

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

TYPE OF WELL OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> COALBED <input type="checkbox"/> OTHER _____ ZONE TYPE SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONES <input checked="" type="checkbox"/> COMMINGLE ZONES <input checked="" type="checkbox"/>	Refiling <input checked="" type="checkbox"/> Sidetrack <input type="checkbox"/>
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Date Received:
03/22/2017

Well Name: Robinson Well Number: 44B-26-692
 Name of Operator: VANGUARD OPERATING LLC COGCC Operator Number: 10531
 Address: 5847 SAN FELIPE #3000
 City: HOUSTON State: TX Zip: 77057
 Contact Name: Jack Desmond Phone: (303)456-9038 Fax: ()
 Email: jdesmond@progressivepcs.net

RECLAMATION FINANCIAL ASSURANCE
 Plugging and Abandonment Bond Surety ID: 20140092

WELL LOCATION INFORMATION
 QtrQtr: SESE Sec: 26 Twp: 6S Rng: 92W Meridian: 6
 Latitude: 39.492173 Longitude: -107.626151
 Footage at Surface: 407 Feet 419 Feet
FNL/FSL FSL FEL/FWL FEL
 Field Name: MAMM CREEK Field Number: 52500
 Ground Elevation: 5947 County: GARFIELD
 GPS Data:
 Date of Measurement: 06/12/2009 PDOP Reading: 6.0 Instrument Operator's Name: James Kalmon
 If well is Directional Horizontal (highly deviated) **submit deviated drilling plan.**
 Footage at Top of Prod Zone: 460 664 460 664
FNL/FSL FSL FEL FNL/FSL FEL
 Sec: 26 Twp: 6S Rng: 92W Sec: 26 Twp: 6S Rng: 92W

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: 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.)

See previously submitted lease map (doc# 400226826).

Total Acres in Described Lease: 2220 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: 664 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 548 Feet

Building Unit: 548 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 880 Feet

Above Ground Utility: 548 Feet

Railroad: 5280 Feet

Property Line: 407 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: 11/21/2013

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: 338 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

Order 191-8 and 191-10 approved 640 acre drilling and spacing units with 10 acre density for the production of the Williams Fork and Iles Formation.
 CA COC 37453 for Mesa Verde formations in a 640 are

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
ILES	ILES	191-10	640	Sec 26 ALL
WILLIAMS FORK	WMFK	191-8	640	Sec 26 ALL

DRILLING PROGRAM

Proposed Total Measured Depth: 7247 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: _____ 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? 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 609

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Recycle/reuse

Cuttings Disposal: ONSITE 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
CONDUCTOR	24	14	36	0	40	0	40	0
SURF	12+1/4	9+5/8	36	0	724	230	724	0
1ST	7+7/8	4+1/2	11.6	0	7247	790	7247	

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 Location has a valid 2A until 11/09/2019. Drilling & Waste Management Program changed with Form 2A resubmittal, see updated waste management plan. As a correction to the previously submitted Form 2 the pad and has not been built. Prior to the expiration a new 2A will be refiled prior to constructing the pad. The pad is located within a sensitive wildlife habitat area. A closed loop system will be used so no pit will be used.

As a correction to the previously submitted Form 2, oil-based mud will not be utilized for this well.

