

State of Colorado
Oil and Gas Conservation Commission

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Document Number:
402878055
Receive Date:
12/14/2021
Report taken by:
ROB YOUNG

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>PADCO LLC</u>	Operator No: <u>24500</u>	Phone Numbers Phone: <u>(918) 630-9912</u> Mobile: <u>(918) 630-9912</u>
Address: <u>800 W 6TH STREET SUITE 1010</u>		
City: <u>LOS ANGELES</u>	State: <u>CA</u>	Zip: <u>90017</u>
Contact Person: <u>Dan Richmond</u>	Email: <u>dan@dsrinc.net</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 21360 Initial Form 27 Document #: 402878055

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>PIT</u>	Facility ID: <u>117544</u>	API #: _____	County Name: <u>WASHINGTON</u>
Facility Name: <u>MILLER-REDIESS "A"</u>	Latitude: <u>40.205802</u>	Longitude: <u>-103.382509</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESE</u>	Sec: <u>23</u>	Twp: <u>3N</u>	Range: <u>54W</u> Meridian: <u>6</u> Sensitive Area? <u>No</u>

SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use Livestock Grazing
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? Yes

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 checked="" type="checkbox"/> Pit Bottoms | |
| | <input type="checkbox"/> Other (as described by EPA) | _____ |

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	Pit bottoms	Sampling

INITIAL ACTION SUMMARY

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

PADCO performed initial sampling to determine extent of impacted soils

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):

Samples were obtained inside the pit area from the bottom and side walls, background samples were also obtained. Samples were primarily analyzed for SAR, EC, pH, and TPH. Other Table 915 components were also analyzed for (see attached sample analysis summaries). See attached sampling diagrams.

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):

PADCO contracted DuraRoot Environmental Consulting to perform a root depth study of the area due to the existing saline-sodic soil conditions

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 10 -- Highest concentration of TPH (mg/kg) 68.7
 Number of soil samples exceeding 915-1 6 -- Highest concentration of SAR 97.7
 Was the areal and vertical extent of soil contamination delineated? No BTEX > 915-1 No
 Approximate areal extent (square feet) 25000 Vertical Extent > 915-1 (in feet) 10

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?
 Background samples were taken approximately 400 ft Northeast, 600 ft East, and 1,200 ft West produced water pit to obtain a good understanding of the native soil conditions
- 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

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.
 Excavate impacted soil to approximately 5.0' below ground level, hauled to approved disposal (see attached action plan).

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.
 Excavated soil will be removed, sent to offsite disposal, clean augmented berm soils will be used as initial layer, clean top soil will be added to allow approximately 5' of healthy soil for vegetation (see Duraroot study), plant salt tolerant soils. See attached action plan.

Soil Remediation Summary

- In Situ**
 - _____ Bioremediation (or enhanced bioremediation)
 - _____ Chemical oxidation
 - _____ Air sparge / Soil vapor extraction
 - _____ Natural Attenuation
- Ex Situ**
 - _____ Yes Excavate and offsite disposal
 - _____ If Yes: Estimated Volume (Cubic Yards) 1600
 - _____ Name of Licensed Disposal Facility or COGCC Facility ID # _____
 - _____ Excavate and onsite remediation

Yes Other Leave salt impacted soils that are deeper than 5 ft below ground surface in place _____

_____ 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 _____

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 _____

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 _____

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: _____

Volume of E&P Waste (liquid) in barrels _____

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 action plan

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. 05/03/2021

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/01/2021

Proposed site investigation commencement. 06/01/2021

Proposed completion of site investigation. 11/09/2021

REMEDIAL ACTION DATES

Proposed start date of Remediation. 12/28/2021

Proposed date of completion of Remediation. 07/01/2022

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:

OPERATOR COMMENT

See attached Duraroot vegetation root analysis dated 11/08/2021. Analysis shows that vegetation root depth is not impacted by soils greater than 5 feet in depth.

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

Signed: Ty J Smith _____

Title: Consultant _____

Submit Date: 12/14/2021 _____

Email: tysmith@lesair.com _____

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: ROB YOUNG _____

Date: 12/21/2021 _____

Remediation Project Number: 21360 _____

Condition of Approval**COA Type****Description**

0 COA	
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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.

Att Doc Num**Name**

402878055	FORM 27-INITIAL-SUBMITTED
402897951	ANALYTICAL RESULTS
402897952	ANALYTICAL RESULTS
402897954	ANALYTICAL RESULTS
402897955	SOIL SAMPLE LOCATION MAP
402897959	ANALYTICAL RESULTS
402897961	ANALYTICAL RESULTS
402897962	ANALYTICAL RESULTS
402897964	ANALYTICAL RESULTS
402897970	AERIAL IMAGE
402897974	OTHER
402897976	REMEDIAL ACTION PLAN
402897977	ANALYTICAL RESULTS
402897980	SOIL SAMPLE LOCATION MAP
402897983	CORRESPONDENCE
402898100	PHOTO DOCUMENTATION

Total Attach: 16 Files

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

Reclamation Specialist	Soil sample analytical results indicate SAR, EC, and pH levels exceeds the allowable level for Table 915-1 soil suitability for reclamation of the produced water pit. Based on the Remediation Action Plan and Native Plant Root Assessment, it appears that no further action is necessary at this time. However, should future conditions at the site indicate poor growth that is not reflective of reference areas, then further investigation and reclamation activities may be required.	12/17/2021
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Total: 1 comment(s)