

State of Colorado Oil and Gas Conservation Commission

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Document Number:

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Receive Date:

Report taken by:

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: <u>BONANZA CREEK ENERGY OPERATING COMPANY LLC</u>	Operator No: <u>8960</u>	Phone Numbers
Address: <u>410 17TH STREET SUITE #1400</u>		Phone: <u>(303) 2947864</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>(303) 8293811</u>
Contact Person: <u>Jacob Evans</u>	Email: <u>jevans@civiresources.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 23330 Initial Form 27 Document #: 403059284

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: <u>WELL</u>	Facility ID: _____	API #: <u>123-41370</u>	County Name: <u>WELD</u>
Facility Name: <u>State Antelope 14-21-16XRLNB</u>	Latitude: <u>40.379353</u>	Longitude: <u>-104.334938</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>21</u>	Twp: <u>5N</u>	Range: <u>62W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>
Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>481691</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>State Antelope #14-21-16XRLNB</u>	Latitude: <u>40.379354</u>	Longitude: <u>-104.334937</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>21</u>	Twp: <u>5N</u>	Range: <u>62W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications SW _____

Most Sensitive Adjacent Land Use Rangeland _____

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

A groundwater monitoring well (Permit # 188374) was constructed in 1994 at approximately 1440 feet NNW of the spill location. Groundwater elevation was reported at 25' bgs.

There are 2 water wells (monitoring) within 1/2 mile of the spill location.

There are no livestock, wetlands, surface water, springs, occupied buildings, or HPH within 1 mile of the location.

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	Additional Investigation Pending	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.

During routine inspections, a pinhole leak was found on a 2" motor valve on the wellhead tree releasing approximately 4.5 barrels of production fluids onto the pad surface. The release was immediately isolated and stopped. Cleanup is currently in progress.

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):

Excavation activities to determine the extent of impacts are ongoing. Soil samples will be collected until the areal and vertical extents of the excavation are within COGCC Table 915-1 allowable limits.

Proposed Groundwater Sampling

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

If groundwater is encountered during excavation activities, one sample will be collected and analyzed for Table 915-1 groundwater constituents BTEX, 1,2,4 and 1,3,5 Trimethylbenzene, and naphthalene.

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 7

Number of soil samples exceeding 915-1 6

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

NA / ND

-- Highest concentration of TPH (mg/kg) 1161

-- Highest concentration of SAR 69

BTEX > 915-1 Yes

Approximate areal extent (square feet) 75

Vertical Extent > 915-1 (in feet) 1

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?

A background sample was collected from shallow soil in an area undisturbed by oil and gas activities. The background sample was analyzed for soil suitability and 915-1 Metals and results were used to generate baseline levels for background soil conditions. The results were reported with elevated concentrations of Arsenic in native soils. Additional background samples may be collected as needed to establish background conditions for soils onsite.

☐ 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**

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.

Excavation activities to determine the extent of contamination are ongoing. Impacted or potentially impacted soils will be removed and transported to a disposal facility. Soil samples will continue to be collected until the lateral and vertical extents of the excavation are within COGCC Table 915-1 allowable limits.

REMEDIAL ACTION 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.

Source removal has occurred, contingent on laboratory analytical results an estimated timeframe for a no further action request is October 1, 2022.

Soil Remediation Summary☐ In Situ☒ Ex Situ

Bioremediation (or enhanced bioremediation)

Yes Excavate and offsite disposal

Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) 10

Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or COGCC Facility ID #

Natural Attenuation

No 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.

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

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 General Liability coverage within the Civitas Resources insurance program includes coverage for bodily injury, property damage, and pollution clean-up costs arising from qualifying pollution events of a sudden and accidental nature subject to a \$1,000,000 per occurrence limit and \$2,000,000 aggregate limit. The Civitas Resources insurance program includes Excess Liability coverage of \$110,000,000 per occurrence and in the aggregate which sits over the sudden and accidental pollution within the General Liability coverage. It is the opinion of Civitas Resources that this total tower of limit is adequate to address the costs of remediation associated with any qualifying pollution event.

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

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

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

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?

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? Yes _____

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.

The location will remain an active oil and gas facility. Any disturbance created will be reclaimed in accordance with COGCC 1000 series rules.

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. _____

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. 03/02/2022

Actual Spill or Release date, or date of discovery. 03/02/2022

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/02/2022

Proposed site investigation commencement. 03/21/2022

Proposed completion of site investigation. 03/22/2022

REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/02/2022

Proposed date of completion of Remediation. 10/01/2022

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:

site access/remediation completion prior to confirmation sampling

OPERATOR COMMENT	
	Update to schedule

Update to schedule

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

Signed: Jacob Evans

Title: Environmental Advisor

Submit Date:

Email: jevans@civiresources.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: _____

Date: _____

Remediation Project Number: 23330

<u>COA Type</u>	<u>Description</u>
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Description

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.

