

# State of Colorado Oil and Gas Conservation Commission

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403107825

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Report taken by:

Steven Arauza

## 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 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>TERRA RESOURCES INC</u>	Operator No: <u>86300</u>	<b>Phone Numbers</b>
Address: <u>P O BOX 2500</u>		Phone: <u>(970) 903-4072</u>
City: <u>CASPER</u> State: <u>WY</u> Zip: <u>82601</u>		Mobile: <u>( )</u>
Contact Person: <u>Jim Hughes</u>	Email: <u>jimo.hughes@state.co.us</u>	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 24182 Initial Form 27 Document #: 403107825

#### 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: Re-enter, plug, and abandon.

#### SITE INFORMATION

No Multiple Facilities

Facility Type: <u>WELL</u>	Facility ID: <u></u>	API #: <u>077-08345</u>	County Name: <u>MESA</u>
Facility Name: <u>MCDANIEL (OWP) 1-11</u>	Latitude: <u>39.289319</u>	Longitude: <u>-107.846604</u>	
** correct Lat/Long if needed: Latitude: <u></u>		Longitude: <u></u>	
QtrQtr: <u>NWSE</u>	Sec: <u>11</u>	Twp: <u>9S</u>	Range: <u>94W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

#### SITE CONDITIONS

General soil type - USCS Classifications OL Most Sensitive Adjacent Land Use Livestock grazing, rangeland

Is domestic water well within 1/4 mile? No Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? No

#### Other Potential Receptors within 1/4 mile

Brush Creek

## SITE INVESTIGATION PLAN

### TYPE OF WASTE:

- ☐ E&P Waste ☒ Other E&P Waste ☐ Non-E&P Waste
- ☐ Produced Water ☐ Workover Fluids
- ☐ Oil ☐ Tank Bottoms
- ☐ Condensate ☐ Pigging Waste
- ☐ Drilling Fluids ☐ Rig Wash
- ☐ Drill Cuttings ☐ Spent Filters
- ☐ Pit Bottoms
- ☒ Other (as described by EPA) Reports of gas bubbling up through standing water on location.

### DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	SOILS	TBD	Field screening and analytical results.

### INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

The COGCC Orphan Well Program will be re-entering and plugging the McDaniel (OWP) #1-11 well and decommissioning any associated on location flow lines and/or production equipment. Soil samples will be collected in accordance with COGCC Rule 915.e(2)B. Samples will be collected from the wellhead excavation, flow line path(s), as well as any other areas likely to have been impacted. Samples will be submitted for laboratory analysis of Table 915-1 constituents.

### 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 ):

Soil samples will be collected for laboratory analysis of Table 915-1 constituents from areas most likely to have been impacted. Visual inspection and field screening of soils will be conducted in the areas surrounding the flow line(s) if present, and the well head. Based on these observations, soil samples may be collected and submitted for laboratory analysis of Table 915-1 constituents. Discrete soil samples will be collected for confirmation of compliance with Table 915-1.

#### Proposed Groundwater Sampling

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

If a pathway to groundwater is discovered or groundwater is encountered during remediation activities, a sample(s) will be collected and analyzed for Table 915-1 constituents and notice given to COGCC EPS staff.

#### 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 0  
Number of soil samples exceeding 915-1           
Was the areal and vertical extent of soil contamination delineated?           
Approximate areal extent (square feet)         

### NA / ND

         Highest concentration of TPH (mg/kg)           
         Highest concentration of SAR           
BTEX > 915-1           
Vertical Extent > 915-1 (in feet)         

### 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?

Background soil conditions will be determined by the analysis of a sample(s) collected from nearby, non-impacted native soil to establish background concentrations.

☐ 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.

The McDaniel (OWP) #1-11 well will be re-entered, plugged and abandoned. Any/all production equipment associated with this well on the Oil and Gas Location will be removed or decommissioned.

### 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.

Impacted material discovered during the scope of this work plan will be removed and disposed of as E&P waste at an approved facility.

### 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

\_\_\_\_\_ Natural Attenuation

\_\_\_\_\_ Other \_\_\_\_\_

Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_

0

\_\_\_\_\_ 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

☐

#### 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&amp;M Report

☒

Other Facility closure.

### 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 scope of work described in this Initial Site Investigation and Remediation Workplan will be completed by the COGCC Orphaned Well Program. The COGCC is not an oil and gas operator. This document will be used, in part, to bid out various phases of this facility closure.

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

### WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No \_\_\_\_\_

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: \_\_\_\_\_

# 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.

Reclamation will be in accordance with COGCC 1000 Series Rules, and will be addressed during a separate phase of the OWP work. This location has several producing wells operated by another operator.

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. \_\_\_\_\_

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

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). \_\_\_\_\_

Proposed site investigation commencement. 08/15/2022

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

### 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**

This Site Investigation and Remediation Work Plan is being submitted by the COGCC Orphaned Well Program.

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

Signed: Jim Hughes

Title: OWP Western Region EPS

Submit Date: 07/18/2022

Email: jimo.hughes@state.co.us

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: Steven Arauza

Date: 07/25/2022

Remediation Project Number: 24182

**Condition of Approval****COA Type****Description**

	Comply with COGCC Rule 1105 flowline abandonment requirements, including notification and verification requirements.
	Comply with Rule 912 for any historical impacts that are discovered.
	Provide a revised Implementation Schedule with proposed start and completion dates for Site Investigation and Remediation on the next Supplemental Form 27, per Rule 913.d
	Operator shall collect soil samples from areas most likely to be impacted and shall collect an appropriate number of representative soil samples to delineate the horizontal and vertical extents of contamination, per Rule 915.e.(2).B.
	Operator shall collect sample(s) from comparable, nearby non-impacted native soil for purposes of establishing background soil conditions including pH, electrical conductivity (EC) and sodium adsorption ratio (SAR), per Rule 915.e.(2).D.
	Per Rule 913.b.(2), the Operator will conduct sampling and analysis of soil, and groundwater--if encountered, to determine the horizontal and vertical extent of any contamination in excess of the cleanup concentrations in Table 915-1 for soil and groundwater. The Operator shall analyze samples for the complete Table 915-1 list and shall compare analytical results for site investigation samples to both the Table 915-1 Residential Soil Screening Level Concentrations and the Protection of Groundwater Soil Screening Level Concentrations.  Include an assessment of potential pathways to groundwater via a Supplemental Form 27.
6 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**

403107825	FORM 27-INITIAL-SUBMITTED
403108030	SOIL SAMPLE LOCATION MAP

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)