

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:

2288982

Date Received:

09/06/2012

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:

**430382**

Expiration Date:

**10/05/2015**

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: 10431  
 Name: CHAMA OIL & MINERALS LLC  
 Address: PO BOX 50203  
 City: MIDLAND State: TX Zip: 79710

3. Contact Information

Name: WILLIAM HEARD  
 Phone: (432) 683-8000  
 Fax: (432) 683-8250  
 email: BILL.HEARD@CHAMA OIL.COM

4. Location Identification:

Name: PRONGHORN STATE 16-15-48 Number: 1H  
 County: CHEYENNE  
 Quarter: SESE Section: 16 Township: 15S Range: 48W Meridian: 6 Ground Elevation: 4265

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: 600 feet FSL, from North or South section line, and 660 feet FEL, from East or West section line.  
 Latitude: 38.736870 Longitude: -102.778480 PDOP Reading: 2.2 Date of Measurement: 08/08/2012  
 Instrument Operator's Name: R GABRIEL

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" value="1"/>	Wells: <input type="checkbox" value="1"/>	Production Pits: <input type="checkbox"/>	Dehydrator Units: <input type="checkbox"/>
Condensate Tanks: <input type="checkbox"/>	Water Tanks: <input type="checkbox" value="2"/>	Separators: <input type="checkbox" value="1"/>	Electric Motors: <input type="checkbox" value="1"/>	Multi-Well Pits: <input type="checkbox"/>
Gas or Diesel Motors: <input type="checkbox" value="1"/>	Cavity Pumps: <input type="checkbox"/>	LACT Unit: <input type="checkbox"/>	Pump Jacks: <input type="checkbox" value="1"/>	Pigging Station: <input type="checkbox"/>
Electric Generators: <input type="checkbox"/>	Gas Pipeline: <input type="checkbox" value="1"/>	Oil Pipeline: <input type="checkbox" value="1"/>	Water Pipeline: <input type="checkbox" value="1"/>	Flare: <input type="checkbox" value="1"/>
Gas Compressors: <input type="checkbox"/>	VOC Combustor: <input type="checkbox"/>	Oil Tanks: <input type="checkbox" value="3"/>	Fuel Tanks: <input type="checkbox" value="1"/>	

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

6. Construction:

Date planned to commence construction: 10/08/2012 Size of disturbed area during construction in acres: 4.00  
Estimated date that interim reclamation will begin: 05/01/2013 Size of location after interim reclamation in acres: 1.50  
Estimated post-construction ground elevation: 4264 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: 08/09/2012  
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: 20120073  Gas Facility Surety ID: \_\_\_\_\_  Waste Mgmt. Surety ID: \_\_\_\_\_

### 9. Cultural:

Is the location in a high density area (Rule 603.b.): Yes  No   
Distance, in feet, to nearest building: 1800, public road: 600, above ground utilit: 600  
, railroad: 9700, property line: 600

### 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 be 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: VONA LOAMY SAND, 3 TO 6 PER CENT 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: \_\_\_\_\_

List individual species: SEE ATTACHED NRCS RANGELAND PRODUCTIVITY AND PLANT COMPOSITION LISTING

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: 1200, water well: 1300, depth to ground water: 76

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:

PRONGHORN STATE 16-15-48 #1P (PILOT HOLE) AND PRONGHORN STATE 16-15-48 #1H (HORIZONTAL HOLE) ARE BEING PERMITTED FOR THIS LOCATION. THE LOCATION DOES NOT REQUIRE A VARIANCE FROM ANY OF THE RULES LISTED IN RULE 306.D.(1).(A).(II). THE LOCATION IS NOT IN A RESTRICTED SURFACE OCCUPANCY AREA. THE LOCATION IS NOT IN A SENSITIVE WILDLIFE HABITAT AREA. THERE ARE NO VISIBLE IMPROVEMENTS WITHN 400' OF LOCATION. REFERENCE AREA IS IMMEDIATELY ADJEACENT TO LOCATIOPN TO THE WEST. LOCATION PICTURES ADEQUATELY SHOW THE REFERENCE AREA. LOCATION WILL BE BERMED TO PREVENT RUNOFF.

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

Signed: \_\_\_\_\_ Date: 09/05/2012 Email: BILL.HEARD@CHAMAOIL.COM

Print Name: WILLIAM HEARD Title: DRILLING ENGINEER

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: Matthew Lee Director of COGCC Date: 10/6/2012

**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.**

1. Location is in a sensitive area because of shallow groundwater; therefore, either a lined drilling pit or closed loop system is required. A drilling pit used for disposal of cuttings from the closed loop system does not require lining. The contents of any drilling pit shall meet Table 910-1 Standards prior to closure.

2. Prior to drilling, operator shall sample the two (2) closest domestic water wells, springs, or surface water features 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. Testing of surface water features shall only be conducted if two (2) water wells or springs do not exist within a one (1) mile radius of the selected oil and gas location. 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.

