

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:
401055733
(SUBMITTED)

APPLICATION FOR PERMIT TO:

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

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER _____ Refilling ☐
ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐ Sidetrack ☐

Date Received:

Well Name: Thornton Well Number: C-29-30HN
Name of Operator: BAYSWATER EXPLORATION AND PRODUCTION LLC COGCC Operator Number: 10261
Address: 730 17TH ST STE 610
City: DENVER State: CO Zip: 80202
Contact Name: Jeff Annable Phone: (303)928-7128 Fax: (303)218-5678
Email: regulatory@petro-fs.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20080034

WELL LOCATION INFORMATION

QtrQtr: SWNW Sec: 28 Twp: 7N Rng: 66W Meridian: 6
Latitude: 40.548789 Longitude: -104.791521
Footage at Surface: 1584 feet FNL/FSL FNL 355 feet FEL/FWL FWL
Field Name: WATTENBERG Field Number: 90750
Ground Elevation: 4908 County: WELD
GPS Data:
Date of Measurement: 01/06/2016 PDOP Reading: 1.8 Instrument Operator's Name: Alec Shull
If well is ☐ Directional ☒ Horizontal (highly deviated) **submit deviated drilling plan.**
Footage at Top of Prod Zone: FNL/FSL FNL/FWL Bottom Hole: FNL/FSL FNL/FWL
545 FNL 470 FEL 545 FNL 470 FWL
Sec: 29 Twp: 7N Rng: 66W Sec: 30 Twp: 7N Rng: 66W

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: No

The right to construct the Oil and Gas Location is granted by: Surface Use Agreement

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.)

Township 7 North, Range 66 West, 6th PM
Section 29: Part of the W2

See attached lease map.

Total Acres in Described Lease: 137 Described Mineral Lease is: ☒ Fee ☐ State ☐ Federal ☐ Indian

Federal or State Lease # _____

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 948 Feet
Building Unit: 948 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 337 Feet
Above Ground Utility: 703 Feet
Railroad: 5280 Feet
Property Line: 355 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: 02/17/2016

SPACING and UNIT INFORMATION

Distance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation: 14 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 470 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): _____ Unit Number: _____

SPACING & FORMATIONS COMMENTS

Nearest wellbore permitted or completed in the same formation is the Bears 4-30 API #05-123-34218 (Common source CODL well).

NBRR: Proposed Spacing Unit is described as:

T7N,R66W:
Sec 29 & 30 - N2N2

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 | | 320 | GWA |

DRILLING PROGRAM

Proposed Total Measured Depth: 17768 Feet

Distance from proposed wellbore to nearest existing or permitted wellbore belonging to another operator:

632 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H₂S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No (If Yes, attach an H₂S 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? No

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 318A

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Land application

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Hester Farms COGCC Facility 442545 will be used for offsite disposal.

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID: 442545 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 | 26 | 16 | 42 | 0 | 80 | 400 | 80 | 0 |
| SURF | 13+1/2 | 9+5/8 | 36 | 0 | 1500 | 1040 | 1500 | 0 |
| 1ST | 8+1/2 | 5+1/2 | 20 | 0 | 17768 | 2775 | 17768 | 0 |

☐ 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

Letter to the Director for COGCC Rule 318A.a. Exception Location Request, attached as Exception Loc Request.

Waiver for COGCC Rule 318A.a. GWA window, attached as Exception Loc Waiver.

Letter to Director for COGCC Rule 318A.e. Proposed Spacing Unit, attached as Proposed Spacing Unit.

Nearest permitted or existing or permitted wellbore belonging to another operator is the Thornton 21G-403 API #05-123-37407. Since the wells cross on a 2D perspective, the measurement provided is from completed interval to completed interval.

The Thornton 21G-403 API #05-123-37407, the Bears 4-30 API #05-123-34218, the Hirsch 1-29 API #05-123-37822, and the Hirsch 2-29 API #05-123-37823 completed intervals are greater than 150' from the completed interval of the proposed well. No 317.s. consent is required. (3D Measurement)

