

FORM  
2

Rev  
08/13

## 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:

400522785

#### APPLICATION FOR PERMIT TO:

☒ Drill ☐ Deepen ☐ Re-enter ☐ Recomplete and Operate

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER Lateral Hole

Refilling ☐

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐

Sidetrack ☒

Date Received:

12/13/2013

Well Name: State Harvard

Well Number: 1H

Name of Operator: CONOCO PHILLIPS COMPANY

COGCC Operator Number: 19160

Address: P O BOX 2197

City: HOUSTON

State: TX

Zip: 77252-2197

Contact Name: Justin Carlile

Phone: (281)647-1857

Fax: (281)647-1935

Email: justin.carlile@conocophillips.com

#### RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20100227

#### WELL LOCATION INFORMATION

QtrQtr: NWNE Sec: 12 Twp: 5S Rng: 65W Meridian: 6

Latitude: 39.636111

Longitude: -104.612800

Footage at Surface: 820 feet FNL/FSL FNL 2480 feet FEL/FWL FEL

Field Name: WILDCAT

Field Number: 99999

Ground Elevation: 5864

County: ARAPAHOE

GPS Data:

Date of Measurement: 09/09/2013 PDOP Reading: 1.4 Instrument Operator's Name: Loren Shanks

If well is ☐ Directional ☒ Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: FNL/FSL 660 FNL 2137 FWL 660 FNL 450 FWL 660  
Sec: 12 Twp: 5S Rng: 65W Sec: 11 Twp: 5S Rng: 65W

#### LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership: ☐ Fee ☒ State ☐ Federal ☐ Indian

The Surface Owner is: ☒ is the mineral owner beneath the location.

(check all that apply) ☒ is committed to an Oil and Gas Lease.

☒ has signed the Oil and Gas Lease.

☐ is the applicant.

The Mineral Owner beneath this Oil and Gas Location is: ☐ Fee ☒ State ☐ Federal ☐ Indian

The Minerals beneath this Oil and Gas Location will be developed by this Well: Yes

The right to construct the Oil and Gas Location is granted by: oil and gas lease

Surface damage assurance if no agreement is in place: \_\_\_\_\_

Surface Surety ID: \_\_\_\_\_

## LEASE INFORMATION

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

Please see attached Lease

Total Acres in Described Lease: 21036 Described Mineral Lease is: ☐ Fee ☒ State ☐ Federal ☐ Indian  
Federal or State Lease # 1960.12  
Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 2980 Feet

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 2562 Feet  
Building Unit: 5280 Feet  
High Occupancy Building Unit: 4584 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 813 Feet  
Above Ground Utility: 498 Feet  
Railroad: 5280 Feet  
Property Line: 820 Feet

### INSTRUCTIONS:

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).  
- Enter 5280 for distance greater than 1 mile.  
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.  
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

## DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a: ☐ Buffer Zone  
☐ Exception Zone  
☐ Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit  
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.  
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: \_\_\_\_\_

## SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 939 Feet  
Distance from Completed Portion of Wellbore to Nearest Unit Boundary \_\_\_\_\_ Feet (Enter 5280 for distance greater than 1 mile.)  
Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

## SPACING & FORMATIONS COMMENTS

## OBJECTIVE FORMATIONS

| Objective Formation(s) | Formation Code | Spacing Order Number(s) | Unit Acreage Assigned to Well | Unit Configuration (N/2, SE/4, etc.) |
|------------------------|----------------|-------------------------|-------------------------------|--------------------------------------|
| NIOBRARA               | NBRR           |                         |                               |                                      |

## DRILLING PROGRAM

Proposed Total Measured Depth: 15238 Feet  
Distance to nearest permitted or existing wellbore penetrating objective formation: 939 Feet (Including plugged wells)  
Will a closed-loop drilling system be used? Yes  
Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No (If Yes, attach an H<sub>2</sub>S Drilling Operations Plan)  
Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? Yes

BOP Equipment Type: ☒ Annular Preventor ☒ Double Ram ☒ Rotating Head ☐ None

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 609

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Recycle/reuse

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Drilling cuttings will be taken by a certified transport company and disposed of at a certified disposal facility

Beneficial reuse or land application plan submitted?

