

State of Colorado  
Energy & Carbon Management Commission

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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 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: INVESTMENT EQUIPMENT LLC	Operator No: 10330	<b>Phone Numbers</b>
Address: 558 CASTLE PINES PKWY UNIT B-4		Phone: (361) 935-5633
City: CASTLE PINES State: CO Zip: 80108		Mobile: ( )
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:  
Facility Name: Latitude: Longitude:  
\*\* correct Lat/Long if needed: Latitude: Longitude:  
QtrQtr: Sec: Twp: Range: Meridian: 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:

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> E&P Waste       | <input type="checkbox"/> Other E&P Waste             | <input checked="" type="checkbox"/> Non-E&P Waste |
| <input type="checkbox"/> Produced Water  | <input type="checkbox"/> Workover Fluids             | No waste is currently anticipated                 |
| <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 type="checkbox"/> Pit Bottoms                 |   |
|  | <input type="checkbox"/> 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	N/A	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.

On 8/1/2023, 16 soil samples (3 at the West Pit, 5 at the East Pit, 1 at each of the 4 spills, and 4 at Spill 2) were collected to characterize the pits, and potential spill locations. Analytical results 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. Soil samples were collected from surface areas adjacent to the pits to confirm the extent of soil solubility impacts. Sample results for the West Pit Base (WPB) slightly exceed Table 915-1 Arsenic standards, however, background samples also exhibit concentrations above the WPB result. See attached report with all figures, tables, photo log, and laboratory analytical results.

## 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 ):

Following regrading at Spill 2, a confirmation sample will be collected for analysis of Soil Solubility per Table 915-1.

### 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 ECMCTable 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

NA / ND

Number of soil samples collected 54

NA Highest concentration of TPH (mg/kg) \_\_\_\_\_

Number of soil samples exceeding 915-1 3 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) 22

**Groundwater**

Number of groundwater samples collected 0 NA 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?

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?

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 former pits. Inorganic impacts remain in the former pit berms and will be address in a Form 27 Supplemental reclamation plan. Investment Equipment is in discussion with the Co State Land Board regarding burying inorganic soils below root zone, amend with gypsum and import topsoil for the top 3'. In order to maintain progress on this remediation project, Investment Equipment LLC requests the official ECMC approval of the use of the Arsenic Calculated Background Value to close the Colorado State 1&2 Pit (West Pit) (Facility ID 117586), the Colorado "A" 1 Pit (Facility ID 117587), and the approval that the Site wide soil suitability sampling will be acceptable to achieve closure of the Colorado State Location (Facility ID 470686). Once this path for closure is approved, the placement of sodic soils into the Pits, surface reclamation in accordance with ECMC 1000 Series rules can begin. Following backfill of the Pits, site soil suitability sampling will be performed and submitted to ECMC under separate supplemental 27.

**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.

**REMEDICATION 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. Background sampling for metals in soils confirms that the bases of the two Pits are in compliance with Table 915-1 standards. Soil suitability for reclamation sampling has identified the areas around the Pits that meet Table 915-1 standards. Historical Spill Characterization Activities– Soil Suitability for Reclamation To address soil suitability levels for reclamation in the historical spill area, four (4) samples were collected from the historical spill sample locations and were then submitted to Summit Scientific Laboratory in Golden, Colorado, for analysis of Soil Suitability. One Sample Spill #2 exceeded soil suitability standards, Investment Equipment plans to address this through the above referenced plan to bury sodic soils below root zone and conduct confirmation sampling of imported soil.

**Soil Remediation Summary**

In Situ

Ex Situ

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

- Yes \_\_\_\_\_ Excavate and offsite disposal
- \_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 107
- \_\_\_\_\_ Name of Licensed Disposal Facility or COGCC 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.

N/A

# REMEDIATION PROGRESS UPDATE

## PERIODIC REPORTING

### Approved Reporting Schedule:

Quarterly    Semi-Annually    Annually    Other   Site Assessment Report Update

### 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

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Pawnee Waste

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

E&P waste (liquid) description

COGCC Disposal Facility ID #, if applicable:

Non-COGCC 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 COGCC 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. 12/01/2023

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. \_\_\_\_\_

Proposed completion of site investigation. \_\_\_\_\_

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/01/2023

Proposed date of completion of Remediation. 12/01/2023

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:

All work is estimated to be done by December 1, 2023 upon approval of burial of sodic soils in former pits below root zone. Reclamation of surface will begin in Spring 2024. Landowner may want winter planting to occur but not confirmed.

**OPERATOR COMMENT**

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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: 09/18/2023

Email: tcordts@aordorenvironmental.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: Kyle Waggoner

Date: 10/30/2023

Remediation Project Number: 18894

**COA Type****Description**

	Soil confirmation sample data indicate that SAR, EC, and boron at the site exceeds the Table 915-1 soil suitability levels for reclamation. Therefore the remediation project cannot be closed at this time. ECMC removed the closure request. If the Operator proposes to leave material with elevated levels of SAR, EC, and boron in situ, the Operator shall define the vertical and lateral extent of impacts and provide a detailed Reclamation plan that includes, but is not limited to, soil analysis from adjacent undisturbed lands, revegetation techniques, site stabilization, and details of seeded species. Operator will submit the Reclamation plan pursuant to Rule 915.b. on a Form 27 Supplemental Report for Director review.
	Operator shall not bury any sodic soil or other E&P waste on site.
2 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**

403508029	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403521638	DISPOSAL MANIFESTS
403521646	MAP
403521647	SOIL SAMPLE LOCATION MAP
403521648	ANALYTICAL RESULTS
403521649	ANALYTICAL RESULTS
403521650	ANALYTICAL RESULTS
403521652	ANALYTICAL RESULTS
403521975	REMEDATION PROGRESS REPORT
403522068	OTHER
403576324	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 11 Files

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

Environmental	Arsenic exceedance is within the 1.25 time background sample levels. Organic exceedances within "WPNW" sample from 12/2/2021 delineated and confirmation soil samples from 4/19/2022 showed no exceedances. Organic exceedances within "WPB" sample from 4/19/2022 delineated and confirmation soil samples from 7/21/2022 showed no exceedances.	10/23/2023
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Total: 1 comment(s)