

State of Colorado Oil and Gas Conservation Commission

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OGCC RECEPTION

Document Number: 400639898

EARTHEN PIT REPORT / PERMIT

This form is to be used for both reporting and permitting pits. Rule 903 describes when a Permit with prior approval, or a Report within 30 days is required for pits. Submit required attachments and forms.

Form Type: [X] PERMIT [] REPORT OGCC PIT NUMBER: 439235

NOTE: Operator to provide OGCC Pit Number only if available on an existing pit for pit report

OGCC Operator Number: 10150 Contact Name: Jessica Donahue
Name of Operator: BLACK HILLS PLATEAU PRODUCTION LLC
Address: 1515 WYNKOOP ST STE 500 Phone: (720) 210-1333
City: DENVER State: CO Zip: 80202 Email: Jessica.Donahue@blackhillscorp.com

ATTACHMENTS table with rows for Detailed Site Plan, Design/Cross Sec, Topo Map, Calculations, Sensitive Area Info, Mud Program, Form 2A, Form 26, Water Analysis

Pit Location Information

Operator's Pit/Facility Name: Debeque Station Water Facility Operator's Pit/Facility Number: Pit No. 1
API Number (associated well): 05- 00
OGCC Location ID (associated location): Or Form 2A # 400556701
Pit Location (QtrQtr, Sec, Twp, Rng, Meridian): SESW-29-8S-97W-6
Latitude: 39.323770 Longitude: -108.242530 County: MESA

Operation Information

Pit Use/Type (Check all that apply): Pit Type: [X] Lined [] Unlined
[] Drilling: (Ancillary, Completion, Flowback, Reserve Pits) [] Oil-based Mud; [] Salt Sections or High Chloride Mud
[] Production: [] Skimming/Settling; [X] Produced Water Storage; [] Percolation; [] Evaporation
[] Special Purpose: [] Flare; [] Emergency; [] Blowdown; [] Workover; [] Plugging; [] BS&W/Tank Bottoms
[X] Multi-Well Pit: Construction Date: 11/03/2014 Actual or Planned: Planned
Method of treatment prior to discharge into pit: Oil Skimmer
Offsite disposal of pit contents: [] Injection; [] Commercial; [X] Reuse/Recycle; [] NPDES; Permit Number:
Other Information:

Site Conditions

Distance (in feet) to the nearest surface water: 366 Ground Water (depth): 300 Water Well: 1307
Is this location in a Sensitive Area? Yes Existing Location?

Pit Design and Construction

Size of Pit (in feet): Length: 370 Width: 176 Depth: 23 Calculated Working Volume (in barrels): 31112
Flow Rates (in bbl/day): Inflow: 80000 Outflow: Evaporation: 127 Percolation: 0
Primary Liner. Type: HDPE Thickness (mil): 60
Secondary Liner (if present): Type: HDPE Thickness (mil): 40
Is Pit Fenced? Yes Is Pit Netted? No Leak Detection? Yes
Other Information: Pit will not be netted, but will be equipped with floating hextiles to deter waterfowl.

Operator Comments:

Certification

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

Signed: Print Name: Jessica Donahue
Title: Regulatory Technician Email: Jessica.Donahue@blackhillscorp.com Date: 07/07/2014

Approval

Signed: _____

Matthew Lee

Title: _____

Director of Cogcc

Date: _____

10/07/2014

Best Management Practices

No BMP/COA Type

Description

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CONDITIONS OF APPROVAL:

