

FORM  
2A

Rev  
04/01

State of Colorado  
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:  
400358503

Date Received:  
12/14/2012

Oil and Gas Location Assessment

New Location       Amend Existing Location      Location#: \_\_\_\_\_

Submit original plus one copy. This form is to be submitted to the COGCC prior to any ground disturbance activity associated with oil and gas development operations. This Assessment may be approved as a standalone application or submitted as an informational report accompanying an Application for Permit-To-Drill, Form 2. Approval of this Assessment will allow for the construction of the below specified location; however, it does not supersede any land use rules applied by the local land use authority. This form may serve as notice to land owners and other interested parties, please see the COGCC web site at <http://colorado.gov/cogcc/> for all accompanying information pertinent to this Oil and Gas Location Assessment.

Location ID:  
**432260**  
Expiration Date:  
**03/19/2016**

This location assessment is included as part of a permit application.

1. CONSULTATION

- This location is included in a Comprehensive Drilling Plan. CDP # \_\_\_\_\_
- This location is in a sensitive wildlife habitat area.
- This location is in a wildlife restricted surface occupancy area.
- This location includes a Rule 306.d.(1)A.ii. variance request.

2. Operator

Operator Number: 10150  
 Name: BLACK HILLS PLATEAU PRODUCTION LLC  
 Address: 1515 WYNKOOP ST STE 500  
 City: DENVER State: CO Zip: 80202

3. Contact Information

Name: Jessica Donahue  
 Phone: (720) 210-1333  
 Fax: (303) 566-3344  
 email: Jessica.Donahue@blackhillscorp.com

4. Location Identification:

Name: Homer Deep Unit Number: 9-41  
 County: GARFIELD  
 Quarter: NENE Section: 9 Township: 8S Range: 98W Meridian: 6 Ground Elevation: 5483

Define a single point as a location reference for the facility location. This point should be used as the point of measurement in the drawings to be submitted with this application. When the location is to be used as a well site then the point shall be a well location.

Footage at surface: 474 feet FNL, from North or South section line, and 240 feet FEL, from East or West section line.  
 Latitude: 39.379660 Longitude: -108.323210 PDOP Reading: 2.7 Date of Measurement: 11/20/2012  
 Instrument Operator's Name: Aaron Grosch

5. Facilities (Indicate the number of each type of oil and gas facility planned on location):

Special Purpose Pits: <input type="checkbox"/>	Drilling Pits: <input type="checkbox"/>	Wells: <input type="text" value="2"/>	Production Pits: <input type="checkbox"/>	Dehydrator Units: <input type="checkbox"/>
Condensate Tanks: <input type="checkbox"/>	Water Tanks: <input type="text" value="2"/>	Separators: <input type="text" value="1"/>	Electric Motors: <input type="checkbox"/>	Multi-Well Pits: <input type="text" value="1"/>
Gas or Diesel Motors: <input type="checkbox"/>	Cavity Pumps: <input type="checkbox"/>	LACT Unit: <input type="checkbox"/>	Pump Jacks: <input type="checkbox"/>	Pigging Station: <input type="checkbox"/>
Electric Generators: <input type="checkbox"/>	Gas Pipeline: <input type="text" value="1"/>	Oil Pipeline: <input type="text" value="1"/>	Water Pipeline: <input type="text" value="1"/>	Flare: <input type="checkbox"/>
Gas Compressors: <input type="checkbox"/>	VOC Combustor: <input type="checkbox"/>	Oil Tanks: <input type="text" value="1"/>	Fuel Tanks: <input type="checkbox"/>	

Other: \_\_\_\_\_

6. Construction:

Date planned to commence construction: 04/01/2013 Size of disturbed area during construction in acres: 9.53  
 Estimated date that interim reclamation will begin: 04/01/2014 Size of location after interim reclamation in acres: 3.31  
 Estimated post-construction ground elevation: 5477 Will a closed loop system be used for drilling fluids: Yes   
 Will salt sections be encountered during drilling: Yes  No  Is H2S anticipated? Yes  No   
 Will salt (>15,000 ppm TDS Cl) or oil based muds be used: Yes  No   
 Mud disposal: Offsite  Onsite  Method: Land Farming  Land Spreading  Disposal Facility   
 Other: \_\_\_\_\_

**7. Surface Owner:**

Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Address: \_\_\_\_\_ Fax: \_\_\_\_\_  
 Address: \_\_\_\_\_ Email: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Date of Rule 306 surface owner consultation: 07/24/2012  
 Surface Owner:  Fee  State  Federal  Indian  
 Mineral Owner:  Fee  State  Federal  Indian  
 The surface owner is:  the mineral owner  committed to an oil and gas lease  
 is the executer of the oil and gas lease  the applicant  
 The right to construct the location is granted by:  oil and gas lease  Surface Use Agreement  Right of Way  
 applicant is owner  
 Surface damage assurance if no agreement is in place:  \$2000  \$5000  Blanket Surety ID \_\_\_\_\_

