

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:
400850218

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

Date Received:
06/15/2015

TYPE OF WELL OIL GAS COALBED OTHER _____
ZONE TYPE SINGLE ZONE MULTIPLE ZONES COMMINGLE ZONES

Refiling
Sidetrack

Well Name: Ivey Well Number: M-11-12HN
Name of Operator: SYNERGY RESOURCES CORPORATION COGCC Operator Number: 10311
Address: 20203 HIGHWAY 60
City: PLATTEVILLE State: CO Zip: 80651
Contact Name: Erin Ekblad Phone: (303)942-0506 Fax: ()
Email: eekblad@syrginfo.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20090043

WELL LOCATION INFORMATION

QtrQtr: SWSE Sec: 11 Twp: 1S Rng: 68W Meridian: 6
Latitude: 39.975019 Longitude: -104.965576

Footage at Surface: 1091 feet FNL/FSL FEL/FWL
FSL 1725 feet FEL

Field Name: SPINDLE Field Number: 77900
Ground Elevation: 5108 County: ADAMS

GPS Data:
Date of Measurement: 05/07/2014 PDOP Reading: 2.5 Instrument Operator's Name: Owen McKee

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

Footage at Top of Prod Zone: FNL/FSL FEL/FWL Bottom Hole: FNL/FSL FEL/FWL
1180 FSL 2175 FEL 1180 FSL 2175 FWL
Sec: 11 Twp: 1S Rng: 68W Sec: 12 Twp: 1S Rng: 68W

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.)

T1S R68W Sec. 11: S/2SE/4; Sec. 14: S/2NE/4; SE/4; Sec. 24: NW/4

Total Acres in Described Lease: 480 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: 2597 Feet

Building Unit: 2597 Feet

High Occupancy Building Unit: 3296 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 584 Feet

Above Ground Utility: 2045 Feet

Railroad: 4822 Feet

Property Line: 232 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: 95 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 476 Feet (Enter 5280 for distance greater than 1 mile.)

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

SPACING & FORMATIONS COMMENTS

The proposed spacing unit is comprised of 320 acres: T1S R68W Sec. 11: SE/4; T1S R68W Sec. 12: SW/4.

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: 12643 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 95 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: Commercial Disposal

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

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 |
|-------------|--------------|----------------|-------|---------------|---------------|-----------|---------|---------|
| SURF | 12+1/4 | 9+5/8 | 36 | 0 | 1200 | 450 | 1200 | 0 |
| 1ST | 8+3/4 | 7 | 26 | 0 | 7586 | 600 | 7586 | 3000 |
| 1ST LINER | 6+1/8 | 4+1/2 | 11.6 | 7186 | 12643 | | | |

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 Distance from completed portion of the wellbore to nearest wellbore permitted or completed in the same formation was measured to the North York 14-12. Distance to nearest permitted or existing wellbore penetrating objective formation was measured to the North York 14-12.

The existing active wells that are located within 150' of this well are operated by Synergy Resources Corporation which is also the operator of this proposed well. This statement refers to Rule 317.r and Rule 317.s.

This application is in a Comprehensive Drilling Plan _____ CDP #: _____

Location ID: 442411

Is this application being submitted with an Oil and Gas Location Assessment application? No

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

Signed: _____ Print Name: Erin Ekblad

Title: Permit Agent Date: 6/15/2015 Email: eekblad@syrginfo.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: *Matthew Lee* Director of COGCC Date: 10/29/2015

Expiration Date: 10/28/2017

| |
|--------------------------------------|
| API NUMBER 05 001 09888 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.

