

FORM
2
Rev
08/16

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:
401183079

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

Date Received:
03/22/2017

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

Refiling
Sidetrack

Well Name: Beebe Well Number: 23C-26-M
Name of Operator: SYNERGY RESOURCES CORPORATION COGCC Operator Number: 10311
Address: 1675 BROADWAY SUITE 2600
City: DENVER State: CO Zip: 80202
Contact Name: Erin Ekblad Phone: (720)616.4319 Fax: (720)616.4301
Email: eekblad@syrginfo.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20090043

WELL LOCATION INFORMATION

QtrQtr: NENW Sec: 34 Twp: 6N Rng: 66W Meridian: 6
Latitude: 40.451189 Longitude: -104.765215

Footage at Surface: 362 Feet ^{FNL/FSL} FNL 2275 Feet ^{FEL/FWL} FWL

Field Name: WATTENBERG Field Number: 90750
Ground Elevation: 4701 County: WELD

GPS Data:
Date of Measurement: 11/08/2016 PDOP Reading: 1.6 Instrument Operator's Name: Rob Wilson

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

Footage at Top of Prod Zone: ^{FNL/FSL} 1201 ^{FSL} FSL 1402 ^{FWL} FWL ^{FEL/FWL} 1180 ^{FSL} FSL 2656 ^{FWL} FWL
Sec: 27 Twp: 6N Rng: 66W Sec: 26 Twp: 6N 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: 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.)

6N-66W Sec 27: E2SW, S2SE

Total Acres in Described Lease: 160 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: 619 Feet

Building Unit: 690 Feet

High Occupancy Building Unit: 3071 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 346 Feet

Above Ground Utility: 330 Feet

Railroad: 840 Feet

Property Line: 362 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: 01/11/2017

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: 145 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 1180 Feet (Enter 5280 for distance greater than 1 mile.)

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

SPACING & FORMATIONS COMMENTS

6N-66W, Sec 26: SW, W2SE; Sec 27: S2

The acreage was calculated using Title Opinions from our Attorneys. They take into account all official surveys that become record which may add or, in some cases, reduce a quarter/quarter from standard 40.00 acres.

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
CODELL	CODL		566	GWA

DRILLING PROGRAM

Proposed Total Measured Depth: 14466 Feet

Distance from the proposed wellbore to nearest existing or proposed wellbore belonging to another operator, including plugged wells:

Enter distance if less than or equal to 1,500 feet: 145 Feet No well belonging to another operator within 1,500 feet

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? 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 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? No

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	16	65	0	40	35	40	0
SURF	13+1/2	9+5/8	36	0	1750	531	1750	0
1ST	8+1/2	5+1/2	20	0	14466	1830	14466	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 Synergy Resources Corporation is the Surface owner and has waived for Rule 318A.a. & 318A.c. See attached Exception Location Request. Synergy owns nearest Building Unit, and since we are the surface owner no SUA required.

In Spacing tab, distance proposed wellbore to offset same formation, is 145 feet to Irving #5 using Plan View Map measurement. In Drilling tab, distance proposed wellbore to another operator is 145' to the Irving #5 (API #123-236067).

Synergy will not stimulate within 150' of the following well belonging to PDC: Irving #5 (05.123.23067). Synergy has provided PDC notice of this.

This application is in a Comprehensive Drilling Plan No CDP #: _____

Location ID: 449918

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: Erin Ekblad

Title: Manager Regulatory Affair Date: 3/22/2017 Email: eekblad@syrinfo.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: 5/9/2017

