

State of Colorado Oil and Gas Conservation Commission

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FOR OGCC USE ONLY

#6129

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.

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

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

OGCC Operator Number: 10323

Name of Operator: Entek GRB, LLC

Address: 535 16th Street, Suite 620

City: Denver

State: CO Zip: 80202

Contact Name and Telephone:

Kristen Stocks

No: (307) 200-1930

Fax: (866) 435-9424

API Number: 05-081-07641

County: Moffatt

Facility Name: Slater Dome

Facility Number: 17551 Location ID # 421159

Well Name: Battle Mountain Federal 14-10

Well Number: 14-10

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NESE 14, 12N, 89W, 6th Latitude: 40.9923 Longitude: -107.3399

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Residual drilling materials

Site 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.): undeveloped rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan:

Potential receptors (water wells within 1/4 mi, surface waters, etc.): none

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

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

residual drilling materials contained within unlined pit

How Determined:

visual observation and drilling materials sample taken

REMEDIATION WORKPLAN

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

Residual drilling fluid materials are present in the unlined pit located in the southeast corner of the Battle Mountain Federal 14-10 well pad (see Figure 1 for approximate pit location). Two discrete samples of the residual material and two discrete samples of the pit sidewalls have been obtained and tested for Table 910-1 parameters. Figure 2 illustrates the sample locations. The sample results, summarized in Table 1 and included as Appendix A, indicate contaminant concentrations within acceptable limits. Accordingly, the proposed initial action will be to leave the residual drilling materials in place and backfill the upper 2' (minimum) of the pit with clean fill material only.

Describe how source is to be removed:

Residual drilling materials to be left in place. Remaining pit volume (upper 2+ feet) to be backfilled with clean fill. Ground surface to be shaped and graded to match existing grade.

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.:

Given the results of the sample analysis, the environmental impact associated with leaving the material in place and covering the material with a minimum of 2' of clean fill is anticipated to be minimal. Once activity on the 14-10 has ended, the well pad surface will be reclaimed/revegetated in accordance with Entek Storm Water Management Plan requirements.

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REMEDIATION WORKPLAN (Cont.)

Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: (Location ID # 421159)
Facility Name & No: Battle Mountain Federal 14-10 pit

OGCC Employee: _____

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

Depth to groundwater in the vicinity of the Battle Mountain Federal 14-10 pit location is reported to be greater than 400'. Accordingly, it is unlikely that groundwater has been impacted by the residual drilling materials.

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.

The residual drilling materials will be left in place and backfilled with clean fill material. Once backfilled, the former pit surface will be shaped and graded to match the existing grade around the perimeter of the pit. Once activity at the well location has ceased, the ground surface will be roughened and broadcast seeded in accordance with revegetation procedures included in the Entek Storm Water Management Plan (SWMP). Well location restoration and revegetation shall be conducted in a manner consistent with BLM Best Management Practices for Noxious and Invasive Weed Prevention and the SWMP.

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:

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

Remain in existing unlined pit.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: <u>8/1</u>	Date Site Investigation Completed: <u>8/31</u>	Date Remediation Plan Submitted: <u>9/9</u>
Remediation Start Date: <u>9/14</u>	Anticipated Completion Date: <u>10/15</u>	Actual Completion Date: _____

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

Print Name: Tim Hopkins

Signed: [Signature]

Title: Regional Manager

Date: 9/9/11

OGCC Approved: [Signature]

Title: FOR Chris Canfield

Date: 09/16/2011

EPS NW Region

COA: Arsenic at the bottom of the pit

was 0.6 mg/kg in one sample.

Max allowable arsenic concentration is $3.8 \text{ mg} + 10\% = 4.2 \text{ mg/kg}$ (per background samples)
Material at the bottom of the pit should be scrapped and mixed with clean material
to reduce arsenic concentration.