

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>	Phone Numbers Phone: <u>(303) 894-2100</u> Mobile: <u>(303) 905-5341</u>
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>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 38869 Initial Form 27 Document #: 404046914

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>WELL</u>	Facility ID: _____	API #: <u>005-06866</u>	County Name: <u>ARAPAHOE</u>
Facility Name: <u>STATE-CRAIG 2-16 (OWP)</u>	Latitude: <u>39.609770</u>	Longitude: <u>-104.335110</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESW</u>	Sec: <u>16</u>	Twps: <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 three DWR Permitted wells that plot w/in 1/4-mile of the Location. DWR Permit #245817- Receipt #0501551 Residential (2003) [SWL = 92 ft bgs, Top of Perf Casing = 100 ft bgs, TD = 220 ft bgs, ~660 ft NW]; DWR Permit #245818- Receipt #0501550 Residential (2003) [SWL = 105 ft, Top of Perf Casing = 120 ft bgs, TD = 220 ft bgs, ~820 ft NW]; DWR Permit #246858- Receipt #0503111 Residential (2003) [SWL = 106 ft bgs, Top of Perf Casing = 140 ft bgs, TD = 220 ft bgs, ~1135 ft N]; Estimated Depth to Groundwater: 100 ft bgs; Surface Water: No streams w/in 1/4 mile of the Location. NWI Mapped Wetlands - Other (~1160 ft E); Three residential building units (RBU) within 1/4 mile of the Location (~470 ft NE, ~810 ft N, ~1040 ft NE); Location lies w/in CPW Mapped HPH: Rule 1202d Density Habitats (2025) Pronghorn Winter Concentration

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste | <input 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 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
Yes	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 Supplemental presents results of site investigation activities performed during decommissioning of Oil and Gas Facilities, specifically sampling activities for cut, cap, and burial following plugging and abandonment (PA) of the well. Methane monitoring was performed prior to and at least five days after well plugging. Field screening was performed of the four sidewalls and base of the wellhead excavation to investigate for evidence of E&P Waste impacts. At a minimum, soil samples were submitted to an accredited environmental laboratory for analysis of full Table 915-1 parameters from the excavation sidewall soils that exhibit E&P Waste impact; or from the expected downgradient sidewall in the absence of E&P Waste impact; and from the base of the excavation. The Off-Location Flowline trench was observed for evidence of spills/releases. At a minimum a soil sample collected beneath the flowline riser ends was submitted for full Table 915-1 parameters. Site-specific background soil samples will be submitted for analysis of Table 915-1 metals and soil suitability for reclamation parameters. 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

Number of soil samples collected 2
Number of soil samples exceeding 915-1 1
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 5400

NA / ND

-- Highest concentration of TPH (mg/kg) 1407
-- Highest concentration of SAR 1.97
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 1

Groundwater

Number of groundwater samples collected 0
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet) _____
Number of groundwater monitoring wells installed _____
Number of groundwater samples exceeding 915-1 _____

Highest concentration of Benzene (µg/l) _____
Highest concentration of Toluene (µg/l) _____
Highest concentration of Ethylbenzene (µg/l) _____
Highest concentration of Xylene (µg/l) _____
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 soil samples were not collected at the well pad as part of this site investigation. Area background soil samples were collected. Site-specific background soil samples will be collected from undisturbed areas away from historic oil and gas operations during a future phase performed under a separate scope of work. Background soil samples collected from depths ranging from 1 ft to 4 ft bgs will be submitted 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 necessary in area surrounding the former pumping unit to delineate the lateral and vertical extent of impacts > 1 ft bgs. Total petroleum hydrocarbons (TPH) were reported at 1407.30 mg/kg; 1,2,4-trimethylbenzene (1.84 mg/kg), 1,3,5-trimethylbenzene (0.637 mg/kg), 1-methylnaphthelene (0.670 mg/kg), 2-methylnaphthelene (0.979 mg/kg) were reported above the Table 915-1 protection of groundwater SSL. Site-specific background samples will need to be collected to compare with the area background soil sample results.