Water well testing shall include laboratory analysis of pH, total dissolved solids (TDS), specific conductivity (SC), sodium adsorption ratio (SAR) calculation, total recoverable metals (calcium [Ca], potassium [K], magnesium [Mg], sodium [Na], arsenic [As], boron [B], barium [Ba], cadmium [Cd], chromium [Cr], copper [Cu], iron [Fe], manganese [Mn], lead [Pb], selenium [Se]), cations and anions (bromide [Br], chloride [Cl], fluoride [F], sulfate [SO4]), alkalinity (total, HCO3, and CO3 – all expressed as CaCO3), benzene, toluene, ethyl benzene, o-xylene, m- + p-xylene (BTEX), dissolved methane, diesel range organics (DRO), gasoline range organics (GRO), and nutrients (nitrates, nitrites). Sampling shall be performed by qualified individuals using commonly accepted environmental sampling procedures. Field observations such as pH, temperature, specific conductance, odor, water color, sediment, bubbles, and effervescence shall also be included.

Post-completion tests shall be performed for the same analytical parameters listed above and repeated one (1), three (3) and six (6) years thereafter. If no significant changes from the baseline have been identified after the third test (i.e. the six-year test), no further testing shall be required. Additional 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.

If free gas or a dissolved methane concentration level greater than one (1) milligrams per liter (mg/l) is detected in a water well, gas compositional analysis and stable isotope analysis of the methane (carbon and deuterium) shall be performed to determine gas type (biogenic or thermogenic). If the methane concentration increases by more than five (5) mg/l between sampling periods, or increases to more than ten (10) mg/l, the operator shall notify the Director and the owner of the water well immediately. If thermogenic methane concentrations increase between sampling periods, the operator shall submit to the Director an action plan to determine the source of the increase.

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 sample locations shall also be submitted to the Director in an electronic data deliverable format approved by Director.

**Attachment Check List**

Att Doc Num	Name
2288982	FORM 2A
2288983	LOCATION PICTURES
2288984	LOCATION DRAWING
2288985	HYDROLOGY MAP
2288986	ACCESS ROAD MAP
2288987	NRCS MAP UNIT DESC
2288988	CONST. LAYOUT DRAWINGS
2288989	NRCS MAP UNIT DESC

Total Attach: 8 Files

**General Comments**

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>
Permit	Final review completed; no LGD or public comment received.	10/4/2012 10:42:55 AM
Permit	Chama has met all of the SLBs requirements under the lease. Surface bond issue with the COGCC resolved.	10/4/2012 10:42:10 AM
Permit	Notified State Land Board. State Land in the process of finalizing. 10/2/2012	10/1/2012 7:14:00 AM
Final Review	Well is State minerals and State surface; removed COGCC surface bond from application	9/30/2012 9:36:17 AM
OGLA	<p>Phone call with operator: Operator plans to use closed loop, dispose mud offsite at a commercial facility, and bury cuttings in the drilling pit, in which case cuttings will meet Table 910-1 standards for pit closure; operator may need the use of a reserve pit if a closed loop rig is not available, in which case the reserve pit will be lined, mud will be disposed offsite and the drilling pit will be closed in accordance with Rule 905.</p> <p>Water well permits in the region of the proposed location indicate that water is produced from a shallow unconfined aquifer. Therefore, the location is in a Sensitive Area due to the presence of shallow ground water. Changed the Sensitive Area Designation to Yes.</p> <p>Initial review complete</p>	9/19/2012 4:02:56 PM
OGLA	emailed operator for clarification on use of drilling pit, depth to water/sensitive area, and water sampling COA	9/18/2012 10:31:12 AM
Permit	<p>From: Bill Heard [mailto:bheard@sierra-engineering.net] Sent: Tuesday, September 11, 2012 2:08 PM To: Reckles, Nikki Subject: RE: Return to Draft: Document No. 2288995, 228890 and 2288982</p> <p>Nikki, Please see my responses below in red. You have my permission to make the changes as noted. Thanks for your help. Bill Heard Chama Oil &amp; Minerals</p> <p>From: Reckles, Nikki [mailto:Nikki.Reckles@state.co.us] Sent: Tuesday, September 11, 2012 11:43 AM To: Bill Heard Subject: Return to Draft: Document No. 2288995, 228890 and 2288982</p> <p>Hi Bill, The above referenced forms were returned to draft for the following reason(s): Document No. 2288982 – Pronghorn Form 2A: 1.Missing well surety number. 2012-0075</p>	9/11/2012 3:58:32 PM
Permit	Return to Draft: Emailed Bill Heard due to paper submission of Form 2A 1. Missing well surety ID no.	9/11/2012 10:32:33 AM

Total: 8 comment(s)

**BMP**

<u>Type</u>	<u>Comment</u>

Total: 0 comment(s)