COA Type

Description

	Operator shall submit a letter from the Colorado State Engineers Office verifying that Pit 1 does not fall under the rules and regulations pertaining to Jurisdictional Size Dams", prior to any fluids entering the pit.
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	<p>Pit Construction: The following conditions of approval (COAs) will apply to both the Form 2A and the Form 15 Earthen Pit Permit for the pit:</p> <p>The multi-well pit must be double-lined as shown on the Construction Layout Drawings and the liners must be in compliance with Rule 904. PIT LINING REQUIREMENTS AND SPECIFICATIONS; including Rule 904.d. which states liner thickness, anchoring, and foundation requirements; and Rule 904.e. which states that the pit will have a leak detection system.</p> <p>Delivery and vacuum truck hoses shall not be allowed to be placed directly onto the pit liner. Operator will construct a loading/unloading station located next to the pit, to deliver fluids to or remove fluids from the pit by truck. The loading/unloading station shall be designed and utilized to prevent hoses from being dropped into the pits and dragged over the liner, which could lead to liner damage. The loading/unloading station will be the only permitted access for manual fluids transfers to or from the pit. Vehicles will not be allowed to approach the pit any closer than the loading/unloading station. Each station will have a catch basin in case a leak occurs while operations personnel are connecting or disconnecting hoses. Signs clearly marking the truck loading/unloading station shall be provided and maintained by the operator.</p> <p>After installation of the uppermost liner and prior to operating the pit, the synthetic liner (s) shall be tested by filling the pit with at least 70 percent of operating capacity of water, measured from the base of the pit (not to exceed the 2-foot freeboard requirement). The operator shall monitor the pit for leaks for a period of 72 hours prior to either draining the pit for repair or commencing operations. Operator shall notify the COGCC 48 hours prior to start of the hydrotest using the Form 42. Hydrotest monitoring results must be maintained by the operator for the life of the pit and provided to COGCC prior to using the pit via Form 4 Sundry. A successful hydrotest must be completed prior to using the pit to store E&P waste.</p> <p>Operator shall submit a Colorado P.E. approved/stamped as-built drawing (at a minimum including plan view and cross-sections) of the multi-well pit within 14 days of construction completion certifying the volume of the pit, and the available freeboard.</p> <p>The construction and lining of the pit shall be supervised by a P.E., or their agent. The entire base of the pit must be in cut.</p> <p>The multi-well pit must be fenced and netted. Alternative options (Hextiles as described by operator - see attachment doc #2107107) to netting can be used instead of netting, as long as wildlife can be kept from contacting the fluid surface of the pit. The operator must maintain the fencing and netting/alternative barrier until the pit is closed.</p> <p>Due to the very fine-grained nature of surface soils and materials in the area, strategically apply fugitive dust control measures, including enforcing established speed limits on private roads, to reduce fugitive dust and coating of vegetation and deposition in water sources.</p> <p>Operator shall stabilize exposed soils and slopes as an interim measure during operations at this pit site.</p> <p>The operator shall submit, and receive approval of, a reuse and recycling plan per Rule</p>
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907.a.(3), prior to any offsite reuse/recycling of pit fluids.

No oil is permitted on the surface of fluids stored in the pit. Operator will implement measures to ensure that adequate separation of hydrocarbons from the influent occurs to prevent accumulation of oil on the surface of stored fluids. Operator shall also employ a method for monitoring buildup of phase-separated hydrocarbons on the surface of stored fluids. Any oil detected on the surface shall be removed within 24 hours.

The pit will be operated in accordance with the operations plan submitted and any revisions with the Form 28 for the E&P Facility.

The multi-well pit shall be closed in accordance with Rule 905. Closure of Pits, and Buried or Partially Buried Produced Water Vessels. The operator shall submit a Form 27 for COGCC review and approval prior to commencing pit closure activities. The operator shall also submit a Notice of Completion for COGCC review and approval within 30 days of concluding pit closure activities.

Planning:

Notify the COGCC 48 hours prior to start of pit site construction, pit liner installation, start of hydrostatic test, start of pit use, and pipeline testing using the Form 42. Black Hills will also need to notify the COGCC 48 hours prior to start of all hydraulic stimulation operations for nearby well pad locations that will use fluids from and return fluids to this pit using the Form 42 (the appropriate COGCC individuals will automatically be email notified, including the LGD for hydraulic stimulation operations).

Operator must implement all operations detailed in the operating plan, pit liner installation specifications, and all other attachments to the Form 15 and Form 2A in accordance with the 900-Series Rules.

Groundwater Testing: Prior to pit operations, operator shall sample the following water wells (two upgradient and three downgradient) that have been identified by COGCC as being acceptable locations. The initial samples shall be collected prior to pit construction. Follow up sampling shall occur yearly during pit operations and continue for three years after pit closure:

UPGRADIENT WELLS:

- 1) Permit No. 292780- -Red Rock gathering Company LLC; commercial well; TD - 430' bgs; screened interval – 370' to 410' bgs; SWL - 36' bgs; pumping rate – 5 gpm; formation - bedrock; located approximately 1307' to the north-northwest (upgradient);
- 2) Permit No. 279019-Heidel, Kim; domestic well; TD - 344' bgs; screened interval – 244' to 344' bgs; SWL - 106' bgs; pumping rate – 1.5 gpm; formation - bedrock; located approximately 2673' to the west (upgradient);