**8. Reclamation Financial Assurance:**

Well Surety ID: \_\_\_\_\_  Gas Facility Surety ID: \_\_\_\_\_  Waste Mgnt. Surety ID: \_\_\_\_\_

**9. Cultural:**

Is the location in a high density area (Rule 603.b.): Yes  No   
 Distance, in feet, to nearest building: 1445, public road: 544, above ground utility: 943,  
 railroad: 35474, property line: 835

**10. Current Land Use (Check all that apply):**

Crop Land:  Irrigated  Dry land  Improved Pasture  Hay Meadow  CRP  
 Non-Crop Land:  Rangeland  Timber  Recreational  Other (describe): \_\_\_\_\_  
 Subdivided:  Industrial  Commercial  Residential

**11. Future Land Use (Check all that apply):**

Crop Land:  Irrigated  Dry land  Improved Pasture  Hay Meadow  CRP  
 Non-Crop Land:  Rangeland  Timber  Recreational  Other (describe): \_\_\_\_\_  
 Subdivided:  Industrial  Commercial  Residential

**12. Soils:**

List all soil map units that occur within the proposed location. Attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to used when segregating topsoil.

The required information can be obtained from the NRCS web site at <http://soildatamart.nrcs.usda.gov/> or from the COGCC web site GIS Online map page found at <http://colorado.gov/cogcc>. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: 44-Happle very channery sandy loam, 3-12 percent slopes

NRCS Map Unit Name: \_\_\_\_\_  
NRCS Map Unit Name: \_\_\_\_\_

**13. Plant Community:**

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes  No   
Plant species from:  NRCS or,  field observation Date of observation: 07/24/2012  
List individual species: Cheatgrass

Check all plant communities that exist in the disturbed area.

- Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)
- Native Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)
- Shrub Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)
- Plains Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)
- Mountain Riparian (Cottonwood, Willow, Blue Spruce)
- Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon, Aspen)
- Wetlands Aquatic (Bullrush, Sedge, Cattail, Arrowhead)
- Alpine (above timberline)
- Other (describe): \_\_\_\_\_

**14. Water Resources:**

Rule 901.e. may require a sensitive area determination be performed. If this determination is performed the data is to be submitted with the Form 2A.

Is this a sensitive area:  No  Yes Was a Rule 901.e. Sensitive Areas Determination performed:  No  Yes  
Distance (in feet) to nearest surface water: 1638, water well: 1077, depth to ground water: 56  
Is the location in a riparian area:  No  Yes Was an Army Corps of Engineers Section 404 permit filed  No  Yes  
Is the location within a Rule 317B Surface Water Suppl Area buffer zone:  
 No  0-300 ft. zone  301-500 ft. zone  501-2640 ft. zone  
If the location is within a Rule 317B Surface Water Supply Area buffer have all public water supply systems within 15 miles been notified:  No  Yes

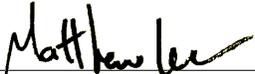
**15. Comments:**

Measured to water well receipt # 9503204B, Permit # 279876--, owner #10 Enterprises. Reference area is immediately adjacent to the northeast of pad on undisturbed land.

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

Signed: \_\_\_\_\_ Date: 12/14/2012 Email: Jessica.Donahue@blackhillscorp.com  
Print Name: Jessica Donahue Title: Regulatory Technician

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved:  Director of COGCC Date: 3/20/2013

**CONDITIONS OF APPROVAL, IF ANY:**  
\_\_\_\_\_

**All representations, stipulations and conditions of approval stated in this Form 2A for this location shall constitute representations, stipulations and conditions of approval for any and all subsequent operations on the location unless this Form 2A is modified by Sundry Notice, Form 4 or an Amended Form 2A.**

**GROUNDWATER/SURFACE WATER BASELINE WATER SAMPLING COA:**

Baseline Water Testing: Prior to drilling, operator shall sample at a minimum two (2) domestic water wells or springs within a one (1) mile radius of the proposed oil and gas location. Testing preference shall be given to domestic water wells and springs over surface water. If possible, the water wells or springs selected should be on opposite sides of the oil and gas location not exceeding a one (1) mile radius. If water wells or springs on opposite sides of the oil and gas location cannot be identified, then the two (2) closest wells or springs within a one (1) mile radius of the oil and gas location shall be sampled. The sample location shall be surveyed in accordance with Rule 215. Sampling and analysis shall be conducted in conformance with an accepted industry standard as described in Rule 910.b.(2).