Reuse Facility ID:  or Document Number:

## CASING PROGRAM

| Casing Type | Size of Hole | Size of Casing | Wt/Ft | Csg/Liner Top | Setting Depth | Sacks Cmt | Cmt Btm | Cmt Top |
|-------------|--------------|----------------|-------|---------------|---------------|-----------|---------|---------|
| CONDUCTOR   | 24+0/0       | 16+0/0         | 39.7  | 0             | 100           | 50        | 100     | 0       |
| SURF        | 13+1/2       | 9+5/8          | 36    | 0             | 2231          | 630       | 2231    | 0       |
| 1ST         | 8+3/4        | 5+1/2          | 23    | 0             | 15238         | 1960      | 15238   | 2131    |

☐ Conductor Casing is NOT planned

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- ☐ Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- ☐ Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- ☐ Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- ☐ Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- ☐ Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- ☐ Rule 318A.a. Exception Location (GWA Windows).
- ☐ Rule 318A.c. Exception Location (GWA Twinning).

## RULE 502.b VARIANCE REQUEST

☐ Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number

## OTHER LOCATION EXCEPTIONS

Check all that apply:

- ☐ Rule 318.c. Exception Location from Rule or Spacing Order Number
- ☐ Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

## OPERATOR COMMENTS AND SUBMITTAL

Comments Pilot Hole will not be produced, it is only drilled in the aide of the Lateral Hole.

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: \_\_\_\_\_

Is this application being submitted with an Oil and Gas Location Assessment application? \_\_\_\_\_ Yes

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

Signed: \_\_\_\_\_ Print Name: Justin Carlile

Title: Regulatory Specialist Date: 12/13/2013 Email: justin.carlile@conocophillips.co

Operator must have a valid water right or permit allowing for industrial use or purchased water from a seller that has a valid water right or permit allowing for industrial use, otherwise an application for a change in type of use is required under Colorado law. Operator must also use the water in the location set forth in the water right decree or well permit, otherwise an application for a change in place of use is required under Colorado law. Section 37-92-103(5), C.R.S. (2011).

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: 2/8/2014

Expiration Date: 02/07/2016

**API NUMBER**

05 005 07219 01

### **Conditions Of Approval**

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

**COA Type**

**Description**

|  |  |
|--|--|
|  | Open hole resistivity and gamma logs shall be run to describe the stratigraphy of the entire well bore and to adequately verify the setting depth of surface casing and aquifer coverage. On a multi-well pad, these open hole logs are only required on one of the first wells drilled on the pad and the Drilling Completion Report - Form 5 for every well on the pad shall identify which well was logged.   |
|  | PILOT HOLE 1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU. FOR LATERAL 2) Comply with Rule 317.i and provide cement coverage from end of 7" casing to a minimum of 200' above Niobrara. Verify coverage with cement bond log. 3) Comply with Rule 321. Run and submit Directional Survey from TD to base of surface casing. Ensure that the wellbore complies with setback requirements in commission orders or rules prior to producing the well. |

### **Best Management Practices**

**No BMP/COA Type**

**Description**

|   |                                |   |
|---|--------------------------------|---|
| 1 | Drilling/Completion Operations | <p>MEMORANDUM OF UNDERSTANDING</p> <p>This Memorandum of Understanding ("MOU") is made and entered into this ____ day of ____, 2013, by and between Arapahoe County, a Colorado County ("County") with an address of 5334 S. Prince St., Littleton, Colorado 80120 and ("Operator"), with an address of _____. The Operator and the County may be referred to individually as a "Party" or collectively as the "Parties."</p> <p>BACKGROUND</p> <p>A. Operator is the owner or lessee of oil and gas leasehold and/or mineral interests within unincorporated parts of the County, and, as of the time of the execution of this</p> |
|---|--------------------------------|---|

MOU, has the right and intent to further develop its oil and gas leasehold and/or mineral interests within said portion of the County.

