

State of Colorado
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203
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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 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: INVESTMENT EQUIPMENT LLC	Operator No: 10330	Phone Numbers Phone: (361) 935-5633 Mobile: ()
Address: 558 CASTLE PINES PKWY UNIT B-4		
City: CASTLE PINES	State: CO Zip: 80108	
Contact Person: Brent Bongers	Email: bbongers@impetroresources.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 18894 Initial Form 27 Document #: 402646539

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: 117586	API #:	County Name: WASHINGTON
Facility Name: COLORADO STATE 1 & 2	Latitude: 39.751264	Longitude: -103.272980	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SWNW	Sec: 36	Twp: 3S	Range: 53W Meridian: 6 Sensitive Area? Yes

Facility Type: PIT	Facility ID: 117587	API #:	County Name: WASHINGTON
Facility Name: COLORADO "A" 1	Latitude: 39.750951	Longitude: -103.272409	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NESW	Sec: 36	Twp: 3S	Range: 53W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION		Facility ID: 470686	API #: _____	County Name: WASHINGTON	
Facility Name: Colorado State		Latitude: 39.751120		Longitude: -103.273620	
** correct Lat/Long if needed: Latitude: _____ Longitude: _____					
QtrQtr: SWNW	Sec: 36	Twp: 3S	Range: 53W	Meridian: 6	Sensitive Area? No

Facility Type: OFF-LOCATION FLOWLINE		Facility ID: 470717	API #: _____	County Name: WASHINGTON	
Facility Name: Production Line		Latitude: 39.751120		Longitude: -103.273620	
** correct Lat/Long if needed: Latitude: _____ Longitude: _____					
QtrQtr: SWNW	Sec: 36	Twp: 3S	Range: 53W	Meridian: 6	Sensitive Area? Yes

Facility Type: OFF-LOCATION FLOWLINE		Facility ID: 470718	API #: _____	County Name: WASHINGTON	
Facility Name: Production Line		Latitude: 39.751120		Longitude: -103.273620	
** correct Lat/Long if needed: Latitude: _____ Longitude: _____					
QtrQtr: SWNW	Sec: 36	Twp: 3S	Range: 53W	Meridian: 6	Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SW _____ Most Sensitive Adjacent Land Use Cropland _____

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

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- ☐ E&P Waste ☐ Other E&P Waste ☒ Non-E&P Waste
- ☐ Produced Water ☐ Workover Fluids No waste is currently anticipated
- ☐ 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	GROUNDWATER	N/A	Laboratory analysis, if encountered
UNDETERMINED	SOILS	Unknown	Laboratory analysis

INITIAL ACTION SUMMARY

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

Soil samples collected 8/1/2023 for soil solubility confirmed the lateral extent of contamination. Samples from 2021 and 2022 contain exceedances above Table 915-1 for EC, SAR, and Boron. Further excavation and confirmation samples (at greater depths) will be collected to determine vertical extents of contamination. See attached Remedial Report for Figures (All Samples Taken to Date and Proposed Soil Samples for Delineation) and next steps. Investment Equipment would like to request a reduced analytical suite for only EC, SAR and Boron.

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):

Further excavation and confirmation samples will be collected at various points to determine vertical extents; see "Proposed Sample Locations for Vertical Delineation" Map for sample locations. Investment Equipment would like to request a reduced analysis on future confirmation samples for only EC, SAR, and boron. Samples will be taken at greater depths to define vertical extents. 2023 samples confirm lateral delineation.

Proposed Groundwater Sampling

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

If groundwater is encountered during the site assessment, a grab groundwater sample will be collected and analyzed for all organic compounds per ECMC 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 54

Number of soil samples exceeding 915-1 11

NA / ND

ND Highest concentration of TPH (mg/kg) _____

_____ Highest concentration of SAR _____

Was the areal and vertical extent of soil contamination delineated? No

BTEX > 915-1 No

Approximate areal extent (square feet) 100

Vertical Extent > 915-1 (in feet) 22

Groundwater

Number of groundwater samples collected 0

NA Highest concentration of Benzene (µg/l)

Was extent of groundwater contaminated delineated? No

NA Highest concentration of Toluene (µg/l)

Depth to groundwater (below ground surface, in feet)

NA Highest concentration of Ethylbenzene (µg/l)

Number of groundwater monitoring wells installed

NA Highest concentration of Xylene (µg/l)

Number of groundwater samples exceeding 915-1

NA 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?

5 Background samples were taken for metals (BM1, BM2, BM3, BM4, BM5). Previously, two Background samples (Background North, and Background South).

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

Volume of solid waste (cubic yards) 647

Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

Further excavation and confirmation samples will be collected at various points to determine vertical extents; see "Proposed Sample Locations for Vertical Delineation" Map for sample locations. Investment Equipment would like to request a reduced analysis on future confirmation samples for only EC, SAR, and boron. Samples will be taken at greater depths to define vertical extents. 2023 samples confirm lateral delineation.

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.

