

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:
400960718

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

Date Received:
03/16/2016

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

Refiling
Sidetrack

Well Name: Shook Well Number: 3-10-1CDH
Name of Operator: PETROSHARE CORPORATION COGCC Operator Number: 10454
Address: 7200 S ALTON WAY #B220
City: CENTENNIAL State: CO Zip: 80112
Contact Name: Kimberly Rodell Phone: (303)942-0506 Fax: ()
Email: krodell@upstreampm.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20130019

WELL LOCATION INFORMATION

QtrQtr: NWSE Sec: 3 Twp: 1S Rng: 67W Meridian: 6
Latitude: 39.992220 Longitude: -104.873700

Footage at Surface: 2058 Feet FNL/FSL FSL 2289 Feet FEL/FWL FEL

Field Name: WATTENBERG Field Number: 90750
Ground Elevation: 5098 County: ADAMS

GPS Data:
Date of Measurement: 10/10/2015 PDOP Reading: 1.0 Instrument Operator's Name: Scott Estabrooks

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
460 FNL 460 FWL 460 FSL 460 FWL
Sec: 10 Twp: 1S Rng: 67W Sec: 10 Twp: 1S Rng: 67W

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: 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.)

T1S R67W Sec. 10: W2

Total Acres in Described Lease: 320 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: 460 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 939 Feet

Building Unit: 895 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 996 Feet

Above Ground Utility: 863 Feet

Railroad: 5280 Feet

Property Line: 220 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: 10/27/2015

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: 287 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

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	407-1590	320	Sec. 10: W2

DRILLING PROGRAM

Proposed Total Measured Depth: 13373 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: 0 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 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	13+1/2	9+5/8	36	0	1500	520	1500	0
1ST	8+3/4	5+1/2	17	0	13373	2385	13373	

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

The distance from the completed portion of the proposed wellbore to nearest wellbore permitted or completed in the same formation was measured to the proposed Shook 3-10-1NCH.

The distance from the proposed wellbore to nearest existing or permitted wellbore belonging to another operator was taken from both the Grenemyer 35N-3HZ, API No. 05-123-38340, and the Grenemyer 14C-3HZ, API No. 05-123-38416, owned by Kerr McGee Oil & Gas Onshore LP. The distance was marked as "0 feet" not taking into account vertical separation. The completed portion of the proposed wellbore is greater than 1,500 feet from any completed portion of the existing Grenemyer 35N-3HZ and Grenemyer 14C-3HZ wellbores. The horizontal wellbore conforms to the Drilling and Spacing Unit setbacks. This location falls in both the Wattenberg and Spindle (77900) fields.

Per a conversation with the Commission, the Footage At Top of Prod Zone was changed to the landing point.

This application is in a Comprehensive Drilling Plan No 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: Kimberly Rodell

Title: Permit Agent Date: 3/16/2016 Email: krodell@upstreampm.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: 9/9/2016

Expiration Date: 09/08/2018

API NUMBER
05 001 09968 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>1) Bradenhead test shall be performed within 60 days of rig release and prior to stimulation. Test results shall be submitted on Form 17 within 10 days of test.</p> <p>2) Bradenhead test shall be performed between 6 and 7 months after rig release and shall be submitted on Form 17 within 10 days of test.</p> <p>3) Bradenhead test shall be performed within 30 days of First Production as reported on Form 5A and shall be submitted on Form 17 within 10 days of test.</p>
	<p>1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU (spud notice) for the first well activity with a rig on the pad and provide 48 hour spud notice via Form 42 for all subsequent wells drilled on the pad.</p> <p>2) Comply with Rule 317.j. and provide cement coverage from TD to a minimum of 200' above Niobrara and from 200' below Sussex to 200' above Sussex. Verify coverage with cement bond log.</p>

Best Management Practices

No BMP/COA Type

Description

1	Planning	Multi-Well Pads (NEW): PetroShare is permitting an Oil and Gas Location Assessment - Form 2A as a multi-well pad through the Colorado Oil and Gas Conservation Commission. This will eliminate the need for multiple well pads which would ultimately require more surface disturbance.
2	Planning	Visual Mitigation: The location was placed to utilize a natural and existing tree line that will act as a visual barrier.
3	Traffic control	PetroShare will construct all leasehold roads to accommodate local emergency vehicle access requirements and will be maintained in a reasonable condition.
4	General Housekeeping	Removal of Surface Trash: PetroShare agrees that all trash, refuse pipe, equipment, liquids, chemicals of other materials that are not necessary for the continued operations of the wells will be removed and disposed of no later than 30 days after completion. No such items will be burned or buried on location.
5	General Housekeeping	Guy Line Anchors: All guy line anchors left buried for future use will be identified by a marker of bright color not less than four feet in height and not greater than one foot further of the guy line anchor.
6	Wildlife	The proposed oil and gas wells are not within a sensitive wildlife habitat. PetroShare, to the extent possible will not cause significant degradation of wildlife.
7	Storm Water/Erosion Control	Site Specific Measures: PetroShare will maintain a Stormwater Management Plan with site specific measurements to assess erosion control.
8	Material Handling and Spill Prevention	Leak Detection Plan: The Leak Detection Plan has been included as an Attachment "OTHER" (Document #1010092).
9	Material Handling and Spill Prevention	Berm Construction: A steel containment berm or structure will be erected around the oil and water storage tanks. The steel berm will be inspected at least every 14 calendar days while the site is under construction and within 24 hours of a precipitation event. During production phase One to seven inspections per week will be recorded and kept in the district office and available to regulatory agencies. Records will be kept electronically indefinitely.
10	Material Handling and Spill Prevention	Tank specifications: Tanks shall be constructed and maintained in accordance with the National Fire Protection Association Code 30 (2008 version). All tanks will be visually inspected once a day. Recorded inspections will be conducted once a month pursuant to 40 CFR §112.