B. The intent of this MOU is to provide the conditions under which Operator will develop and operate future oil and gas facilities or newly expanded facilities in the unincorporated portions of the County, in order to foster the efficient and economic production of oil and gas resources, to protect human health, safety and welfare and to protect the environment and wildlife resources, while at the same time providing for a predictable and expeditious administrative process for obtaining County land use approvals and permits for oil and gas facilities. The terms "facility" or "facilities" are defined here as including oil and gas wellsites, flowlines, tank batteries, compressor stations, pits/ponds, below-grade tanks, dehydration units, vapor recovery units (VRUs), and associated roads. Pipelines and gathering systems, other than flowlines, as well as salt water disposal wells and injection wells are excluded. Locations with more than one of the above mentioned types of equipment will also be considered to be one facility. Unless indicated otherwise, the definitions of terms used in the MOU shall be the same as in the Colorado Oil and Gas Conservation Commission's ("Commission") Rules.

NOW, THEREFORE, the Parties agree as follows:

1. Intent to Supplement Commission Rules and Regulations. The Parties recognize that pursuant to the Colorado Oil and Gas Conservation Act, C.R.S. §§ 34-60-101, et seq. ("Act"), the Commission regulates the development and production of oil and gas resources in Colorado, and the Act authorizes the Commission to adopt statewide rules and regulations. The provisions of this MOU are intended to supplement and add to the Commission's rules and regulations. To the extent that any of the provisions of this MOU are in conflict with the Act or COGCC rules and regulations, the stricter standards shall govern.

2. Operator's Pit Practices within the County. The Operator will comply, at a minimum, with the following pit practices, after the date of this MOU:

a. Preferred Option: It is the intent of the County that operators utilize closed-loop or modified closed-loop systems for drilling and completion operations in order to minimize or eliminate the need for earthen pits; however, notwithstanding the foregoing, where appropriate, and subject to prior County approval, the County generally supports: 1) the use of unlined drilling pits when bentonite or a similar clay additive is used during the drilling process, and 2) the use of lined single- or multi-well water storage pits in order to minimize the transport of water and promote recycling, subject to the requirements set forth in this subsection. Permitted modified closed-loop systems include oil and gas wells where air or fresh water is used to drill through the surface casing interval, defined as fifty (50) feet below the depth of the deepest aquifer, and a closed loop system is used for the remainder of the drilling and/or completion or recompletion procedures. Multi-well pits are defined as lined, engineered pits, constructed over an engineered base, with construction or liner specifications meeting or exceeding Commission pit lining rules, that will serve the functions of drilling, completion, and/or flowback pits for more than one well.

b. Water Storage Pits to Contain Fresh Water or Brine Water: Water stored in pits approved by the County and allowed under Commission Rules, must meet the definition of fresh water or brine water, except for water stored in pits listed in 2c below. Fresh water is defined as containing total dissolved solids (TDS) less than or equal to 5,000 milligrams/liter (mg/l). Brine water is defined as water produced from an oil and/or gas well with TDS of greater than 5,000 mg/l. The Operator is required to remove all free and visible oil within 24 hours of discovery. Upon closure of the pit, the Operator will ensure the protection of the public health and environment by following all Commission pit closure rules, including collecting analytical data to ensure compliance with state standards. As long as the pit is open and containing fluid, a representative water sample shall be taken every six months from the surface of the pit fluids, the first sample to be taken within 6 months of the pit becoming operational. Water quality data will also include an analysis of Sodium Adsorption Ratio (SAR). The County will review water quality data provided by the Operator every six (6) months. TDS, pH, and specific conductance can be measured with a field meter. TEPH (total extractable petroleum hydrocarbons), BTEX (Benzene, Toluene,

