

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:

400406783

APPLICATION FOR PERMIT TO:

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

Date Received:

08/23/2013

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

Well Name: CS-Scott

Well Number: 5-1-12

Name of Operator: MINERAL RESOURCES, INC.

COGCC Operator Number: 57667

Address: PO BOX 328

City: GREELEY State: CO Zip: 80632

Contact Name: CLAYTON DOKE

Phone: (303)216-0703

Fax: (303)216-2139

Email: cdoke@iptengineers.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20090133

WELL LOCATION INFORMATION

QtrQtr: SWSE Sec: 36 Twp: 6N Rng: 66W Meridian: 6

Latitude: 40.438370

Longitude: -104.723000

Footage at Surface: 340 feet FNL/FSL FSL 1984 feet FEL/FWL FEL

Field Name: WATTENBERG

Field Number: 90750

Ground Elevation: 4665

County: WELD

GPS Data:

Date of Measurement: 03/05/2012 PDOP Reading: 1.0 Instrument Operator's Name: B. TESSELY

If well is ☐ Directional ☒ Horizontal (highly deviated) submit deviated drilling plan.
 Footage at Top of Prod Zone: FNL/FSL FNL 460 FNL 1983 FNL 2522 FNL 2009 FNL
 Sec: 1 Twp: 5N Rng: 66W Sec: 12 Twp: 5N Rng: 66W

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: 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.)

Please see attached lease map

Total Acres in Described Lease: 38 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: 258 Feet

Building Unit: 258 Feet

High Occupancy Building Unit: 3823 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 340 Feet

Above Ground Utility: 322 Feet

Railroad: 268 Feet

Property Line: 104 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: 684 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

Proposed Spacing Unit: W/2 of Sec 1-T5N-R66W & NW/4 of Sec 12-T5N-R66W. PSU Map is attached.

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		480	GWA

DRILLING PROGRAM

Proposed Total Measured Depth: 15020 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 374 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: Recycle/reuse

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

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	500	265	500	0
1ST	8+3/4	7	26	0	7660	742	7660	3000
1ST LINER	6+1/8	4+1/2	11.6	6200	15020			

☒ 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 Pad slot #27. This well is a Rule 318A.a.(4)D Horizontal GWA Well. Operator notified on 05/01/13 all owners as defined in C.R.S. §34-60-103(7) within the proposed spacing unit and has received no written objections per Rule 318A.e(6)B. Certification of objections are attached. SUA is attached. Mineral Resources respectfully requests that the Rule 318A.a (4)D Horizontal well and proposed spacing unit be approved. The surface owner, Richmark Energy Partners waived any setback requirements in paragraph (1) of the attached surface use agreement. The operator received a 303.d.(5) variance to submit the Oil and Gas Location Assessment (COGCC Form 2A) before the Permit-to-Drill (COGCC Form 2).

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

Location ID: 430474

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: CLAYTON DOKE

Title: SENIOR ENGINEER Date: 8/23/2013 Email: cdoke@iptengineers.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: 1/17/2014

Expiration Date: 01/16/2016

API NUMBER

05 123 38820 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 shall comply with Buffer Zone Move-In, Rig-Up Notice Policy dated 12-16-2013.
	Open hole resistivity and gamma ray 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 Form 5 for every well shall identify which well was logged.
	1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU. 2) Comply with Rule 317.i and provide cement coverage from the end of the 7" casing to a minimum of 200' above the Niobrara. Verify coverage with a 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. 4) At least two weeks prior to spud notice, the centralizer and cementing plans shall be submitted to the COGCC for review on a Form 4, Sundry Notice. 5) At least one well on the pad must have a complete set of open hole logs (Compensated Neutron, Dual Induction, Resistivity, etc.) run and submitted to the COGCC. 6) Four hours prior to running any casing, notification shall be provided to Mike Hickey, COGCC Engineer at 303-894-2100 x5105. 7) Bradenhead pressures shall be taken 6, 12, 24 and 48 hours after cementing production casing and prior to stimulation of the well. Once stimulation is complete, the bradenhead pressure shall be recorded at 24 hours, at 48 hours and at one week post-stimulation. Bradenhead pressures greater than 100 psi must be immediately reported on a Form 17 to the COGCC, sent to the attention of Mike Hickey. 8) All bradenhead pressures shall be monitored with a gauge that has a maximum reading of one thousand pounds per square inch (psi). 9) Circulation prior to cementing shall be done to accepted industry standards.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
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	Planning	Development from existing well pads. These additional wells are located on an already approved location assessment and have been clustered in two lines to minimize surface disturbance area and cut and fill volumes.
3	Traffic control	Traffic Plan. Traffic plans will be reviewed with the Town of Greeley.
4	General Housekeeping	Fencing requirements. A permanent fencing plan will be submitted to the surface owner.
5	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 applicable.
6	General Housekeeping	Site-specific measures. This location has been designed to mitigate the visual impacts to the surrounding properties.
7	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.
8	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. No more than two tanks shall be located within a single berm. All berms will be visually checked periodically to ensure proper working condition.

