

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:

400703219

## APPLICATION FOR PERMIT TO:

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

Date Received:

10/20/2014

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER \_\_\_\_\_Refiling ☐ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐Sidetrack ☐

Well Name: Matrix

Well Number: Q-29HN

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: SESW Sec: 29 Twp: 6N Rng: 65W Meridian: 6

Latitude: 40.452983

Longitude: -104.688540

Footage at Surface: 563 feet FNL/FSL FSL 2276 feet FEL/FWL FWL

Field Name: GREELEY

Field Number: 32760

Ground Elevation: 4708

County: WELD

GPS Data:

Date of Measurement: 07/10/2014 PDOP Reading: 1.7 Instrument Operator's Name: Alan Hnizdo

If well is ☐ Directional ☒ Horizontal (highly deviated) submit deviated drilling plan.
 Footage at Top of Prod Zone: FNL/FSL FSL 806 FEL 470 FNL 806 FEL  
 Sec: 29 Twp: 6N Rng: 65W Sec: 29 Twp: 6N Rng: 65W

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

Surface Ownership: ☒ Fee ☐ State ☐ Federal ☐ IndianThe 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: applicant is owner

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.)

Part of Sec. 29, T6N, R65W. See Attached lease map

Federal lease included within the lease map for BLM lands covering the Railroad ROW.

Total Acres in Described Lease: 239 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: 547 Feet

Building Unit: 547 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 324 Feet

Above Ground Utility: 582 Feet

Railroad: 1338 Feet

Property Line: 257 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: 11/04/2014

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 09/02/2014

## SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 105 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 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 Moro Farms #41-29.  
NIOBRARA: Proposed Spacing Unit is described as E2E2 of Section 29, T6N-R65W.

## 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           |                         | 160                           | GWA                                  |

## DRILLING PROGRAM

Proposed Total Measured Depth: 11876 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 52 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? 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:

Reeves Mud Field COGCC Facility 435839 will be used for offsite disposal.

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID: 435839 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 |
|-------------|--------------|----------------|-------|---------------|---------------|-----------|---------|---------|
| SURF        | 12+1/4       | 9+5/8          | 36    | 0             | 700           | 311       | 700     | 0       |
| 1ST         | 8+3/4        | 7+0/0          | 26    | 0             | 7811          | 607       | 7811    | 700     |
| 1ST LINER   | 6+1/8        | 4+1/2          | 11.6  | 7511          | 11876         |           |         |         |

☒ 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 BDistance to nearest permitted or existing wellbore penetrating objective formation is the Moro Farms 44-29 API # 05-123-32229.

Letter to the Director for COGCC Rules 318A.a. Exception Location for GWA Windows, attached as the Exception Location Request.

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

COGCC Rule 318A.n Moro Farms 44-29 and Hungenberg 42-29 are the only wells within 150' (measured from a 3D perspective). Since Bayswater is the Operator of these wells no waiver will be required.

Provided is proof from the Weld County Assesor that some of the buildings within the 1000' buffer are not considered bulding units. This justifies that this is a Non-Urban Mitigation Area. The information is attached as Other.

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

Location ID: 333308

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 Technician Date: 10/20/2014 Email: regulatory@petro-fs.com

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: 11/26/2014

Expiration Date: 11/25/2016

### API NUMBER

05 123 40695 00

### **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**

|  |  |
|--|--|
|  | <p>1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU.</p> <p>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.</p> <p>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.</p>   |
|  | <p>Operator acknowledges the proximity of the listed non operated wells. Operator agrees to provide mitigation Option 1 or 2 (per the DJ Basin Horizontal Offset Policy, ensure all applicable documentation is submitted based on the selected mitigation option chosen, and submit a Form 42(s) "OFFSET MITIGATION COMPLETED" for the remediated wells, referencing the API Number of the proposed horizontal well(s) stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well.</p> <p>Kelly Estate (William) 44-19 (API #123-10703)<br/>Bohlender 1-20 (API #123-12412)<br/>Moro Farms 20-15 (API #123-17912)<br/>Watson E 28-5 (API #123-16708)<br/>Johnson Oly 1 (API #123-12299)<br/>Adams #1 (API #123-12295)</p> |
|  | <p>Operator shall comply with Buffer Zone Move-In, Rig-Up Notice Rule 305.h dated 09.30.2014</p>   |
|  | <p>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.</p>  |

### **Best Management Practices**

#### **No BMP/COA Type**

#### **Description**

|   |          |  |
|---|----------|--|
| 1 | Planning | <p>Multi-well Pads are located in a manner which allows for resource extraction while maintaining the highest distances possible from the offsetting residential areas and complies with the wishes of the surface owner.</p> <p>A meeting with the surface owner will determine the fencing plan.</p> <p>Tanks will be designed, constructed and maintained in accordance with NFPA Code 30. The tanks are visually inspected once a day for issues, and recorded inspections are conducted once a month.</p> |
|---|----------|--|