DOWNGRADIANT WATER WELLS:

- 3) Permit No. 45327-Cox, Harry; domestic well; TD - 304' bgs; screened interval – 220' to 270' bgs; SWL - 27' bgs; formation - bedrock; located approximately 2817' to the southeast (downgradient);
 - 4) Permit No. 52442-MH-Bluestone Water Conservancy District; monitoring well/dewatering well; TD - 30' bgs; screened interval – 10' to 30' bgs; SWL - 10' bgs; pumping rate – 5 gpm; formation - alluvium; located approximately 5876' to the east-southeast (downgradient);
 - 5) Permit No. 52440-DW-Bluestone Water Conservancy District; dewatering well; TD - 30' bgs; screened interval – 10' to 30' bgs; SWL - 10' bgs; pumping rate – 5 gpm; formation -alluvium; located approximately 5998' to the east-southeast (downgradient);
- The groundwater samples will be analyze for pH, specific conductance, total dissolved solids (TDS), dissolved gases (methane, ethane, propane), alkalinity (total bicarbonate and carbonate as CaCO₃), major anions (bromide, chloride, fluoride, sulfate, nitrate and nitrite as N, phosphorus), major cations (calcium, iron, magnesium, manganese, potassium, sodium), other elements (barium, boron, selenium and strontium), presence of bacteria (iron related, sulfate reducing, slime forming), total petroleum hydrocarbons (TPH) and BTEX compounds (benzene, toluene, ethylbenzene and xylenes). Field observations such as odor, water color, sediment, bubbles, and effervescence shall also be documented. The location of the sampled Water Sources shall be surveyed in accordance with Rule 215.

Documented refusal to grant access by well owner or surface owner (for water well), or if no water wells or springs are located/identified within approximately 1.5 miles, shall not constitute a violation of this COA.

Surface water samples (one upstream and one downstream from the multi-well pit location) from the unnamed intermittent streams located approximately 366 feet to the south and 513' to the east of the location (if water is present), shall be collected prior to pit use and every 12 months (until pit closure) to evaluate potential impacts from pit operations. At a minimum, the surface water samples will be analyzed for pH, specific conductance, total dissolved solids (TDS), dissolved gases (methane, ethane, propane), alkalinity (total bicarbonate and carbonate as CaCO₃), major anions (bromide, chloride, fluoride, sulfate, nitrate and nitrite as N, phosphorus), major cations (calcium, iron, magnesium, manganese, potassium, sodium), other elements (barium, boron, selenium and strontium), presence of bacteria (iron related, sulfate reducing, slime forming), total petroleum hydrocarbons (TPH) and BTEX compounds (benzene, toluene, ethylbenzene and xylenes). Field observations such as odor, water color, sediment, bubbles, and effervescence shall also be documented. The location of the sampled Water Sources shall be surveyed in accordance with Rule 215.

Within 6 months of approval of the Form 2A and Form 15 for Pit 1 (no later than March 31, 2015), operator must submit a completed Form 28 Permit for the DeBeque Station Centralized E&P Waste Management Facility that includes the required information for all three proposed pits as well as all ancillary facilities and equipment at this location in accordance with Rule 908. CENTRALIZED E&P WASTE MANAGEMENT FACILITIES. Failure to do so will result in enforcement action (which may include a Cease and Desist Order from the COGCC and an issuance of a Notice of Alleged Violation [NOAV] with fines of up to \$15,000.00 per day).

The Conditions of Approval (COAs) that will be attached to the Form 28 Permit (that will be submitted within 6 months of approval the Form 2A and Form 15 for Pit No. 1) for the entire Centralized E&P facility will also apply to these Form 2A and Form 15 permits for this Pit No. 1 location. The COAs for the Form 28 may supersede and/or update these existing COAs.

After approval of the Form 2A and Form 15 permits, and prior to start of pit site construction (blade to the ground), adequate financial assurance per Rules 704 and 908.11.g.(1)B. for Pit 1 are required. At a minimum, the cost estimate amount shall be equivalent for the cost of construction of this phase. When the operator submits the Form 28 for this facility, a revised Pit Closure, Remediation, and Reclamation Cost Estimate for the entire location will be required and additional financial assurance will be needed prior to construction of the additional pits and facilities.

Operators shall submit a Colorado P.E. approved/stamped as-built drawing of the pit within 14 days of construction completion certifying the volume of the pit, and the available freeboard.