

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
404046961  
Receive Date:  
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Report taken by:  
Alexander Ahmadian

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 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>		Phone: <u>(303) 894-2100</u>
City: <u>DEER TRAIL</u> State: <u>CO</u> Zip: <u>80135</u>		Mobile: <u>(303) 905-5341</u>
Contact Person: <u>James Hix - East OWP EPS</u>	Email: <u>james.hix@state.co.us</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 38883 Initial Form 27 Document #: 404046961

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: Tank Battery Decommissioning

SITE INFORMATION

No  Multiple Facilities

Facility Type: <u>LOCATION</u>	Facility ID: <u>475516</u>	API #: _____	County Name: <u>ARAPAHOE</u>
Facility Name: <u>STATE-CRAIG-65S62W 16NWSE (OWP)</u>	Latitude: <u>39.614916</u>	Longitude: <u>-104.323692</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NESE</u>	Sec: <u>16</u>	Twp: <u>5S</u>	Range: <u>62W</u> Meridian: <u>6</u> Sensitive Area? <input type="checkbox"/> No

SITE CONDITIONS

General soil type - USCS Classifications ML Most Sensitive Adjacent Land Use Cropland, rural residential  
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 within 1/4-mile of the Location. DWR Permit #263210- Receipt #0538113 Residential (2005)[SWL = 125 ft bgs, Top of Perf Casing = 300 ft bgs, TD = 350 ft bgs, ~895 ft NW]; DWR Permit #244335- Receipt #0497522 Residential (2003)[SWL = 90 ft bgs, Top of Perf Casing = 220 ft bgs, TD = 340 ft bgs, ~985 ft SW]; Estimated Depth to Groundwater: 90 ft bgs, Surface Water: There are no mapped surface waters w/in 1/4-mile of the Location. There are no NWI Wetlands mapped within 1/4-mile of the location. There are NWI Wetlands mapped as Other ~1460 ft West and Freshwater Emergent 3025 ft SW. There are two residential building units (RBU) located within 1/4-mile of the Location (~915 SSW; 1240 ft NW); Adjacent land use is agricultural, cropland. The Location lies within CPW Mapped HPH: Pronghorn Winter Concentration Area.

# 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 the site investigation activities to be performed during decommissioning of Oil and Gas Facilities, specifically sampling activities for the STATE-CRAIG-65S62W 16NWSE Tank Battery for the STATE-CRAIG #1-16 (OWP) and STATE-CRAIG #3-16 (OWP) oil and gas wells. Field screening will be performed of the four sidewalls and base excavations to investigate for evidence of E&P Waste impacts. At a minimum, soil samples will be collected beneath key pieces of equipment, including, but not limited to, aboveground storage tanks (AST), produced water vaults (PWV), separators, manifolds, and areas where E&P Waste impacts are most likely to have occurred. Soil samples will be collected beneath flowline risers, connection points, fittings, and areas where E&P Waste impacts are evident. Soil samples will be submitted to an accredited environmental laboratory for analysis of full Table 915-1 parameters. Soil samples will be 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 0

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

Number of soil samples exceeding 915-1 \_\_\_\_\_

Highest concentration of SAR \_\_\_\_\_

Was the areal and vertical extent of soil contamination delineated? \_\_\_\_\_

BTEX > 915-1 \_\_\_\_\_

Approximate areal extent (square feet) \_\_\_\_\_

Vertical Extent > 915-1 (in feet) \_\_\_\_\_

**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?

\_\_\_\_\_

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.

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.

**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.

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

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

A Form 27 Supplemental will be presented within 90 days from the 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 BEHRENS RESOURCES INC - 10695 STATE-CRAIG-65S62W 16NWSE (Location ID #475516) STATE-CRAIG 1&3-16 Tank Battery is in the ECMC Orphaned Well Program (OWP). The former Operator's bond and other funding will be used to decommission the tank battery and remove/abandon flowlines.

Operator anticipates the remaining cost for this project to be: \$ 49261 \_\_\_\_\_

## 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: \_\_\_\_\_

# 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 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. \_\_\_\_\_

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

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/24/2025

Proposed site investigation commencement. 02/16/2025

Proposed completion of site investigation. 03/28/2025

### 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-65S62W #16NWSE (Location ID #475516) CRAIG-STATE #1&3-16 Tank Battery is in the ECMC Orphaned Well Program ("OWP"). This Form 27 Initial presents the site investigation and remediation workplan for sampling during tank battery decommissioning and flowline removal/abandonment activities. Soils will be observed and field screened for evidence of E&P Waste Impacts in areas where E&P Waste impacts are most likely to have occurred. Soil samples will be collected from beneath key pieces of equipment, including but not limited to, aboveground storage tanks (AST), produced water vaults (PWV), separators, and manifolds. Flowline trenches will be observed and screened for evidence of E&P Waste impacts. At a minimum soil samples will be collected from beneath flowline risers, connections, and fittings. Soil samples will be submitted to an accredited environmental laboratory for analysis of full Table 915-1 parameters. The Tank Battery decommissioning and closure report and analytical results will be submitted on a Form 27 Supplemental within 90 days of receipt of the report and results.

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: 01/24/2025

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: 02/11/2025

Remediation Project Number: 38883

**COA Type****Description**

	Operator will submit a Form 42 or 44 Pre-abandonment notice pursuant to Rule 1105.d. A Form 42 or 44 will be filed prior to starting flowline abandonment, and will be included in the Related Forms in a supplemental Form 27. Abandonment will occur per the requirements of Rule 1105. Note: Approval of this Form 27 does not imply approval of pre-abandonment required by Rule 1105.d.
	Location is adjacent to a jurisdictional Wetlands as mapped on the National Wetland Inventory Maps. In the event that operations encroach upon the wetlands, Operator shall consult with the US Army Corps of Engineers regarding compliance with Sections 401 and 404 of the Clean Water Act. Operator shall submit all communications/permits obtained to the ECMC via Form 4 Sundry. Note: Approval of this Form 27 does not supersede any Federal, State or Local regulations.
	Location and/or its associated flowlines lie within the following mapped High Priority Habitat(s): - Pronghorn Winter Concentration Please note that Approval of this Form 27 does not supersede any Federal, State or Local regulations. ECMC recommends consultation with Colorado Parks and Wildlife.
3 COAs	

**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
404046961	INVESTIGATION/REMEDATION WORKPLAN (INITIAL)
404069071	MAP
404069072	SITE MAP
404088861	FORM 27-INITIAL-SUBMITTED

Total Attach: 4 Files

**General Comments**

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)