____ Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or ECMC 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.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

☐ Quarterly☐ Semi-Annually☐ Annually☒ Other

Results submitted within 90 days of receipt

☐ Request Alternative Reporting Schedule:

☒ Semi-Annually☐ Annually☐ Other

The OWP requests semi-annual reporting for this site based on the nature of the impacts.

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 - 10711 ANTELOPE FARMS 41-23-2 (OWP) is in the Colorado ECMC Orphaned Well Program. The former Operator's bond, or other funding will be used to Plug and Abandon (PA) the orphaned well, 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 Colorado ECMC OWP will reclaim this oil and gas location in accordance with 1000 Series Rules including grading/recontouring of disturbed areas. 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 ranking, project funding, and staff availability.

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. 10/13/2023

Actual Spill or Release date, or date of discovery. 10/13/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/08/2024

Proposed site investigation commencement. 01/10/2024

Proposed completion of site investigation. 03/20/2024

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 PAINTED PEGASUS PETROLEUM LLC - 10711 ANTELOPE FARMS 41-23 #2 (OWP) oil and gas well (API #05-001-07615), ANTELOPE FARMS 41-23-62S63W 23NENE (Location ID #320003), and Pit #113940 (unknown status) are in the ECMC Orphaned Well Program. This supplemental Form 27 presents the site investigation results following plugging and abandonment (PA) of the well, wellhead excavation soil sampling, the soil sample results for the decommissioning of the tank battery and a sample from the earthen pit. Analytical results did not indicate the presence of organic compounds above Table 915-1 soil screening levels (SSL); however, arsenic was reported above the site-specific calculated background concentration for 6.39 mg/kg arsenic. Results for the soil suitability for reclamation parameters of pH, EC, SAR, and hot water soluble boron were reported above Table 915-1 values in four of the five samples. Additional site investigation and remediation will proceed under Remediation Project #34301.

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: 06/17/2024

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: CHRIS CANFIELD

Date: 07/19/2024

Remediation Project Number: 34301

COA Type**Description**

0 COA	

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**

403826602	FORM 27-SUPPLEMENTAL-SUBMITTED
403826673	SITE INVESTIGATION REPORT

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)