Initial baseline testing shall include: pH, specific conductance, total dissolved solids (TDS), dissolved gases (methane, ethane, propane), alkalinity (total bicarbonate and carbonate as CaCO<sub>3</sub>), 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 and coliform), total petroleum hydrocarbons (TPH) and BTEX compounds (benzene, toluene, ethylbenzene and xylenes).

Hydrogen sulfide shall also be measured using a field test method. Field observations such as pH, temperature, specific conductance, odor, water color, sediment, bubbles, and effervescence shall also be included. COGCC recommends that the latest version of EPA SW 846 analytical methods be used where possible and that analyses of samples be performed by laboratories that maintain state or national accreditation programs.

If free gas or a dissolved methane concentration greater than 1.0 milligram per liter (mg/l) is detected in a water well, gas compositional analysis and stable isotope analysis of the methane (carbon and hydrogen – <sup>12</sup>C, <sup>13</sup>C, <sup>1</sup>H and <sup>2</sup>H) shall be performed to determine gas type. If test results indicated thermogenic or a mixture of thermogenic and biogenic gas. If the methane concentration increases by more than 5.0 mg/l between sampling periods, or increases to more than 10. mg/l, the operator shall notify the Director and the owner of the water well immediately.

After 90 days, but less than 180 days of completion of the first proposed well a "post-completion" test shall be performed for the same analytical parameters listed above and repeated once within 60 to 72 months. If the well is a non-producing well, then the 60- to 72-month sample will not be required. Additional "post-completion" test(s) may be required if changes in water quality are identified during follow-up testing. The Director may require further water well sampling at any time in response to complaints from water well owners.

Copies of all test results described above shall be provided to the Director and the landowner where the water quality testing well is located within three (3) months of collecting the samples used for the test. The analytical data and surveyed well locations shall also be submitted to the Director in an electronic data deliverable format.

Documented refusal to grant access by well owner or surface owner (for spring sampling) shall not constitute a violation of this COA.

**SITE SPECIFIC COAs:**

Notify the COGCC 48 hours prior to start of pad construction, rig mobilization, spud, pit liner installation, and start of hydraulic stimulation operations using Form 42 (the appropriate COGCC individuals will automatically be email notified, including the LGD for hydraulic stimulation operations).

Operator must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via temporary surface or buried pipelines.

Operator must ensure secondary containment for any volume of fluids contained at well site during drilling and completion operations (as described and shown on the Construction Layout Drawings attachment); including, but not limited to, construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site grading, or other comparable measures (i.e., best management practices (BMPs) associated with stormwater management) sufficiently protective of nearby surface water. Any berm constructed at the well pad location will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.

The moisture content of any freshwater generated cuttings in a cuttings pit, trench, or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts. At the time of closure, if the drill cuttings are to be left onsite, they must also meet the applicable standards of Table 910-1.

Flowback and stimulation fluids must be sent to tanks, separators, or other containment/filtering equipment before the fluids can be placed into any pipeline, storage vessel, or lined pit located on the well pad; or into tanker trucks for offsite disposal. The flowback and stimulation fluid tanks, separators, or other containment/filtering equipment must be placed on the well pad in an area with additional downgradient perimeter berming. The area where flowback fluids will be stored/reused must be constructed to be sufficiently impervious to contain any spilled or released material.

Berms or other containment devices shall be constructed to be sufficiently impervious (preferably corrugated steel with poly liner) to contain any spilled or released material around crude oil, condensate, and produced water storage tanks.

FORM 15 EARTHEN PIT PERMIT COAs:

Per Black Hills Plateau Production's De Beque Exploratory Proposal (which is currently being analyzed by BLM), "It is estimated that initially the flowback fluids (before evaporation) would contain about 3,500 ppm of total dissolved solids (TDS). The concentration of solids in the fluid would increase as water evaporated. The fluids pit would be double lined, with both liners a minimum of 24 mil thick, and they would be installed in accordance with Colorado Oil and Gas Conservation Commission (COGCC) regulations as well as the BLM GJFO Standard Conditions. The pit liner would be maintained in good working condition, with no tears or holes, until the pit was closed."; the multi-well pit must be double-lined.

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 or commencing operations. Operator shall notify the COGCC Oil and Gas Location Assessment (OGLA) Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us) 48 hours prior to start of the hydrotest. Hydrotest monitoring results must be maintained by the operator for the life of the pit and provided to COGCC prior to using the pit.

In lieu of conducting an initial hydrostatic test of the pit, the operator can monitor fluid levels in the pit continuously using a minimum of two pressure transducers located at the upgradient and downgradient ends of the pit (based on the original topographic profile). These pressure transducers should be linked to the operator's SCADA system such that they can be remotely monitored. In addition, the pit liner will be marked at the two foot freeboard depth line so that operations personnel (as well as COGCC inspectors) can easily verify that the required fluid free board is being maintained. The electronically collected water level measurement data shall be used to confirm changes in pit inflow and outflow during operations based on estimates from truck and/or pipeline delivery or removal activities. Any abnormalities that are noticed during operations will be reported to the operator's field supervisor immediately so that any necessary follow-up can be scheduled.

