

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:

400761055

(SUBMITTED)

Date Received:

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 ☐

Well Name: SRC Markham

Well Number: 12-16CHZ

Name of Operator: SYNERGY RESOURCES CORPORATION

COGCC Operator Number: 10311

Address: 20203 HIGHWAY 60

City: PLATTEVILLE

State: CO

Zip: 80651

Contact Name: Alyssa Andrews

Phone: (720)420-5749

Fax: (720)420-5800

Email: alyssa.andrews@iptenergyservices.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20090043

WELL LOCATION INFORMATION

QtrQtr: NWNE Sec: 16 Twp: 4N Rng: 68W Meridian: 6

Latitude: 40.320034

Longitude: -105.004117

Footage at Surface: 235 feet FNL/FSL FNL 1477 feet FEL/FWL FEL

Field Name: WATTENBERG

Field Number: 90750

Ground Elevation: 4984

County: WELD

GPS Data:

Date of Measurement: 10/30/2014 PDOP Reading: 1.7 Instrument Operator's Name: COLE HALL

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

Footage at Top of Prod Zone: FNL/FSL FNL 2187 FNL 460 FEL 2177 FNL 460 FEL/FWL FEL/FWL

Sec: 16 Twp: 4N Rng: 68W Sec: 16 Twp: 4N Rng: 68W

LOCATION SURFACE & MINERALS & 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: 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.)

Sec 16-4N-68W : E/2NW/4, W/2NE/4

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: 525 Feet
Building Unit: 607 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 221 Feet
Above Ground Utility: 201 Feet
Railroad: 5280 Feet
Property Line: 155 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: 01/09/2015

SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 440 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

Sec. 16-4N-68W: N/2

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		320	GWA

DRILLING PROGRAM

Proposed Total Measured Depth: 11324 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 440 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? 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
SURF	12+1/4	9+5/8	36	0	650	229	650	0
1ST	8+3/4	7	26	0	7270	669	7270	3000
1ST LINER	6+1/8	4+1/2	11.6	7070	11324			

☒ 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 to nearest wellbore permitted/completed in the same formation: 440' (SRC Markham A-16 CHZ)
Distance to nearest wellbore penetrating the formation: 440' (SRC Markham A-16 CHZ)

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: Alyssa Andrews

Title: Operations Engineer Date: _____ Email: alyssa.andrews@iptenergyservi

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.

Best Management Practices

No	BMP/COA Type	Description
1	Planning	804. 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.
2	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.
3	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.
4	Planning	604.c.(2)N. 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.
5	Traffic control	604.c.(2)S. 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. Dust control measures will also be utilized.

6	Traffic control	RULE 604.c.(2)D: If required by the local government, a traffic plan shall be coordinated with the local jurisdiction prior to commencement of move in and rig up. Any subsequent modification to the traffic plan must be coordinated with the local jurisdiction.
7	General Housekeeping	604.c.(2)P. Trash Removal: All trash, debris and material not intrinsic to the operation of the oil and gas facility shall be removed and legally disposed of as applicable.
8	Material Handling and Spill Prevention	604.c.(2)F. 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
9	Material Handling and Spill Prevention	604.c.(2)R 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.
10	Construction	604.c.(3)B. 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. Secondary containment devices shall be sufficiently impervious to contain any spilled or released material. Tertiary containment, such as an earthen berm, will be installed around production facilities.
11	Construction	803 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. Lighting shall be mounted at compressor stations on a pole or building and directed downward to illuminate key areas within the facility, while minimizing the amount of light projected outside the facility.
12	Construction	604.c.(2).Q. All guy line anchors left buried for future use shall be identified by a marker of bright color not less than four (4) feet in height and not greater than one (1) foot east of the guy line anchor.
13	Construction	604.c.(2).E. This will be a multi-well pad.
14	Noise mitigation	604.c.(2)A. A temporary sound wall will be utilized. Synergy will communicate with the offset homeowner(s) and confirm the temporary wall suffices via a decibel check throughout the various stages of operations.
15	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. 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.
16	Odor mitigation	Rule 805: Oil & gas facilities and equipment shall be operated in such a manner that odors and dust do not constitute a nuisance or hazard to public welfare.
17	Drilling/Completion 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.
18	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.
19	Drilling/Completion Operations	604.c.(2).K. Pit level Indicators shall be used on location.
20	Drilling/Completion Operations	604.c.(2).O. All loadlines shall be bullplugged or capped.

21	Drilling/Completion Operations	604.c.(2)B.i Operator will be utilizing a closed loop system
22	Final Reclamation	604.c.(2)T. 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. Identification of plugged and abandoned wells will be identified pursuant to 319.a.(5)
23	Final Reclamation	604.c.(2).U. Final Reclamation-The operator shall identify the location of the wellbore with a permanent monument as specified in Rule 319.a.(5). The operator shall also inscribe or imbed the well number and date of plugging upon the permanent monument.

Total: 23 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
400790491	WELL LOCATION PLAT
400790492	PROPOSED SPACING UNIT
400790494	DEVIATED DRILLING PLAN
400790495	EXCEPTION LOC WAIVERS
400790496	EXCEPTION LOC REQUEST
400790497	DIRECTIONAL DATA
400790503	OffsetWellEvaluations Data

Total Attach: 7 Files

General Comments

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

Total: 0 comment(s)