Pit excavation of hydrocarbon impacted soil was removed and disposed of a Pawnee Waste facility. ~107 cu yds of soil was removed and disposed of, waste manifest attached in remedial report summary. See attached Remedial Action Plan for additional details.

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.

Analytical results included herein confirm that hydrocarbon impacts are no longer present at concentrations above Table 915-1 standards at the Colorado State equipment locations, as well as the two Pits. Further investigation will occur within both pits as shown in the attachments. Investment Equipment would like to request a reduced analysis on future confirmation samples for only EC, SAR, and Boron. See attached Remedial Action Plan for additional details.

Soil Remediation Summary

☐ In Situ

☒ Ex Situ

Bioremediation (or enhanced bioremediation)

Yes Excavate and offsite disposal

Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) 107

Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or COGCC Facility ID #

Natural Attenuation

Excavate and onsite remediation

Other _____

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.

N/A

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 Assessment/Remediation update

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.

Operator is bonded per rule 702 and complies with GL Insurance per Rule 705

Operator anticipates the remaining cost for this project to be: \$ 5000

WASTE DISPOSAL INFORMATION

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

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

Contaminated Soil was disposed of at Pawnee Waste Facility

Volume of E&P Waste (solid) in cubic yards 647

E&P waste (solid) description contaminated soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: Pawnee Waste

Volume of E&P Waste (liquid) in barrels 0

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? No

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.

Investment Equipment is working directly with the Colorado State Land Board to develop a Reclamation Plan to bury the remaining inorganic impacts in the existing pits below root zone. A Supplement Form 27 will be submitted and include the Reclamation Plan.

Is the described reclamation complete? No

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. 03/01/2024

Proposed date of completion of Reclamation. 12/01/2025

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. _____

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/02/2021

Proposed site investigation commencement. 08/02/2021

Proposed completion of site investigation. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/01/2023

Proposed date of completion of Remediation. 03/01/2024

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:

Remedial activities plan to be done by March 1, 2024 upon defining vertical and lateral extents of impacts. Reclamation of surface will begin in Spring 2024. Landowner may want winter planting to occur but not confirmed.

OPERATOR COMMENT

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

Signed: Taylor Cordts

Title: Staff Engineer

Submit Date: 12/21/2023

Email: tcordts@ardorenvironmental.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: 03/08/2024

Remediation Project Number: 18894

COA Type**Description**

	Operator shall clarify the different project scopes for each remediation number. If this remediation project includes the off-location flowlines, then operator shall provide soil sampling plan attached to remediate the flowlines.
	Operator shall provide a comprehensive list of all potential receptors within ¼ mile on the subsequent Supplemental Form 27. Location lies within the following mapped High Priority Habitat(s): - Designated Basin - Pronghorn Winter Concentration Please note that Approval of this Form 27 does not supersede any Federal, State or Local regulations. COGCC recommends consultation with Colorado Parks and Wildlife.
	Operator shall submit reports of site investigation including all laboratory analytical results for all samples collected, per Rule 913.h.(4).A..
	Operator shall fully populate the implementation schedule in accordance with Rule 913.d on the subsequent Supplemental Form 27. The "Date of Surface Owner notification/consultation, if required." and "Actual Spill or Release date or date of discovery." information is missing.
4 COAs	

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**

403623859	FORM 27-SUPPLEMENTAL-SUBMITTED
403634293	REMEDIAL ACTION PLAN

Total Attach: 2 Files

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

Environmental	ECMC agrees to the reduced analyte list of Table 915-1 Soil Suitability for Reclamation analytes: pH, EC, Boron, and SAR for remediation of the pit locations.	03/08/2024
Environmental	"WPNW (West pit north wall) 12/2/2021" TPH exceedance shows to be remediated with "WPNW (West pit north wall) 4/19/2022" "WPB (West pit base) 4/19/2022" TPH exceedance shows to be remediated with "WPB @ 7 (West pit base @ 7) 7/21/2022" Please note that boron exceedances cannot be remediated with an in-situ Reclamation Plan. Reclamation Plans apply only to pH, EC, and SAR exceedances.	03/08/2024

Environmental	<p>Rem# 16226 - associated with closing the COLORADO "A" 1 pit and the other pit Rem# 18894 - associated with "Colorado State" location, off-location flowlines, on location flowline(s), tank battery, and location</p> <p>Spill ID# 472607 proceeded under Remediation# 16226 within Form 19S, Doc# 402577885</p> <p>Per Doc# 403196653, "two remediation projects are open for Pit closure/decommissioning (pits 117586 and 117587). Operator shall request closure for Remediation Project 16226 and state work is proceeding under Remediation Project 18894. As such, Operator shall address Spill 472607 under Remediation Project 18894 and add the spill to the site information section. The site information section on the subsequent Form 27 Supplemental for Remediation Project number 18894 must include the following: -Spill 472607 -Pit 117586 -Pit 117587 -Location 470686 -Off-location flowline 470717 (request administrative closure and reference remediation project associated with flowline removal) -Off-location flowline 470718 (request administrative closure and reference remediation project associated with flowline removal)"</p>	03/08/2024
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Total: 3 comment(s)