|   |  |   |
|---|--|---|
| 2 | Pre-Construction                       | <p>Anti-Collision: Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed wells. The anti-collision scan may include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed well path with its respective error of uncertainty. If current surveys do not exist for the offset wells, operators may have gyro surveys conducted to verify bottom hole location. The proposed well may only be drilled if the anti-collision review results indicate that the risk of collision is sufficiently low as defined by the anti-collision plan, with separation factors greater than 1.5, or if the risk of collision has been mitigated through other means including shutting in wells, plugging wells, increased drilling fluid in the event of lost returns or as is appropriate for the specific situation. In the event of an increased risk of collision, that risk will be mitigated to prevent harm to people, the environment or property. For the proposed well, upon conclusion of drilling operations, an as-constructed directional survey will be submitted to the COGCC with the Form 5.</p> <p>Identification of plugged and abandoned wells will be identified pursuant to 319.a.(5)</p> |
| 3 | Traffic control                        | <p>Access Roads: The access road will be constructed to accommodate local emergency vehicles. This road will be maintained for access at all times. Traffic will be routed to minimize local interruption.</p>  |
| 4 | General Housekeeping                   | <p>Visual Impacts: All long term facility structures will be painted a color that enables the facilities to blend in with the natural background color of the landscape, as seen from a viewing distance and location typically used by the public. 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.</p> <p>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>   |
| 5 | Material Handling and Spill Prevention | <p>Leak Detention Plan: Pumper will visit the location daily and visually inspect all tanks and fittings for leaks. Additionally, monthly 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 tanks or separators. 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. equipment.</p>   |
| 6 | Dust control                           | <p>Fugitive dust will be controlled by speed restrictions on all neighboring roads, regular road maintenance and repair, and avoiding construction activity during high wind days. If technologically and economically feasible, additional management practices may also be required to minimize fugitive dust as well as to control silica dust while handling sand during frac'ing operations.</p>   |
| 7 | Construction                           | <p>Berm Construction- Tanks berms shall be constructed of steel rings with a synthetic or engineered liner and designed to contain 150% of the capacity of the largest tank. All berms will be visually checked periodically to ensure proper working condition.</p>  |
| 8 | Noise mitigation                       | <p>The drill site will be powered by electricity, mitigating the majority of noise from drilling operations. Sound walls and/or hay bales will be used to surround the well site during drilling operations.</p>  |
| 9 | Emissions mitigation                   | <p>Green Completions - Emission Control System: Test separators and associated flow lines and sand traps shall be installed on-site 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 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>   |

|    |                                |   |
|----|--------------------------------|---|
| 10 | Odor mitigation                | Operator will regulate odors in accordance with COGCC Rule 805. The production facilities will have VOC Combustors with emission control devices to comply with the Department of Public Health and Environment, Air Quality Control Commission.  |
| 11 | 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: Light sources during all phases of operations will be directed downwards and away from occupied structures 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> |
| 12 | Interim Reclamation            | 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 Owner’s operations and shall reclaim such area to be returned to pre-existing conditions as best as possible with control of all noxious weeds.  |
| 13 | Final Reclamation              | 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. The 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.  |

Total: 13 comment(s)

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

Notice Concerning Operating Requirements for Wildlife Protection.

Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area.

### **Attachment Check List**

| <b><u>Att Doc Num</u></b> | <b><u>Name</u></b>         |
|---------------------------|----------------------------|
| 2451064                   | ANTI-COLLISION WAIVER      |
| 2451065                   | DEVIATED DRILLING PLAN     |
| 400703219                 | FORM 2 SUBMITTED           |
| 400703384                 | WELL LOCATION PLAT         |
| 400711215                 | OffsetWellEvaluations Data |
| 400711216                 | LEASE MAP                  |
| 400711217                 | DIRECTIONAL DATA           |
| 400711219                 | OTHER                      |
| 400711220                 | EXCEPTION LOC REQUEST      |
| 400711225                 | PROPOSED SPACING UNIT      |

Total Attach: 10 Files

## General Comments

| <u>User Group</u> | <u>Comment</u>   | <u>Comment Date</u>       |
|-------------------|--|---------------------------|
| Permit            | Selected "Urban Mitigation Area" at operator's request.<br><br>Final Review Completed. No LGD or public comment received.  | 11/24/2014<br>3:41:03 PM  |
| Permit            | Attached updated anti-collision waiver request and deviated drilling plan provided by the operator.  | 11/7/2014<br>9:20:56 AM   |
| Permit            | Operator requests approval of a Rule 318Aa and Rule 318Ae exception location: Wellhead is to be located outside of a GWA drilling window and the well will be drilled to a 318Ae infill location from outside of a GWA drilling window. Request and waivers attached.<br><br>Operator requests approval of a Rule 318A.n exception location: Wellbore is to be located less than 150' from an existing wellbore. Request and waivers attached. | 10/31/2014<br>10:46:58 AM |
| Permit            | Added a comment at the operator's request to clarify the BLM lease within the lease map.<br>At the operator's request, changed the distance to the nearest wellbore completed in the same formation to 105 from 330 with consideration of the Moro Farms 41-29. Requested Anti-collision waiver and updated deviated drilling plan.  | 10/31/2014<br>10:46:03 AM |
| Permit            | Passed Completeness  | 10/21/2014<br>2:26:41 PM  |

Total: 5 comment(s)