

State of Colorado  
Energy & Carbon Management Commission

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Report taken by:  
Alexander Ahmadian

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: <u>BEHRENS RESOURCES INC</u>	Operator No: <u>10695</u>	<b>Phone Numbers</b>
Address: <u>PO BOX 188</u>		
City: <u>DEER TRAIL</u>	State: <u>CO</u>	Zip: <u>80135</u>
Contact Person: <u>James Hix - East OWP EPS</u>	Email: <u>james.hix@state.co.us</u>	Phone: <u>(303) 894-2100</u>
		Mobile: <u>(303) 905-5341</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 38879 Initial Form 27 Document #: 404046949

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>LOCATION</u>	Facility ID: <u>450837</u>	API #: _____	County Name: <u>ARAPAHOE</u>
Facility Name: <u>State Craig 2&amp;4-16 Battery</u>	Latitude: <u>39.609250</u>	Longitude: <u>-104.323800</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESE</u>	Sec: <u>16</u>	Twp: <u>5S</u>	Range: <u>62W</u>
Meridian: <u>6</u>	Sensitive Area? <u>No</u>		

SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use Rural Residential, Cropland

Is domestic water well within 1/4 mile? Yes 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**

There are two DWR Permitted Water Wells located w/in 1/4 mile. DWR Permit #251920- Receipt #0513136 Residential (2003) [SWL=100 ft bgs, Top of Perf Casing=220 ft bgs, TD=280 ft bgs, ~375 ft NW]; DWR Permit #294748- Receipt #3665222 Residential (2014) [SWL=104 ft bgs, Top of Perf Casing=140 ft bgs, TD=320 ft bgs, ~475 ft SW]; Estimated Groundwater Depth: 100 ft bgs. Surface Water: No streams w/in 1/4 mile. NWI Mapped Wetlands - Freshwater Emergent ~1370 ft SW & 1580 ft SSW; Three residential building units (RBU) located w/in 1/4 mile (~236 ft SW; ~680 ft NW, ~960 ft NNW). Location lies within CPW Mapped HPH: Rule 1202.d Density Habitat - Pronghorn Winter Concentration

# SITE INVESTIGATION PLAN

## TYPE OF WASTE:

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste      | <input checked="" 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 checked="" 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	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 Energy and Carbon Management Commission (ECMC) Orphaned Well Program (OWP). This Form 27 initial presents results for site investigation activities performed during decommissioning of Oil and Gas Facilities, specifically sampling activities performed concurrently with the State-Craig 2&4-16 tank battery decommissioning. Soils and field screening were performed beneath key pieces of equipment (i.e. aboveground storage tanks (AST), produced water vaults (PWV), separators) to investigate for evidence of E&P Waste impacts. Soil samples were collected in areas where E&P Waste impacts were most likely. Soil samples were submitted to an accredited environmental laboratory for analysis of Table 915-1 parameters from beneath equipment, areas exhibiting evidence of spills/releases, and flowline trenches. 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 (As, Ba, Cd, Cu, Cr6+, Pb, Ni, Ag, Zn) and soil suitability for reclamation parameters (pH, EC, SAR, hot water soluble boron)].

### 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

NA / ND

Number of soil samples collected 5 -- Highest concentration of TPH (mg/kg) 6314  
 Number of soil samples exceeding 915-1 3 -- Highest concentration of SAR 12.4  
 Was the areal and vertical extent of soil contamination delineated? No BTEX > 915-1 Yes  
 Approximate areal extent (square feet) 19550 Vertical Extent > 915-1 (in feet) 4

**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 samples were not collected as part of this investigation. Area background soil samples were collected. Additional site-specific background soil samples collected from undisturbed areas away from historic oil and gas operations are required. Background samples will be submitted to an accredited environmental laboratory for analysis of Table 915-1 metals and soil suitability for reclamation parameters.

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?