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: Jeff Annable

Title: Regulatory Analyst Date: _____ Email: regulatory@petro-fs.com

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: _____

Expiration Date: _____

API NUMBER

05

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

| | |
|--|--|
| | |
|--|--|

Best Management Practices

| No | BMP/COA Type | Description |
|----|--|---|
| 1 | Planning | <p>Multi-well Pads are selected in a manner which allows for resource extraction while maintaining the highest and equidistant measurements from offsetting residential areas while also honoring the wishes of the surface owner. Bayswater utilizes flood plain information, COGCC setbacks, development strategies, economics, mechanical and well bore integrity, safety, traffic, geology and operations life cycles among other items when planning horizontal sites. Bayswater plans extended reach laterals when possible to minimize the number of disturbance areas and the number of multi-well sites. The use of existing pad sites, access roads and the proximity to pipelines all play important roles in site selection. Additionally, Bayswater looks at the torque and drag on drilling operations to see what the limitations are on site selection compared to landing points of the laterals. Bayswater will continue to be in close communication with Surface Owner(s) with respect to land use consideration, construction and drilling rig move in date. A meeting with the surface owner will determine the fencing and sound wall plan.</p> <p>During drilling operations, the well sites and any pits shall be fenced if requested by the Surface Owner. A meeting with the land owner will help determine any changes to fencing or culverts. Unless otherwise requested by the Surface Owner, well sites constructed within Designated Setback Locations shall be adequately fenced to restrict access by unauthorized persons.</p> |
| 2 | Community Outreach and Notification | Operator will also provide a toll-free hotline to all Building Unit Owners in the area if they have any complaints. |
| 3 | Pre-Construction | Plugged and abandoned wells will be identified pursuant to 319.a.(5) |
| 4 | Traffic control | <p>Access Roads: The access road will be constructed to accommodate local emergency vehicle access requirements. Bayswater plans to utilize an existing farm field entrance. The access can be improved upon to accommodate drilling and completions operations trucks as wells as local emergency vehicles. Bayswater has implemented traffic signs at our entrances and exits from pads to suggest traffic patterns and also for speed control. Traffic from this pad will be directed south to CR 74.</p> |
| 5 | General Housekeeping | <p>Visual Impacts: Equipment observable from any public highway, regardless of construction date, shall be painted with uniform, non-contrasting, non-reflective color tones (similar to the Munsell Soil Color Coding System), and with colors matched to, but slightly darker than, the surrounding landscape.</p> <p>Maintain appearance with garbage clean-up; a trash bin will be located on site to accumulate waste by the personnel drilling the wells. Site will have unused equipment, trash and junk removed immediately. Operator shall keep the Surface Use Area as well as any roads or other areas used by Operator safe and in good order, including control of noxious weeds, litter and debris.</p> |
| 6 | Storm Water/Erosion Control | Use water bars and other measures to prevent erosion and non-source pollution. Implement and maintain BMPs to control storm water runoff in a manner that minimizes erosion, transport of sediment offsite, and site degradation. Co-locate gas and water gathering lines whenever feasible, and mitigate any erosion problems that arise due to the construction of any pipeline(s). |
| 7 | Material Handling and Spill Prevention | <p>Leak Detention Plan: Pumper will visit the location daily and visually inspect all wellheads and fittings for leaks. Additionally, annual documented SPCCP inspections are conducted pursuant to 40 CFR 112.</p> <p>Control of fire hazards: All material that is considered a fire hazard shall be a minimum of 25' from the wellhead. Electrical equipment shall comply with API IRP 500 and will comply with the current national electrical code.</p> <p>Operator shall comply with state and federal laws, rules and regulations governing the presence of any petroleum products, toxic or hazardous chemicals or wastes on the Subject lands.</p> |

