

**State of Colorado**  
**Oil and Gas Conservation Commission**

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FOR OGCC USE ONLY

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REM 9299

## SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

### CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☒ Site/Facility Closure ☐ Other (describe): \_\_\_\_\_

OGCC Employee:

☐ Spill ☐ Complaint  
☐ Inspection ☐ NOAV

Tracking No:

OGCC Operator Number: 6720Name of Operator: Robert L. Bayless Producer LLCAddress: 2700 N. Farmington Ave. Building F, Suite 1City: Farmington State: NM Zip: 87401

Contact Name and Telephone:

John ThomasNo: 505-326-2659

Fax: \_\_\_\_\_

API Number: 05-081-06379County: MoffatFacility Name: Alta Martin 1-33Facility Number: 312956

Well Name: \_\_\_\_\_

Well Number: \_\_\_\_\_

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NWSW, Sec 33, T10N, R93W, 6th PM Latitude: 40.779173 Longitude: -107.845510

### TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Produced WaterSite Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Non-crop LandSoil type, if not previously identified on Form 2A or Federal Surface Use Plan: Berlake-Maysprings Complex, 3-12% SlopePotential receptors (water wells within 1/4 mi, surface waters, etc.): un-named drainage lies approximately 1,490 feet to the east.

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

To be determined

How Determined:

Field screening instruments, laboratoryanalytical testing, and visual observations

### REMEDIALTION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

See attached Site Investigation and Remediation Workplan

Describe how source is to be removed:

See attached Site Investigation and Remediation Workplan

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

See attached Site Investigation and Remediation Workplan



Tracking Number: \_\_\_\_\_  
Name of Operator: \_\_\_\_\_  
OGCC Operator No: \_\_\_\_\_  
Received Date: \_\_\_\_\_  
Well Name & No: \_\_\_\_\_  
Facility Name & No: \_\_\_\_\_

OGCC Employee: \_\_\_\_\_

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):  
See attached Site Investigation and Remediation Workplan

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. Use additional sheet for description if required.  
See attached Site Investigation and Remediation Workplan

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☒ Y ☐ N If yes, describe:  
See attached Site Investigation and Remediation Workplan

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):  
See attached Site Investigation and Remediation Workplan

### IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 9/28/15	Date Site Investigation Completed: Spring 2016	Date Remediation Plan Submitted: 10/16/15
Remediation Start Date: Spring 2016	Anticipated Completion Date: Spring 2016	Actual Completion Date: TBD

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

Print Name: JOHN D THOMAS Signed: [Signature]  
Title: PRODUCTION AND ASSET MANAGER Date: 10/16/2015

OGCC Approved: [Signature] Title: EPS Date: 10/19/15

Facility ID 443630 was created to Document location of Pit  
See COA's Below...

- The vertical and horizontal extent of the pit should be determined through the soil investigation.
- Discrete samples (minimum of 3-5) should be taken from extent of excavation of pit, with at least one from the true pit bottom. Samples should be taken to adequately characterize any impact from pit.
- Samples should be analyzed for table 910-1.
- Guidance for sample locations should be taken from rule 910.b(3)B
- Storage of soil material should be in a way that prevents contact with surface waters; bermed and fluid inside berm kept to de minimis.
- COGCC should be notified immediately, in the event that groundwater is encountered in investigation, review of local area shows ground water expected to be  $>100'$ .

• expected START DATE Spring 2016

**FORM 27 ATTACHMENT:**

**Describe initial Action taken:**

- Initial site visit revealed a historical blowdown pit, approximately 10'x10 and roughly 2' deep. The pit was fenced and contained vegetation growth within the fenced area.
- Confirmation sample(s), Rule 905.b.(4), were collected on 9/28/15 from approximately 1'-2' below ground surface (BGS) and submitted to ALS Laboratory analysis and verification from the lowest point of the pit to confirm compliance with Rule 910 and Table 910-1 (reference to specific analytes is provided below) relative to the aforementioned field screen activity. 31
- A visual assessment was performed throughout the entire investigation process and was adequately documented (e.g. field notes, observations, photographs, etc.) by qualified personnel.
- Confirmation results indicated a total petroleum hydrocarbon (TPH) concentrations exceeding COGCC Table 910-1
- Historical spill reporting and initial Form 19 notification was completed on 10/8/2015. At that time the COGCC requested a Form 27 outlining proposed remediation actions.
- Notification and consultation with the affected surface owner(s) were made with good faith effort and in accordance with Rule 906.c.