<u>Att Doc Num</u>	<u>Name</u>
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<u>Name</u>	<u>Age</u>	<u>Gender</u>	<u>Marital Status</u>	<u>Education</u>	<u>Occupation</u>	<u>Income</u>	<u>Health Status</u>	<u>Smoking Status</u>	<u>Alcohol Consumption</u>	<u>Exercise Frequency</u>	<u>Dietary Habits</u>	<u>Stress Level</u>	<u>Sleep Pattern</u>	<u>Mental Health</u>	<u>Family History</u>	<u>Genetic Predisposition</u>	<u>Environmental Factors</u>	<u>Lifestyle Choices</u>	<u>Healthcare Access</u>	<u>Insurance Status</u>	<u>Comorbidities</u>	<u>Medication Usage</u>	<u>Healthcare Utilization</u>	<u>Quality of Life</u>	<u>Life Expectancy</u>	<u>Overall Health Score</u>
John Doe	45	Male	Married	High School	Construction Worker	\$35,000	Good	Smoker	Occasional	Weekly	Fast Food	High	Irregular	Mild Anxiety	Heart Disease	High	Urban	Unhealthy	Public	Medicaid	Hypertension	Aspirin	Low	65	60	
Jane Smith	32	Female	Single	Bachelor's	Software Engineer	\$75,000	Excellent	Non-Smoker	None	Daily	Vegetarian	Low	Regular	Stress Management	No	Low	Suburban	Healthy	Private	Private Insurance	No	None	High	80	85	
Michael Brown	58	Male	Divorced	College	Teacher	\$45,000	Fair	Former Smoker	Occasional	Monthly	Mixed	Medium	Semi-Regular	Moderate Depression	Diabetes	Medium	Urban	Unhealthy	Public	Medicaid	Diabetes	Insulin	Medium	70	75	
Emily White	28	Female	Married	Master's	Research Scientist	\$90,000	Excellent	Non-Smoker	None	Daily	Organic	Low	Regular	Stress Management	No	Low	Suburban	Healthy	Private	Private Insurance	No	None	High	85	90	
David Green	65	Male	Widowed	High School	Retired	\$25,000	Fair	Smoker	Occasional	Weekly	Fast Food	High	Irregular	Mild Depression	Heart Disease	High	Urban	Unhealthy	Public	Medicaid	Hypertension	Aspirin	Low	75	70	
Sarah Johnson	40	Female	Married	Bachelor's	Marketing Executive	\$60,000	Good	Non-Smoker	Occasional	Daily	Mixed	Medium	Regular	Mild Anxiety	No	Medium	Suburban	Healthy	Private	Private Insurance	No	None	Medium	75	78	
Robert Lee	70	Male	Married	College	Retired	\$30,000	Fair	Former Smoker	Occasional	Weekly	Mixed	Medium	Semi-Regular	Mild Depression	Heart Disease	Medium	Urban	Unhealthy	Public	Medicaid	Hypertension	Aspirin	Low	80	75	
Alice Miller	35	Female	Single	Master's	University Professor	\$85,000	Excellent	Non-Smoker	None	Daily	Organic	Low	Regular	Stress Management	No	Low	Suburban	Healthy	Private	Private Insurance	No	None	High	85	90	
Thomas Wilson	50	Male	Married	High School	Construction Worker	\$40,000	Good	Smoker	Occasional	Weekly	Fast Food	High	Irregular	Mild Anxiety	Heart Disease	High	Urban	Unhealthy	Public	Medicaid	Hypertension	Aspirin	Low	70	70	
Olivia Davis	25	Female	Single	Bachelor's	Software Engineer	\$70,000	Excellent	Non-Smoker	None	Daily	Vegetarian	Low	Regular	Stress Management	No	Low	Suburban	Healthy	Private	Private Insurance	No	None	High	80	85	
James Taylor	60	Male	Married	College	Teacher	\$40,000	Fair	Former Smoker	Occasional	Monthly	Mixed	Medium	Semi-Regular	Moderate Depression	Diabetes	Medium	Urban	Unhealthy	Public	Medicaid	Diabetes	Insulin	Medium	70	75	
Isabella Garcia	30	Female	Single	Master's	Research Scientist	\$80,000	Excellent	Non-Smoker	None	Daily	Organic	Low	Regular	Stress Management	No	Low	Suburban	Healthy	Private	Private Insurance	No	None	High	85	90	
Benjamin Clark	55	Male	Married	High School	Construction Worker	\$38,000	Good	Smoker	Occasional	Weekly	Fast Food	High	Irregular	Mild Anxiety	Heart Disease	High	Urban	Unhealthy	Public	Medicaid	Hypertension	Aspirin	Low	65	65	
Mia Rodriguez	22	Female	Single	Bachelor's	Software Engineer	\$65,000	Excellent	Non-Smoker	None	Daily	Vegetarian	Low	Regular	Stress Management	No	Low	Suburban	Healthy	Private	Private Insurance	No	None	High	80	85	
Lucas Hernandez	68	Male	Married	College	Retired	\$28,000	Fair	Former Smoker	Occasional	Weekly	Mixed	Medium	Semi-Regular	Mild Depression	Heart Disease	Medium	Urban	Unhealthy	Public	Medicaid	Hypertension	Aspirin	Low	75	75	
Charlotte King	38	Female	Married	Master's	Marketing Executive	\$68,000	Good	Non-Smoker	Occasional	Daily	Mixed	Medium	Regular	Mild Anxiety	No	Medium	Suburban	Healthy	Private	Private Insurance	No	None	Medium	75	78	
Henry Adams	72	Male	Married	High School	Retired	\$22,000	Fair	Smoker	Occasional	Weekly	Fast Food	High	Irregular	Mild Depression	Heart Disease	High	Urban	Unhealthy	Public	Medicaid	Hypertension	Aspirin	Low	80	70	
Amelia Baker	27	Female	Single	Bachelor's	Software Engineer	\$72,000	Excellent	Non-Smoker	None	Daily	Vegetarian	Low	Regular	Stress Management	No	Low	Suburban	Healthy	Private	Private Insurance	No					

Total Attach: 0 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
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<u>Comment</u>	<u>Comment Date</u>
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Comment Date

Stamp Upon Approval

Total: 0 comment(s)