

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



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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

Date Received:

Well Name: Bison 4-64 15-16 Well Number: 2BHZ Name of Operator: BISON OIL & GAS LLC COGCC Operator Number: 10618 Address: 999 18TH STREET #3370 City: DENVER State: CO Zip: 80202 Contact Name: Ann Stephens Phone: (303)928-7128 Fax: (303)218-5678 Email: regulatory@petro-fs.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20160032

WELL LOCATION INFORMATION

QtrQtr: NWNE Sec: 15 Twp: 4S Rng: 64W Meridian: 6 Latitude: 39.708012 Longitude: -104.535477 Footage at Surface: 676 feet FNL/FSL FNL 2235 feet FEL/FWL FEL Field Name: CHALICE Field Number: 10775 Ground Elevation: 5649 County: ARAPAHOE GPS Data: Date of Measurement: 07/14/2016 PDOP Reading: 1.6 Instrument Operator's Name: Owen McKee If well is Directional Horizontal (highly deviated) submit deviated drilling plan. Footage at Top of Prod Zone: FNL/FSL FNL 2164 FWL 638 FNL 242 FWL Bottom Hole: FNL/FSL FEL/FWL Sec: 15 Twp: 4S Rng: 64W Sec: 16 Twp: 4S Rng: 64W

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership: Fee State Federal Indian The Surface Owner is: is the mineral owner beneath the location. 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.)

Township 4 South, Range 64 West, 6th PM
Section 16: All

Total Acres in Described Lease: 640 Described Mineral Lease is: Fee State Federal Indian

Federal or State Lease # 80/5587-S

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 2365 Feet
Building Unit: 2678 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 2238 Feet
Above Ground Utility: 685 Feet
Railroad: 5280 Feet
Property Line: 673 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 proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation: 155 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 300 Feet (Enter 5280 for distance greater than 1 mile.)

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

SPACING & FORMATIONS COMMENTS

The BHL footage FWL of Section 16 depicted on the well location plat is less than the required 300' from unit boundary per Spacing Order (Docket No. 160800355 Aug 2016 hearing date). Operator will not be completing the well past 300' FWL of Section 16.

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	Pending	960	4S64W:15-W/2,16-All

DRILLING PROGRAM

Proposed Total Measured Depth: 15026 Feet

Distance from proposed wellbore to nearest existing or permitted wellbore belonging to another operator:

547 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? Yes

BOP Equipment Type: [X] Annular Preventor [X] Double Ram [X] 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: Commercial Disposal

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

[Empty text box for Other Disposal Description]

Beneficial reuse or land application plan submitted?

Reuse Facility ID: or Document Number:

CASING PROGRAM

Table with 9 columns: Casing Type, Size of Hole, Size of Casing, Wt/Ft, Csg/Liner Top, Setting Depth, Sacks Cmt, Cmt Btm, Cmt Top. Rows include CONDUCTOR, SURF, and 1ST.

[] 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 BHL footage FWL of Section 16 depicted on the well location plat is less than the required 300' from unit boundary per Spacing Order (Docket No. 160800355 Aug 2016 hearing date). Operator will not be completing the well past 300' FWL of Section 16.

Nearest wellbore permitted or completed in the same formation is the Bison 4-64 15-16-1CHZ (Common source NBRR well). The measurement provided is a 3D measurement with approximately 59' of vertical separation.

Nearest permitted or existing or permitted wellbore belonging to another operator is the Zukowski 17 1H API #05-005-07208.

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: Ann Stephens _____

Title: Regulatory Manager _____ Date: _____ Email: regulatory@petro-fs.com _____

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.

COA Type

Description

Best Management Practices

No	BMP/COA Type	Description
1	Planning	<p>Emergency Response Plan: Operator will provide the County with an Emergency Response Plan (ERP) to address all potential emergencies that may be associated with an oil and gas facility. Operator shall also provide a copy of such plan to all emergency service providers that would respond to such emergencies. A "will-serve" letter must be obtained from the appropriate emergency provider(s).</p> <p>Fencing: A fencing plan will be determined with surface owner input.</p> <p>Painting of oil and gas facilities: except for such facilities that must be painted a certain color for safety reasons, operator agrees to paint all new (post-mou) production facilities with uniform, non-contrasting, non-reflective color tones and with colors matched to, but slightly darker than, surrounding landscapes.</p>
2	Traffic control	<p>Private Roads: the operator agrees to construct (unless already constructed) and maintain an access road designed to support an imposed load of 75,000 pounds that will accommodate emergency response vehicles such as, but not limited to, law enforcement, emergency command vehicles (cars/suvs), ambulances, hazardous materials response vehicles, water tenders, and fire apparatus during construction and operation of new tank batteries (post mou), new drilling activity and reworks or recompletions of existing wells, unless a local fire department or fire district agrees to a different or lesser standard or waived by the County. With respect to new roads to new tank batteries, the Operator agrees to construct access roads at least sixteen (16') feet wide with at least four (4") inch road base. Best efforts will be made to improve inadequate access to existing tank battery sites identified by the fire district or County, based on service calls and demonstrated problems of accessing the site. Operator and County agree that spot inspections of access roads may be done by the County and/or appropriate emergency response agency, at such County or agency's sole risk and expense, to insure that emergency access in accordance with this section is maintained.</p> <p>Public Roads: Operator agrees to apply for and obtain access permits for its oil and gas facilities from the Public Works and Development Department. Requirements for the access permit may include the following: a) access location providing for a safe entrance/exit and utilization of main roadways to minimize impact /conflict with residents on local roadways; b) haul route and traffic data; c) pre/post inspection of roadways used by the Operator; d) collateral or bond to insure that road damage caused by the Operator is repaired; e) dust control (material used for dust control must be pre-approved by the County); f) road maintenance agreement during drilling phase; and g) payment of all applicable filing fees.</p>
3	Material Handling and Spill Prevention	<p>Spill and release management: any spill or release that is reportable to the commission shall be simultaneously reported to the county.</p>