|  |   |
|--|---|
|  | <p>Ethylbenzene, and Xylenes), and SAR will be analyzed by an accredited laboratory. If the presence of TEPH and/or BTEX is indicated after County review and/or inspection, other water quality analyses may be required by the County.</p> <p>c. Additional Pits that Require County Review and Approval: Skimming, settling, percolation, evaporation, and any type of netted pits are generally discouraged by the County; however such pits may be approved on a case-by-case basis through the Use by Special Review ("USR") process. A copy of the Pit Plan submitted to the Commission will be provided to the County at the same time as the plans are submitted to the Commission. Construction of these pits will be preceded by collection of "baseline" soil samples from the center of the planned pit at 6 and 18 inches depth. Soil samples will be analyzed for pH, Sodium Adsorption Ratio (SAR), and Electrical Conductivity (EC). The Operator shall stake and photograph from the center of the planned pit (toward north, south, east, and west directions) for inclusion in the County's copy of the Pit Plan. Upon closure of these pits, pH, SAR, EC, BTEX (Benzene, Toluene, Ethylbenzene, and Xylenes), and TEPH (total extractable petroleum hydrocarbons) analyses may be required if there is evidence of leaks or spills in the immediate area of the pits.</p> <p>d. Pits That Do Not Require County Approval: Flare, Emergency, Plugging, and Workover pits will not require county review or approval prior to construction (unless within 1/4 mile of a residence as set forth below); however, the County will be copied on the notification(s) sent to the Commission and any pit plans, remediation plans, or analytical results submitted to the Commission.</p> <p>e. Pit Setbacks: All pit construction within ¼ mile of a residence or water well is generally discouraged by the County and may have additional County requirements, such as fencing. Such pits will be reviewed on a case-by-case basis by the County.</p> <p>f. Multi-Well Pits: In additi</p> |
|--|---|

Total: 1 comment(s)

### **Applicable Policies and Notices to Operators**

Notice Concerning Operating Requirements for Wildlife Protection.

### **Attachment Check List**

| <b><u>Att Doc Num</u></b> | <b><u>Name</u></b>      |
|---------------------------|-------------------------|
| 2157488                   | EXCEPTION LOC REQUEST   |
| 400522785                 | FORM 2 SUBMITTED        |
| 400526899                 | LEGAL/LEASE DESCRIPTION |
| 400526900                 | WELL LOCATION PLAT      |
| 400526902                 | DEVIATED DRILLING PLAN  |
| 400532377                 | DIRECTIONAL DATA        |

Total Attach: 6 Files

## General Comments

| <u>User Group</u> | <u>Comment</u>   | <u>Comment Date</u>      |
|-------------------|--|--------------------------|
| Permit            | Oper. submitted exc. loc. req. ltr.<br>No LGD or public comments.<br>Final Review--passed.   | 2/4/2014<br>10:34:37 AM  |
| Permit            | Oper. corrected TOP footages. Distance between wells on pad now 939' at top of pay zones. Still requires spacing order or exc. loc. request. | 1/28/2014<br>9:48:08 AM  |
| Permit            | Need corrected dist. to prop. line?<br>Distance to TOP in offset well is 393'. Statewide spacing applies: not a legal location.              | 1/13/2014<br>10:30:15 AM |
| Permit            | Made corrections to Xcel template.   | 12/26/2013<br>6:57:47 AM |
| Permit            | Oper. submitted Xcel template.   | 12/23/2013<br>3:13:42 PM |
| Permit            | Need corrected dist. to prop. line. Deleted dist. to unit.<br>Req'd Xcel template to upload.   | 12/18/2013<br>2:25:34 PM |
| Permit            | Passed completeness.   | 12/13/2013<br>3:09:34 PM |

Total: 7 comment(s)