No portion of any pit that will be used to hold liquids shall be constructed on fill material, unless the pit and fill slope are designed and certified by a professional engineer, subject to review and approval by the director prior to construction of the pit. The construction and lining of the pit shall be supervised by a professional engineer or their agent. The entire base of the pit must be in cut.

For pits containing fluids other than freshwater only; the pit must be fenced. If the pit is not drained, or closure has not begun within 30 days after last use for well completion, the pit must be netted. The operator must maintain the fencing and netting until the pit is closed.

Surface water samples (one upgradient and one downgradient from the pit/well pad location) from Dry Fork (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 analyze for the following parameters: major cations/anions (chloride, fluoride, sulfate, sodium); total dissolved solids (TDS); and BTEX/DRO.

The operator shall submit, and receive approval of, a reuse and recycling plan per Rule 907.a.(3), prior to any offsite reuse/recycling of pit fluids.

Pits used exclusively for drilling shall be closed in accordance with the 1000-Series Rules. Any pit(s) used for purposes other than drilling shall be closed in accordance with Rule 905. Closure of Pits, and Buried or Partially Buried Produced Water Vessels; with an approved Site Investigation and Remediation Workplan, Form 27.

Submit additional disposal facilities (wells, pits, etc.), if necessary (i.e., if original disposal option changes), for pit liquid contents to COGCC via a Form 4 Sundry prior to disposal.

At the time of pit closure, operator must submit disposal information for solids, if necessary, via a Form 4 Sundry Notice to the COGCC Location Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us). The disposal method will need to be approved prior to operator starting pit closure.

### Attachment Check List

Att Doc Num	Name
1533992	MULTI-WELL PLAN
1533994	LOCATION DRAWING
2106529	CORRESPONDENCE
2485934	MULTI-WELL PLAN
400358503	FORM 2A SUBMITTED
400358612	NRCS MAP UNIT DESC
400358613	LOCATION DRAWING
400358614	CONST. LAYOUT DRAWINGS
400358615	LOCATION PICTURES
400358618	HYDROLOGY MAP
400358622	CONST. LAYOUT DRAWINGS
400358623	ACCESS ROAD MAP
400358628	SURFACE PLAN

Total Attach: 13 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Oper. sub. revised loc. drawing & const. layout drawings. No LGD or public comments. Final Review--passed.	3/20/2013 7:40:03 AM
OGLA	Initiated/Completed OGLA Form 2A review on 03-19-13 by Dave Kubeczko; requested acknowledgement of fluid containment, spill/release BMPs, moisture content/containment cuttings, stormwater BMPs, double lined pit, surface water sampling, baseline GW sampling, no pit in fill, Form 15, pit fencing/netting, tank berming, pit closure, and flowback to tanks COAs from operator on 03-19-13; received acknowledgement of COAs from operator on 03-19-13; changed distance to water well to 1077'; changed depth to GW to 56' bgs; passed by CPW on 12-18-12 with WMP acceptable; passed OGLA Form 2A review on 03-19-13 by Dave Kubeczko; fluid containment, spill/release BMPs, moisture content/containment cuttings, stormwater BMPs, double lined pit, surface water sampling, baseline GW sampling, no pit in fill, Form 15, pit fencing/netting, tank berming, pit closure, and flowback to tanks COAs.	3/19/2013 11:29:22 AM
Permit	Oper. submitted revised MWP (see inset map at bottom of attachment), still need rev. loc. drawing & const. layout drawings.	2/22/2013 1:12:28 PM
Permit	Oper. advised pad size is being reduced. Req'd revised loc. drawing, MWP, and constr. layout drawings.	2/6/2013 9:32:24 AM
Permit	Checked "executor". Prop. line distance is 835'.	1/7/2013 7:42:15 AM
DOW	This well pad is located within the boundary of the approved Black Hills Plateau Production-CPW Wildlife Mitigation Plan. The BMPs were developed and agreed upon in the consultation and development of the Wildlife Mitigation Plan. CPW affirms that the BMPs and conditions of approval of the Wildlife Mitigation Plan suffice to address wildlife mitigation concerns.  Approved Jim Komatinsky 12-18-2012	12/18/2012 4:14:29 PM
Permit	Checked "committed to an oil and gas lease" box per operator.	12/17/2012 3:08:56 PM

Total: 7 comment(s)

## BMP

<u>Type</u>	<u>Comment</u>
Wildlife	Operator commits to following all mitigation outlined in the Black Hills Wildlife Mitigation Plan.

Total: 1 comment(s)