9	Material Handling and Spill Prevention	Loadlines. All loadlines shall be bullplugged or capped.
10	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.
11	Construction	Access roads. The access road will be constructed pursuant to the attached long-term development plan and has been, along with the pad, designed to accommodate local emergency vehicles. This road will be maintained for access at all times.
12	Noise mitigation	Noise. A 8' high hay bale wall will be constructed around the drilling location for temporary noise screening.
13	Emissions mitigation	Green Completions – Emission Control Systems. 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 combustion where non-combustible gases are present.
14	Drilling/Completion Operations	Anti-Collision BMP: 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. 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.
15	Drilling/Completion Operations	Bradenhead Monitoring BMP: Operator will comply with COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012.
16	Drilling/Completion Operations	Closed Loop Drilling Systems – Pit Restrictions. Not applicable; a closed-loop system will be used for drilling.
17	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.
18	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.
19	Drilling/Completion Operations	Pit level indicators. Not applicable; a closed-loop system will be used and no pits shall be dug.
20	Drilling/Completion Operations	Drill stem tests. Not applicable; no Drill Stem tests are planned.
21	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.
22	Drilling/Completion Operations	Guy line anchors. All guy line anchors shall be brightly marked pursuant to Rule 604.c (2)Q.
23	Final Reclamation	Well site cleared. Within 90-day subsequent to the time of plugging and abandonment of the entire site, superfluous debris and equipment shall be removed from the site.
24	Final Reclamation	Identification of plugged and abandoned wells. P&A'd wells shall be identified pursuant to 319.a.(5).

Total: 24 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

<u>Att Doc Num</u>	<u>Name</u>
2114403	OFFSET WELL EVALUATION
2114442	SURFACE AGRMT/SURETY
2114443	EXCEPTION LOC REQUEST
400406783	FORM 2 SUBMITTED
400406793	DIRECTIONAL DATA
400406794	EXCEPTION LOC WAIVERS
400406795	EXCEPTION LOC WAIVERS
400406796	SURFACE AGRMT/SURETY
400410073	WELL LOCATION PLAT
400422577	DEVIATED DRILLING PLAN
400471742	MINERAL LEASE MAP
400471807	EXCEPTION LOC REQUEST
400481528	PROPOSED SPACING UNIT

Total Attach: 13 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	Operator will have privacy fence around south and west sides of pad, landscaping (bushes & trees) along the south side, and a chain link fence around entire pad	1/13/2014 12:47:51 PM
Permit	SUA lands are described in metes and bounds. Received and attached map from operator showing lands contained in Surface Use Agreement. Received and attached more detailed Exception Location Request for Rules 318A.a, 318A.c, and 603 a(2). Rules 604b(1)A and 604b(2) apply to this APD because the 2A was approved and Surface Use Agreement was executed before the rules change of August 1, 2013.	1/2/2014 2:41:19 PM
Agency	offset wells evaluated	11/28/2013 2:52:48 PM
Permit	Passed completeness.	11/8/2013 7:19:28 AM
Permit	Cultural Setbacks information is valid and acceptable because of previously approved Form 2A on 10/17/2012.	11/8/2013 7:19:17 AM
Permit	Urban mitigation zone not checked. Date notified LGD not filled in. Date of buffer zone notification to surface owners not filled in. Important form 2A. needs to be filled in on related tab. Property line exception submitted but cultural distance to property line is more than 150'. (letter from Lamp, Rynearsoin says 150'; Cultural tabs says 200) Exception request is for 603.a.(2) but that exception is not checked in the Exceptions tab. Back to draft.	9/17/2013 9:29:04 AM
Permit	Buffer Zone, Exception Zone and Urban Mitigation Area boxes need to be checked (Cultural Setbacks Tab). Notification Dates are missing (Cultural Setbacks Tab) Cuttings Disposal Method is missing. Mitigation need to be added to Operator BMP/COA tab and attachment deleted. Requested 318A Exception Location Request Letter. 606a.1.A box needs to be checked (Exceptions Tab) 318A box needs to be checked (Exceptions) Requested operator combine 30 Day Cert letter and PSU map into one attachment.	8/27/2013 1:28:57 PM

Total: 7 comment(s)