Expiration Date: 05/08/2019

API NUMBER

05 123 44762 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>
	<p>In the operator comment box of the Form 5A, operator must certify that the operator did not stimulate within 150' of an existing wellbore operated by a different operator without a signed waiver from that operator and documentation exists to demonstrate this fact. This will include existing wellbores from a different operator that were not originally within 150' of the planned wellbore, but did end up within 150' of the as-drilled wellbore. Operator agrees to provide this documentation within two business days via email if requested by COGCC staff.</p> <p>Additionally for the wells below, operator must provide in that same operator comment box, the name and API of the well, nearest perforation to that well, and final separation (wellbore to wellbore distance) from that well: Irving #5 (API #123-23067).</p>
	<p>Operator acknowledges the proximity of the listed non operated well(s). 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 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 the proposed wells.</p> <p>Walter Jones 1-26 (API # 123-10999) Leffler 2 (API # 123-14631) Lowell-Paul Dairy 1-33 (API # 123-11844) Bauer 1-34 (API # 123-12450) Tennison 34-4 (API # 123-17130) Tennison 1-34-19(API # 123-21740)</p>
	<p>Bradenhead tests shall be performed and reported according to the following schedule and Form 17 submitted within 10 days of each test:</p> <ol style="list-style-type: none"> 1) Within 60 days of rig release and prior to stimulation and 2) If a delayed completion, 6-7 months after rig release and prior to stimulation. 3) Within 30 days after first production, as reported on Form 5A.
	<ol style="list-style-type: none"> 1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU for the first well activity with a rig on the pad and provide 48 hour spud notice for each subsequent well drilled on the pad. 2) Comply with Rule 317.j and provide cement coverage from TD to a minimum of 200' above the Niobrara. Verify coverage with cement bond log. 3) Oil-based drilling fluid is to be used only after all aquifers are covered.
	<p>This Permit to Drill is approved subject to all the BMPs and COAs on the most recently approved Form 2A and any subsequently approved Form 4 for the Oil and Gas Location (Location ID #449918). The most recently approved Form 2A and any subsequent Form 4s containing applicable COAs for this location shall be posted onsite during construction, drilling, and completions operations.</p>

Best Management Practices

No	BMP/COA Type	Description
1	Planning	Planning: 604.c.(2)J.i 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.
2	Planning	Planning: 604.c.(2)J.ii Backup stabbing valves be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
3	Emissions mitigation	604.c.(2)C.i. 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. The flowback gas shall be sold or shall be captured and combusted with 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, and will be piped to other or permanent equipment and shall be provided with the equipment needed to maintain combustions where non-combustible gases are present. There is a sales line available, Synergy plans to turns to sales as soon as possible.
4	Drilling/Completion Operations	Drilling/Completions Operations: RULE 604.c.I: Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections shall be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results shall be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.
5	Drilling/Completion Operations	Drilling/Completion Operations: 604.c.(2)L. Closed chamber drill stem tests shall be allowed. All other drill stem tests shall require approval by the Director. None planned for this well.
6	Drilling/Completion Operations	Drilling/Completion Operations; 604.c.(2).O. Drilling and Completion-All loadlines shall be bullplugged or capped.
7	Drilling/Completion Operations	Drilling/Completion Operations: 604.c.(2)B.i Operator will be utilizing a closed loop system.
8	Drilling/Completion Operations	One of the first wells drilled on the pad will be logged with Cased hole Pulsed Neutron Log with Gamma Ray Log from the kick-off point to 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 in that well and have those logs attached. The Form 5 for each well shall clearly state “No open-hole logs were run” and shall reference the Rule 317.p Exception granted for the well.
9	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.
10	Drilling/Completion Operations	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.

Total: 10 comment(s)

Applicable Policies and Notices to Operators

Policy
Notice Concerning Operating Requirements for Wildlife Protection. http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf
Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area. http://cogcc.state.co.us/documents/reg/Policies/PolicyGwaBradenheadMonitoringFinal.pdf

Attachment Check List

Att Doc Num	Name
401183079	FORM 2 SUBMITTED
401220848	PROPOSED SPACING UNIT
401221506	DEVIATED DRILLING PLAN
401221509	DIRECTIONAL DATA
401221828	EXCEPTION LOC REQUEST
401221836	OPEN HOLE LOGGING EXCEPTION
401222583	MINERAL LEASE MAP
401229763	OTHER
401231830	OffsetWellEvaluations Data
401241053	WELL LOCATION PLAT
401278177	OFFSET WELL EVALUATION

Total Attach: 11 Files

General Comments

User Group	Comment	Comment Date
Permit	Added Location ID #. Final Review Completed.	05/08/2017
Engineer	APD #401183079 is closer than shown to BHL of (directional well) 123-23067 (PDC) and needs to be revised. Corrected Distance from proposed wellbore to nearest existing or permitted wellbore belonging to another operator to 145'. Corrected comment in submit tab to match.	04/28/2017
Permit	Operator requested Exception to Open Hole Logging Rule 317.p. See attached. Surface Use Agreement has waivers for Rule 318A.a & 318A.c. See page 5, Section 9 (a). Per operator changed surface owner is application and right to construct is applicant. Changed Will minerals beneath surface be developed to NO. Permitting Review Complete.	04/25/2017
Permit	Passed Completeness	03/23/2017

Total: 4 comment(s)