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)
_____ Chemical oxidation
_____ Air sparge / Soil vapor extraction
_____ Natural Attenuation
_____ Other _____

_____ Excavate and offsite disposal
_____ 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 #2-16 (OWP) is in the ECMC Orphaned Well Program. The Operator's bond(s) and other funding will be used to plug and abandon the well, remove Off-Location Flowline(s), and investigate, remediate, and reclaim the Oil and Gas Facilities/Location.

Operator anticipates the remaining cost for this project to be: \$ 161779

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). 01/02/2025

Proposed site investigation commencement. 06/11/2025

Proposed completion of site investigation. 07/23/2025

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 #2-16 (OWP) oil and gas well (API #05-005-06866), STATE-CRAIG-65S62W 16SESW (Location ID #320748) is in the ECMC Orphaned Well Program ("OWP"). Pit #110603 is listed as closed. This Form 27 Supplemental presents the site investigation results for cut and cap sampling performed following plugging and abandonment (PA) of the well. Methane monitoring was performed prior to plugging and at least five days after the well was plugged. Analytical results for soil sample, SS01, collected from the wellhead excavation floor at 4 ft bgs reported that arsenic (1.08 mg/kg) was detected above the Table 915-1 Residential SSL. Results for soil sample, SS02 at 1 ft, collected beneath the pumping unit reported TPH at 1407.30 mg/kg which is above the Table 915-1 TPH cleanup concentration of 500 mg/kg. Concentrations of 1,2,4-trimethylbenzene (1.84 mg/kg), 1,3,5-trimethylbenzene (0.637 mg/kg), 1-methylnaphthelene (0.670 mg/kg), 2-methylnaphthelene (0.979 mg/kg) were reported above the Table 915-1 protection of groundwater SSL. Depth to groundwater is estimated to be greater than 100 ft bgs based on a review of area DWR water well records. There are no surface water bodies mapped within 1/4 mile and NWI mapped wetlands ("Other") appear to be deflation basins within eolian sediments. Geology consists of Quaternary age eolian sediments overlying Cretaceous Denver Formation bedrock. Soils consist of silts (SM) and sandy clay (SC) the NRCS mapped as the Bresser-Truckton sandy loam (Map Unit: BvC). Further site investigation is necessary around the pumping unit to define the lateral and vertical extent of E&P Waste impacts. Site-specific background soil samples collected from undisturbed areas away from historic oil and gas operations are needed to assess Table 915-1 metals concentrations and soil suitability for reclamation parameter levels. Confirmation soil samples will be collected following removal of the E&P Waste impacted materials. An earlier remediation project (Remediation Project #8436) that appears to be associated with the State-Craig 2-16/4-16 shared tank battery (Facility ID #450838) was closed/resolved in May 2014. Additional site investigation, remediation, and reclamation of the State-Craig #2-16 (OWP) well pad will be performed in phases under separate scopes of work and will proceed under Remediation Project #38869.

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: 11/05/2025

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: 01/15/2026

Remediation Project Number: 38869

COA Type

Description

	Operator shall include background analytical data on the lab analytical data table on all future reports.
	Background samples shall be site specific. Operator shall obtain additional background samples from locations sufficiently away from the impacted area to reflect conditions not impacted by oil and gas activity, from similar depths, and soil horizons or lithologic materials for comparison to confirmation soil samples.
	Background samples were collected from areas off-location and are not representative of background conditions near the wellhead. These samples shall be omitted from future background determination calculations.
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
404414915	FORM 27-SUPPLEMENTAL-SUBMITTED
404415652	MONITORING REPORT
404415653	MONITORING REPORT
404415661	SITE INVESTIGATION REPORT
404415662	ANALYTICAL DATA SUMMARY TABLE(S)
404415663	SOIL SAMPLE LOCATION MAP
404415667	ANALYTICAL RESULTS
404416133	PHOTO DOCUMENTATION
404425247	ANALYTICAL RESULTS
404425248	ANALYTICAL DATA SUMMARY TABLE(S)
404425249	MAP

Total Attach: 11 Files

General Comments

User Group

Comment

Comment Date

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)