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

Location ID: 414622

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: Jack Desmond

Title: Regulatory analyst Date: 3/22/2017 Email: jdesmond@progressivepcs.net

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: 6/29/2017

Expiration Date: 06/28/2019

API NUMBER
05 045 21265 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>The moisture content of drill cuttings managed onsite shall be kept as low as practicable to prevent accumulation of liquids greater than de minimis amounts. Operator has indicated that drill cuttings will be disposed of "Onsite" with "Beneficial Reuse". After drilling and completion operations have been completed, the drill cuttings that will remain on the well pad location (cuttings management area, the cut portion of the pad, cuttings trench, dry cuttings drilling pit), must meet the applicable standards of Table 910-1. After the drill cuttings have been amended (if necessary) and placed on the well pad, sampling frequency of the drill cuttings (to be determined by the operator) shall be representative of the material left on location. No offsite disposal of cuttings to another oil and gas location shall occur without prior approval of a Waste Management Plan (submitted via a Form 4 Sundry Notice) specifying disposal location and waste characterization method. Commercial disposal of drill cuttings will only require notification to COGCC via a Form 4 Sundry Notice.</p>
	<p>Preliminary review complete.</p>
	<p>If location is not built by 2A expiration 11/10/2019, Operator must Refile Form 2A for approval prior to location construction.</p>
	<p>1)Operator shall comply with the most current revision of the Northwest Notification Policy.</p> <p>2)Operator shall comply with the most current revision of the Garfield County Rulison Field Notice to Operators, with the following exception: All field notice requirements specified in that Notice to Operators are superseded by the requirements of the most current revision of the Northwest Colorado Notification Policy (see Condition of Approval #1).</p> <p>3)Operator shall comply with the most current revision of the Mamm Creek Field Notice to Operators, with the following exception: All field notice requirements specified in that Notice to Operators are superseded by the requirements of the most current revision of the Northwest Colorado Notification Policy (see Condition of Approval #1). Operator shall submit the primary cement job Cement Bond Log (CBL) with either the Form 4 Sundry Notice - Request to Complete or the Form 5 Drilling Completion Report.</p> <p>4)Operator shall comply with the Notice to Operators Drilling Wells in the Buzzard, Mamm Creek, and Rulison fields, Garfield County and Mesa County – Procedures and Submittal Requirements for Compliance with COGCC Order Nos. 1-107, 139-56, 191-22, and 369-2 (July 8, 2010).</p> <p>5)Operator shall provide cement coverage from the production casing shoe (4+1/2" FIRST STRING) to a minimum of 500' above the Lower Wasatch (as defined by COGCC in the report "Casing and Cement Standards for Geologic Isolation Piceance Basin Bradenhead Monitoring Area and Nearby Fields," dated April 18, 2016, COGCC Document No. 2056199, Appendix A Field Scout Cards and Annotated Type Logs) to provide isolation of all Mesaverde Group and underlying formations, if penetrated, the Ohio Creek Formation, and the lower portion of the Wasatch Formation. Verify production casing cement coverage with a cement bond log. This requirement shall supersede the top of cement requirements in the Mamm Creek Field Notice to Operators.</p>

Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	317.p. Requirement to log well: One of the first wells drilled on the pad will be logged with open-hole Resistivity Log and Gamma Ray Log from TD 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 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 will clearly state "No open-hole logs were run" and will clearly identify (by API#, well name & number) the well in which open-hole logs were run

Total: 1 comment(s)

Applicable Policies and Notices to Operators

Policy
Mamm Creek Field Area Notice to Operators. http://cogcc.state.co.us/documents/reg/Policies/Mamm%20Creek%20Drilling.pdf
Piceance Rulison Field - Notice to Operators. http://cogcc.state.co.us/documents/reg/Policies/NoticeToOp-20060623-2.pdf
NW Colorado Notification Policy. http://cogcc.state.co.us/documents/reg/Policies/nw_notification_procedures.pdf
Bradenhead Pressure Reporting-Garfield County (Mamm Creek & Rulison Fields) Mesa County (Buzzard Field). http://cogcc.state.co.us/documents/reg/Policies/NTO_07082010.pdf
Notice Concerning Operating Requirements for Wildlife Protection. http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf

Attachment Check List

Att Doc Num	Name
401114959	FORM 2 SUBMITTED

Total Attach: 1 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Added FEL to BHL location and notified operator. Final review complete.	06/26/2017
Permit	Unchecked box indicating that Surface Owner is Mineral Owner with operator approval. This is a split estate. Surface Owner & Mineral Owner on the Form 2A was approved incorrectly. Removed incorrect Federal Lease number CO 10235 as directed by operator. Added CA COC 37453 for Mesa Verde formations in a 640' area to spacing comments and removed it from unit description. Preliminary review complete.	04/28/2017
Permit	Corrected spacing unit acreage to 640 and added Sec 26 to the unit configuration. Drilling and waste management matches the 2A approved 11/10/2016.	04/14/2017
Engineer	Offset water well check: COGCC evaluated offset water wells within one mile of this proposed well's surface hole location. This information was used in addition to locally-available geophysical logs and hydrogeologic information was used to evaluate the adequacy of the operator's proposed surface casing setting depth. The deepest water well within one mile is 495 feet. Offset Well Evaluation: Existing offset oil and gas wells within 1,500 feet of this wellbore meet standards. No mitigation required. Removed operator's proposed first string cement top. Operator's proposed first string cement top is not adequate to satisfy COGCC's new cement coverage requirements, effective April 18, 2016. Increase cement coverage accordingly, as specified in Condition of Approval #5.	03/28/2017
LGD	Pass, KHW	03/24/2017
Permit	Passed Completeness	03/24/2017

Total: 6 comment(s)