**Describe how source is to be removed:**

Actions taken to remove the impacted soils present within the blowdown pit are outlined below;

- Impacted soils within the pit will be excavated vertically and horizontally to the extent of where soils satisfy COGCC Table 910-1.
- Excavation procedures will consist of;
  - Excavated in which field screen instruments will guide the excavation. Once field screening results indicate compliance with COGCC Table 910-1 standards, laboratory confirmation samples will be collected to demonstrate compliance with COGCC 900-series rule; and
  - All excavated material will be placed within a bermed containment cell pending on-site remediation or disposal as described below.
- All pit contents evacuated will be managed in accordance with all applicable local, state [i.e. Rule 905.b.(2)] and federal regulations. If disposal is required, the relevant media will be disposed of at a properly permitted and approved facility.
- The potential source - Blowdown Pit - will be closed and reclaimed in accordance with the COGCC 900 and 1000 series rules, as well as COA's listed, respectively.

**Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, in-situ bioremediation, burning of oily vegetation, etc.:**

Actions taken to remove the impacted soils present within the blowdown pit are outlined below;

Rem # \_\_\_\_\_  
COGCC # \_\_\_\_\_

- Any area(s) determined to be impacted/contaminated will be excavated and managed in accordance with all applicable rules and regulations regarding solid waste including applicable portion of COGCC Rule 907.
- Field screen equipment will be used to guide the excavation to ensure compliance with Table 910-1 of the COGCC 900 series rule.
- The excavated material will be placed within a bermed containment cell pending the following options. Remediation and disposal options may include:
  - on-site landfarming/bioremediation,
  - disposal at an approved waste, management facility; as consistent with Rule 907.
- Disposal of impacted media will occur at an approved waste facility (i.e. Moffat County Landfill, Rio Blanco County Landfill, etc.) further defined in the "Final disposition of E&P waste" below.
- Final disposition will be dependent upon identified contaminants, contaminant concentrations, land availability, landowner approval and waste volume.

**If groundwater has been impacted, describe proposed monitoring plan:**

- No impacts have been observed to date or any other indication that would suggest there has been an event that would result in impact to the surrounding environment.
- However, should it be observed or determined that groundwater impacts exist an appropriate site specific monitoring and remediation plan will be developed and submitted for approval.
  - The monitoring and remediation plan will be developed to include, but may not be limited to,
    - number of sample wells and/or points;
    - proposed location of sample wells and/or points;
    - sampling schedule;
    - analytical methods including analyte list(s);
    - monitoring scheme including end point; and
    - potential mitigation or remediation approaches if necessary [Rule 910 (4) E].

**Describe reclamation plan:**

- The pit will be reclaimed to the present grade of the location or to the approximate original contour of the landscape and consistent with the 1000 series Rule.
- Seeding of the disturbed area will be performed in accordance with its' intended use. The seed mix will be prescribed by the landowner.
- There are no known noxious weeds in the immediate area of the disturbance.
- As a preventative measure, Bayless seeds all disturbed areas as soon as practicable with temporary or sterile annual seed mixes to:
  - provide soil stability, and
  - serve as a nurse or cover crop for desired species; derived from the natural seed bank and/or the applied seed mix.

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Facility Name: Alta Martin 1-33  
Location Facility ID# 312956

Name of Operator: Robert L. Bayless  
Latitude: 40.779499 Longitude: -107.844722  
Location: SWNE, Sec 21, T8S, R98W, 6<sup>th</sup> PM

COGCC Operator # 6720  
County: Moffat

**Attach samples and analytical results taken to verify remediation of impacts. Show location of samples on an onsite schematic or drawing. Is further site investigation required?:**

- Further investigation and remediation activities are needed. It was requested by RL Bayless during the initial spill reporting on 10/8/15 that remediation be scheduled for the spring of 2016. Kris Neidel with the COGCC verbally provided approval for the remediation of the blowdown pit in the Spring of 2016 with the submittal and approval of this Form 27.
- Final documentation of investigation and closure activities shall be submitted to the Division within thirty (30) days after conclusion of any and all remediation and reclamation activity and in accordance with all applicable sections and subsections of Rule 909.