11	Dust control	Fresh water, per COGCC rules, or another approved source may be applied to roads and land surfaces for purposes of dust mitigation. No other liquid or substance generated by the production of the oil and gas facility will be applied to the roads and land surfaces.
12	Construction	Fencing: The wellsite will be fenced for security and in concurrence with surface owner.
13	Construction	Visual Mitigation: Pursuant to Rule 804, the tank battery shall be painted in uniform, non-contrasting, non-reflective color tones with the colors matched to but slightly darker than the surrounding landscape.
14	Noise mitigation	Noise: An ambient sound study will be conducted to determine noise impacts to the nearby residents to the southeast. Based on the results of the noise study, the appropriate sound mitigation design will be implemented. Sound mitigation will include sound walls and will be erected to reduce noise pollution. Results of the noise study will be made available to the COGCC upon request. The location was selected due to an existing tree line that will also act as a sound barrier.
15	Emissions mitigation	Air Emissions: Air containment emission sources shall comply with the permit and control provisions of the state air quality control program and the rules and regulation promulgated by the State Air Quality Control. PetroShare will employ such control measures and operating procedures as are necessary to minimize fugitive particulate emissions into the atmosphere.
16	Odor mitigation	Odor Mitigation: PetroShare will comply with Rule 805 and Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emission, 5 C.C.R. 1001-4, Regulation No. 3 (5 C.C.R. 1001-5), and Regulation No. 7 Section XVII.B.1 (a-c) and Section XII.
17	Drilling/Completion Operations	Control of Fire Hazards: PetroShare and its contractor's will employ best management practices during the drilling and production of its wells and facilities. They will comply with appropriate COGCC and any county rules concerning fire and safety. PetroShare will ensure that any material not in use that may constitute a fire hazard will remain no less than 25 feet from the wellhead (s), tanks and separator(s).
18	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. PetroShare intends to utilize pipelines to transport oil and gas, reducing the amount of onsite tanks to one. PetroShare will utilize a VOC to reduce emissions.
19	Drilling/Completion Operations	Closed Loop Drilling Systems – Pit Restrictions: Closed Loop System will be used for drilling and fluid management. No reserve pit will be used.
20	Drilling/Completion Operations	Rig with Kelly: The BOP will include a minimum of double ram with blind ram pipe ram, annular preventer or a rotating head. At least one (1) person with training for blowout prevention will be on location during all drilling operations.
21	Drilling/Completion Operations	BOPE Testing for Drilling Operations: BOPE tests will be done upon initial rig-up and once every 30 days during drilling operations, pressure testing of the casing string and each component of the BOPE will be performed to 70% of working pressure or 70% of the internal yield of the casing, whichever is less.
22	Drilling/Completion Operations	BOPE Testing for Well Servicing Operations: Adequate blowout prevention equipment will be used on any servicing operations associated with this well. Backup staving valves shall be required on well servicing operations during reverse circulation. Valves will be pressure tested before each well servicing operation using both low-pressure and high-pressure fluid.
23	Drilling/Completion Operations	Drill Stem Test: Not applicable. No drill stem tests are planned.
24	Drilling/Completion Operations	Lighting: All permanent lighting will be directed downward and internally. Temporary lighting shall conform to COGCC rules and regulations and not adversely affect adjacent residential properties. The nearest public road is 900' away. Lighting from the location will not affect visibility on the road. There is a natural tree barrier between the location and the nearest public road to mitigate light pollution.

25	Drilling/Completion Operations	Logging: 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.
26	Drilling/Completion Operations	Anti-Collision BMP:Anti-Collision: PetroShare 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 will be given to all offset operators within 150 feet prior to drilling.
27	Final Reclamation	Wellsite 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.
28	Final Reclamation	Final stabilization of the well area will mean revegetation of all areas not including the permanently installed well anchor points. All other areas will be revegetated or covered by permanent materials before they are considered finally stabilized and complete.

Total: 28 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

<u>Att Doc Num</u>	<u>Name</u>
1010092	LEAK DETECTION PLAN
400960718	FORM 2 SUBMITTED
401010028	OffsetWellEvaluations Data
401010089	DIRECTIONAL DATA
401010090	DEVIATED DRILLING PLAN
401010091	EXCEPTION LOC REQUEST
401010093	WELL LOCATION PLAT
401010111	WASTE MANAGEMENT PLAN
401010195	EXCEPTION LOC WAIVERS
401010203	SURFACE AGRMT/SURETY

Total Attach: 10 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	7/25/2016 9:54:21 AM
OGLA	Per Operator request, modified the BMPs and attached the Leak Detection Plan.	7/22/2016 5:07:44 PM
Engineer	Offset wells evaluated.	7/18/2016 3:36:35 PM
Permit	Per operator changed Distance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation from 861' to 287'. Permitting Review Complete.	6/13/2016 2:52:27 PM
Permit	ON HOLD: requesting confirmation of Distance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation.	6/10/2016 11:39:09 AM
Permit	Open Hole Logging BMP submitted by operator.	6/10/2016 11:25:31 AM
Permit	Passed completeness.	3/25/2016 11:58:42 AM
Permit	Plat does not conform to guidance, must have top of production indicated.	3/18/2016 11:50:19 AM

Total: 8 comment(s)