| | | |
|----|----------------------|---|
| 8 | Dust control | Operator shall employ practices for control of fugitive dust caused by their operations. Such practices shall include but are not limited to the use of speed restrictions, regular road maintenance, restriction of construction activity during high-wind days, and silica dust controls when handling sand used in hydraulic fracturing operations. Bayswater additionally has implemented the use of traffic signs when leaving the location to remind drivers of specific routes to utilize. Additional management practices such as road surfacing, wind breaks and barriers, or automation of wells to reduce truck traffic may also be required if technologically feasible and economically reasonable to minimize fugitive dust emissions. |
| 9 | Construction | Guy line anchors: All guy line anchors shall be brightly marked pursuant to Rule 604.c. (2)Q. |
| 10 | Noise mitigation | <p>Operator will provide engineered noise abatement sound walls to comply with COGCC requirements. Sound walls will be installed for the duration of drilling and completion activities per third party sound modeling studies.</p> <p>Baseline studies will be conducted prior to commencement of construction and dirt work, which includes both A and C scale measurements. A sound model will be developed with the drilling rig and completion operations noise signatures. Bayswater has recently acquired a new rig signature for the Frontier # 8 rig with hospital grade mufflers. This signature information is available upon request. Various height sound walls will be engineered and installed where required and necessary. Temporary Ibeams will be installed for walls 20' and higher. Sound walls themselves, a combination of STC-32 and STC-25 Acoustical Barrier Blankets, will be implemented. Both drilling and completion operations will be conducted within these sound walls. 10'-16' portable walls will be used to dampen gen-sets, if necessary, pursuant to sound model results. Additionally, sound blankets may be utilized in and around the rig floor to dampen noise from the draw works. Operator is investigating the possibility of powering the drill site by electricity.</p> |
| 11 | Emissions mitigation | <p>Green Completions - Emission Control System: Test separators and associated flow lines and sand traps shall be installed to accommodate green completions techniques pursuant to COGCC Rules. In the anticipated absence of a viable gas sales line, the flowback gas shall be thermally oxidized in an emissions control device (ECD), which will be installed and kept in operable condition for at least the first 90-days of production pursuant to CDPHE rules. This ECD shall have an adequate capacity for 1.5 times the largest flowback within a 10 mile radius, will be flanged to route gas to other or permanent oxidizing equipment and shall be provided with the equipment needed to maintain combustions where non-combustible gases are present.</p> <p>Operator is working is working with midstream operators in the area. Bayswater will connect to a gas sales lines as soon as practical.</p> |
| 12 | Odor mitigation | <p>Equipment shall be operated in such a manner that odors and dust do not constitute a nuisance or hazard to public welfare.</p> <p>Oil and gas operations shall be in compliance with the Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emission, 5 C.C.R. 1001-4, Regulation No. 3 (5 C.C.R. 1001-5), and Regulation No. 7 Section XVII.B.1 (a-c) and Section XII.</p> |

| | | |
|----|--------------------------------|--|
| 13 | Drilling/Completion Operations | <p>A closed –loop system will be used for drilling operations.</p> <p>Blowout Prevention Equipment (“BOPE”): A double ram and annular preventer will be used during drilling. Stabbing valves shall be installed in the event of reverse circulation and shall be prior tested with low and high pressure fluid.</p> <p>Lighting: Site lighting shall be directed downward and inward and shielded so as to avoid glare on public roads and Building Units within one thousand (1000) feet where possible. Once the drilling and completion rigs leave the site, there will be no permanently installed lighting on site.</p> <p>Bradenhead Monitoring: Operator acknowledges and will comply with COGCC Policy for Bradenhead Monitoring during Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012.</p> <p>Anti-collision: Operator will perform an anti-collision evaluation of all active (producing, shut in, or temporarily abandoned) offset wellbores that have the potential of being within 150 feet of a proposed well prior to drilling operations for the proposed well. Notice shall be given to all offset operators prior to drilling.</p> |
| 14 | Drilling/Completion Operations | <p>One of the first wells drilled on the pad will be logged with open-hole Resistivity Log and Gamma Ray Log from the kick-off point into the surface casing. All wells on the pad will have a cement bond log with gamma-ray run on production casing (or on intermediate casing if production liner is run) into the surface casing. The horizontal portion of every well will be logged with a measured-while-drilling gamma-ray log. The Form 5 Completion Report for each well on the pad will list all logs run and have those logs attached. The Form 5 for a well without open-hole logs shall clearly state “No open-hole logs were run” and shall clearly identify (by API#, well name & number) the well in which open-hole logs were run.</p> |
| 15 | Interim Reclamation | <p>Operator shall be responsible for segregating the topsoil, backfilling, repacking, reseeding, and recontouring the surface of any disturbed area so as not to interfere with the Surface Owner’s operations and shall reclaim such area to be returned to pre-existing conditions as best as possible with control of all weeds.</p> |
| 16 | Final Reclamation | <p>Within 90 days subsequent to the time of plugging and abandonment of the entire site, superfluous debris and equipment shall be removed from the site. Operator shall restore the surface of the land affected by such terminated operations as near as possible to the previous state that existed prior to operations.</p> |

Total: 16 comment(s)

Attachment Check List

| <u>Att Doc Num</u> | <u>Name</u> |
|---------------------------|----------------------------|
| 401055841 | WELL LOCATION PLAT |
| 401055842 | DEVIATED DRILLING PLAN |
| 401055844 | DIRECTIONAL DATA |
| 401078223 | EXCEPTION LOC WAIVERS |
| 401078224 | EXCEPTION LOC REQUEST |
| 401082351 | SURFACE AGRMT/SURETY |
| 401082355 | PROPOSED SPACING UNIT |
| 401082356 | LEASE MAP |
| 401082799 | OffsetWellEvaluations Data |

Total Attach: 9 Files

General Comments

| <u>User Group</u> | <u>Comment</u> | <u>Comment Date</u> |
|--------------------------|-----------------------|----------------------------|
| | | |

Total: 0 comment(s)