**Final disposition of E&P waste:**

- If the stockpiled volume is small enough to manage on-site, and there is available area on location, concentrations are within a reasonable range to be remediated in a timely manner and the identified contaminants are conducive to bioremediation, landfarming or in-situ remediation may occur as approved and in accordance with Rule 907.
- Should the aforementioned attributes not exist or concentrations are not conducive to bioremediation, then off-site disposal will be the final disposition of all impacted materials.
- If the latter option is taken, disposal will occur at an approved treatment, storage or disposal facility (TSD) which may include, but is not limited to, the following facilities:
  - Moffat County Landfill
  - Wray Gulch – Rio Blanco County Landfill

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## ANNEX A:

### **Confirmatory Analyte List for Potential Contaminants of Concern in Soil:**

Table 1 – Sample collection, handling and analysis summary

Analyte Class	Analysis	Method	COGCC Table 910-1 Standard	Holding Time	Container
Organics	TVPH (GRO)	SW8015 mod	500 mg/kg	14 days	4 oz. wide mouth jar
	TEPH (DRO)				
	Benzene	SW8021	0.17 mg/kg	14 days	4 oz. wide mouth jar
	Toluene		85 mg/kg		
	Ethylbenzene		100 mg/kg		
	Xylenes (total)		175 mg/kg		
	Acenaphthene	SW8270	1,000 mg/kg	14 days	4 oz. wide mouth jar
	Anthracene		0.22 mg/kg		
	Benzo (A) anthracene				
	Benzo (B) flouranthene				
	Benzo (K) fluoranthene		0.022 mg/kg		
	Benzo (A) pyrene				
	Chrysene		22 mg/kg		
	Dibenzo (A,H) anthracene		0.022 mg/kg		
	Fluoranthene		1,000 mg/kg		
	Fluorne		0.22 mg/kg		
	Indeno (1,2,3,C,D) pyrene				
	Naphthalene		23 mg/kg		
	Pyrene		1,000 mg/kg		
	Inorganics	Electrical Conductivity	USDA Hdbk	<4 mmhos/cm or 2x background	28 days
Sodium Adsorption Rate		USDA Hdbk 60 Method 20B or 3A	<12	180 days	1 gal. ziplock bag

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	pH	SW9045	6-9	< 24 hrs.	2 oz. wide mouth jar
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Table 1 Cont'd - Sample collection, handling and analysis summary

Analyte Class	Analysis	Method	COGCC Table 910-1 Standard	Holding Time	Container
Total Metals*	Arsenic	SW 6010, 6020, 7470	0.39 mg/kg	28 days for Hg & 180 days for remaining	4 oz. wide mouth jar
	Barium		15,000 mg/kg		
	Cadmium		70 mg/kg		
	Chromium (III)		120,000 mg/kg		
	Chromium (IV)		23 mg/kg		
	Copper		3,100 mg/kg		
	Lead (inorganic)		400 mg/kg		
	Mercury		23 mg/kg		
	Nickel (soluble salts)		1,600 mg/kg		
	Selenium		390 mg/kg		
	Silver		390 mg/kg		
	Chloride		15,000 mg/kg		

*General note: Preservation standards for organics and inorganics in soil are < 4°C as per EAL protocol. Of the above sample methods and procedures, none require a preservative to preserve sample integrity.*

*Note(\*): Boron (hot water soluble) has been excluded from this analyte list as no crops (citrus or nuts) or other vegetation which may be sensitive to boron are known or are expected to be encountered. Should the Director or COGCC EPS decide to, at his discretion, require a Boron analysis the above analyte list will be modified to reflect that change and requirement, at that point in time.*

Rem # \_\_\_\_\_  
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