Further site investigation is required to delineate the lateral and vertical extent of E&P Waste impacts at the State-Craig #2-16 & #4-16 Tank Battery. The TPH, BTEX, and organic parameter impacts in soil sample, SS05, collected at 4 ft bgs beneath the heater treater exceed Table 915-1 SSL. Analytical results for soil samples SS04 collected beneath the flowline riser at 3.5 ft bgs and soil sample SS03 collected from 1 ft bgs beneath the west aboveground storage tank (AST) were above Table 915-1 SAR and hot water soluble boron soil suitability for reclamation parameter levels. Site-specific background samples are needed.

**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 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.

# REMEDIATION PROGRESS UPDATE

## PERIODIC REPORTING

### Approved Reporting Schedule:

Quarterly  Semi-Annually  Annually  Other

A Form 27 Supplemental will be submitted within 90 days from receipt of results.

### 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 former BEHRENS RESOURCES INC - State-Craig 2- & 4-16 Tank Battery (Facility ID #450838) is in the ECMC Orphaned Well Program. The former Operator's bonds and other funding will be used to decommission the tank battery, remove flowlines, and perform investigation, remediation, and reclaim the Oil and Gas Location.

Operator anticipates the remaining cost for this project to be: \$ 59000 \_\_\_\_\_

## 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 prepare a reclamation plan to reclaim this oil and gas location in accordance with 1000 Series Rules including grading/recontouring of disturbed areas. The reclamation plan will be implemented 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. 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. 01/22/2025

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/12/2025

Proposed site investigation commencement. 06/11/2025

Proposed completion of site investigation. 07/31/2026

### 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 former BEHRENS RESOURCES INC. - 10695 STATE-CRAIG #2-16 & #4-16 Tank Battery (Location ID #450837) and associated flowlines are in the ECMC Orphaned Well Program ("OWP"). The related State-Craig #2-16 (OWP) and State-Craig #4-16 (OWP) wells were plugged and abandoned in June 2025. This Form 27 Supplemental presents results for soil samples collected during the tank battery decommissioning and flowline removal conducted in July 2025. Results for soil samples SS01 and SS02 collected beneath aboveground storage tanks (AST) on the south end of the facility exhibited minor impacts and were in compliance with Table 915-1. Analytical results for soil sample SS03 collected from 0 to 1 ft bgs beneath the west AST reported SAR and hot water soluble boron above the Table 915-1 soil suitability for reclamation (SSR) parameter levels. Results for SS04 collected at 3.5 ft bgs beneath the flowline riser reported benzo(a) pyrene (0.142 mg/kg) above the Table 915-1 Soil Screening Levels (SSL) and SAR and hot water soluble boron above the Table 915-1 SSR. Analytical results for soil sample SS05 collected at 4 ft bgs beneath the heater treater reported TPH, BTEX, PAH above the Table 915-1 SSL. Arsenic was reported above the Table 915-1 Residential SSL in all five soil samples. Site-specific background samples are required to compare with soil confirmation sample results and area background sample results. Site-specific background samples will be collected from undisturbed areas away from historic oil and gas operations and submitted for analysis of Table 915-1 metals and soil suitability for reclamation parameters. Groundwater is estimated at 100 ft bgs. Further site investigation is required to delineate the lateral and vertical extent of E&P Waste impacts at this location. The OWP will oversee site investigation and remediation activities which will proceed under Remediation Project #38879.

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: 11/12/2025

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: Alexander Ahmadian

Date: 01/30/2026

Remediation Project Number: 38879

**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**

404425301	FORM 27-SUPPLEMENTAL-SUBMITTED
404427052	SITE INVESTIGATION REPORT
404427053	ANALYTICAL DATA SUMMARY TABLE(S)
404427055	SOIL SAMPLE LOCATION MAP
404427056	PHOTO DOCUMENTATION
404427061	ANALYTICAL RESULTS
404427067	DISPOSAL MANIFESTS
404427069	DISPOSAL MANIFESTS
404427070	DISPOSAL MANIFESTS
404433412	MAP
404433416	ANALYTICAL DATA SUMMARY TABLE(S)
404433418	ANALYTICAL RESULTS
404433422	MAP
404433479	CORRESPONDENCE

Total Attach: 14 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)