| <u>COA Type</u> | <u>Description</u> |
|-----------------|--|
| | Operator acknowledges the proximity of the listed wells. Operator agrees to: provide mitigation option 1 or 2 (per the DJ Basin Horizontal Offset Policy) to mitigate the situation, ensure all applicable documentation is submitted based on the selected mitigation option chosen, and submit a Form 42 ("OFFSET MITIGATION COMPLETED") stating that appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well. 001-08881, BYDALEK 2-11 document cement coverage as present in well |
| | 1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU for first well on pad, subsequent wells 48 hours prior to spud. 2) Comply with Rule 317.i and provide cement coverage from end of 7" casing to a minimum of 200' above Niobrara and from 200' below Sussex to 200' above Sussex. 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 | Planning | Multi-well Pads. It is a multi-well pad located in a manner which allows for resource extraction while maintaining the highest distances possible from the offsetting residential areas. |
| 2 | Traffic control | Access roads. The access road will be constructed to accommodate local emergency vehicles. This road will be maintained for access at all times. |
| 3 | General Housekeeping | Fencing requirements. A permanent fencing plan will be reviewed by the surface owner, and the applicant. |
| 4 | General Housekeeping | Removal of surface trash. All trash, debris and material not intrinsic to the operation of the oil and gas facility shall be removed and legally disposed of as is applicable. |
| 5 | Material Handling and Spill Prevention | Leak Detection 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. |
| 6 | Material Handling and Spill Prevention | Berm Construction. Tank 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. |
| 7 | Material Handling and Spill Prevention | Load Lines. All load lines shall be bull-plugged or capped. |
| 8 | Material Handling and Spill Prevention | Tank specifications. 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. |
| 9 | Drilling/Completion Operations | Green Completions - Emission Control Systems. Test separators and associated flow lines and sand traps shall be installed on-site to accommodate Green completion techniques pursuant to COGCC Rules. In the anticipated absence of a viable gas sales line, the flow-back 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. The ECD shall have an adequate capacity for 1.5 times the largest flow-back 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 combustion where non-combustible gases are present. |
| 10 | Drilling/Completion Operations | Blowout preventer equipment ("BOPE"). A double ram and annular preventer will be used during drilling. At least the drilling company shall have a valid well blowout prevention certifications. |
| 11 | Drilling/Completion Operations | BOPE for well servicing operations. Adequate BOP equipment shall be used. Stabbing valves shall be installed in the event of reverse circulation and shall be prior tested with low and high pressure fluid. |
| 12 | Drilling/Completion Operations | Drill stem tests. Not applicable, no Drill stem tests are planned. |
| 13 | Drilling/Completion Operations | Control of Fire Hazards. All materials which are considered fire hazards shall be a minimum of 25' from the wellhead tanks or separators. Electrical equipment shall comply with API RP 500 and will comply with the current national electrical code. An emergency response plan has been generated for this site. |
| 14 | Drilling/Completion Operations | Guy line anchors. All guy line anchors shall be brightly marked pursuant to Rule 604.c (2)Q. |
| 15 | Drilling/Completion Operations | Closed Loop Drilling Systems - Pit Restrictions. Not Applicable; a closed loop system will be used for drilling. |
| 16 | Drilling/Completion Operations | Pit Level indicators. Not applicable; a closed-loop system will be used and no pits shall be dug. |
| 17 | Drilling/Completion Operations | 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. |

| | | |
|----|--------------------------------|---|
| 18 | Final Reclamation | Final Reclamation: Well site cleared. 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. |
| 19 | Final Reclamation | Identification of plugged and abandoned wells. P & A'd wells shall be identified pursuant to 319.a.(5). |
| 20 | Drilling/Completion Operations | 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 well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5. |
| 21 | Drilling/Completion Operations | Operator will comply with COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012. (attached) |

Total: 21 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

| Att Doc Num | Name |
|--------------------|-----------------------------|
| 400850218 | FORM 2 SUBMITTED |
| 400853333 | OffsetWellEvaluations Data |
| 400853335 | STIMULATION SETBACK CONSENT |
| 400853336 | WELL LOCATION PLAT |
| 400853338 | EXCEPTION LOC WAIVERS |
| 400853339 | WASTE MANAGEMENT PLAN |
| 400853660 | PROPOSED SPACING UNIT |
| 400853664 | EXCEPTION LOC REQUEST |
| 400853667 | OTHER |
| 400856889 | DEVIATED DRILLING PLAN |
| 400856896 | DIRECTIONAL DATA |

Total Attach: 11 Files

General Comments

| <u>User Group</u> | <u>Comment</u> | <u>Comment Date</u> |
|-------------------|--|--------------------------|
| Permit | Final Review Completed. | 10/27/2015 9:18:43 AM |
| Permit | Per operator added an an Anti-Collision and Bradenhead BMP. Permitting Review Complete. | 10/27/2015 9:18:42 AM |
| Permit | Corrected distance to nearest well in the same formation from 577 to 95 per the operator. | 8/14/2015 7:36:29 AM |
| Permit | Corrected wellbore integrity contact information per the operator. | 8/10/2015 10:32:31 AM |
| Permit | Requested corrected distance to nearest wellbore completed in the same formation. | 3/5/2015 4:05:56 PM |
| Permit | Corrected distance to nearest lease line from 145 to 0 per the operator's request. | 3/5/2015 4:05:14 PM |
| Permit | Added the location ID per the operator. | 7/30/2015 10:12:26 AM |
| Permit | Passed completeness. | 6/25/2015 1:56:46 PM |
| Permit | Returned to draft: 1. Missing complete 317.p BMP 2. TD on Directional data template does not match the deviated drilling plan. | 6/18/2015 10:08:32 AM |

Total: 9 comment(s)