4	Construction	<p>Berm Construction: Tank berms will be constructed of steel rings with a synthetic or engineered liner and designed to contain 150% of the capacity of the largest tank. Secondary containment devices will be sufficiently impervious to contain any spilled or released material. Berms shall be inspected by Operator on a weekly basis for evidence of discharge. Berms shall be inspected within 48 hours of a precipitation event.</p> <p>Construction: Operator will provide notice to COGCC 48 hours prior to commencing construction of this Oil and Gas Location via Form 42.</p> <p>Erosion Control: When required by the County's Grading and Erosion/ Sedimentation ("GESC") Regulations, the Operator agrees to apply for and obtain a GESC permit through the Public Works and Development Department. The County will permit the Operator to submit a standard GESC plan applicable to all of the Operator's oil and gas facilities in cases where GESC collateral is required, and the County will also accept a blanket collateral in a form and amount acceptable to the County so that separate collateral will not be required for each oil and gas facility with a GESC permit. A general performance bond in a form and amount acceptable to the County will also be allowed to guarantee performance under sections 10 and 11 of this MOU.</p> <p>Floodplain: Any disturbance within a floodplain will be allowed if the Operator has obtained a Floodplain Development Permit from the County and has complied with all the County's legally adopted floodplain and engineering regulations. Pits will not be allowed in floodplains, as defined in the County's Stormwater Management Manual.</p>
5	Noise mitigation	<p>Noise: operator shall provide and post 24-hour, 7 days per week contact information to deal with all noise complaints arising from operator's oil and gas facilities.</p>
6	Emissions mitigation	<p>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 where reservoir pressure, formation productivity, and wellbore conditions are likely to enable the well to be capable of naturally flowing hydrocarbon gas in flammable or greater concentrations at a stabilized rate in excess of five hundred (500) MCFD to the surface against an induced surface backpressure of five hundred (500) psig or sales line pressure, whichever is greater. In the 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. All salable quality gas shall be directed to the sales line as soon as practicable or shut in and conserved.</p>
7	Odor mitigation	<p>Odors and Dust: 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.</p>

8	Drilling/Completion Operations	<p>Alternative Logging Program - Multi-Well Pad: 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.</p> <p>Preferred Option: It is the intent of the County that operators utilize closed-loop or modified closed-loop systems for drilling and completion operations in order to minimize or eliminate the need for earthen pits; however, notwithstanding the foregoing, where appropriate, and subject to prior County approval, the County generally supports: 1) the use of unlined drilling pits when bentonite or a similar clay additive is used during the drilling process, and 2) the use of lined single- or multi-well water storage pits in order to minimize the transport of water and promote recycling, subject to the requirements set forth in this subsection. Permitted modified closed-loop systems include oil and gas wells where air or fresh water is used to drill through the surface casing interval, defined as fifty (50) feet below the depth of the deepest aquifer, and a closed loop system is used for the remainder of the drilling and/or completion or recompletion procedures. Multi-well pits are defined as lined, engineered pits, constructed over an engineered base, with construction or liner specifications meeting or exceeding Commission pit lining rules, that will serve the functions of drilling, completion, and/or flowback pits for more than one well.</p> <p>Additional Pits that Require County Review and Approval: Skimming, settling, percolation, evaporation, and any type of netted pits are generally discouraged by the County; however such pits may be approved on a case-by-case basis through the Use by Special Review ("USR") process. A copy of the Pit Plan submitted to the Commission will be provided to the County at the same time as the plans are submitted to the Commission. Construction of these pits will be preceded by collection of "baseline" soil samples from the center of the planned pit at 6 and 18 inches depth. Soil samples will be analyzed for pH, Sodium Adsorption Ratio (SAR), and Electrical Conductivity (EC). The Operator shall stake and photograph from the center of the planned pit (toward north, south, east, and west directions) for inclusion in the County's copy of the Pit Plan. Upon closure of these pits, pH, SAR, EC, BTEX (Benzene, Toluene, Ethylbenzene, and Xylenes), and TEPH (total extractable petroleum hydrocarbons) analyses may be required if there is evidence of leaks or spills in the immediate area of the pits.</p> <p>Pits That Do Not Require County Approval: Flare, Emergency, Plugging, and Workover pits will not require county review or approval prior to construction (unless within one quarter (1/4) mile of a residence as set forth below); however, the County will be copied on the notification(s) sent to the Commission and any pit plans, remediation plans, or analytical results submitted to the Commission.</p> <p>Pit Setbacks: All pit construction within 1/4 mile of a residence or water well is generally discouraged by the County and may have additional County requirements, such as fencing. Such pits will be reviewed on a case-by-case basis by the County.</p> <p>Lighting: All permanent lighting of oil and gas well sites shall be directed downward and internally. Temporary lighting shall conform to the Commission's Rules and Regulations.</p>
9	Interim Reclamation	Weed Control and Management: Operator will be responsible for noxious weed control on any well pad, facility, or disturbed area, from the drilling or installation phase to the closure of the well or facility.
10	Final Reclamation	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. Operator shall restore the surface of the land affected by such terminated operations as near as possible to the previous state that existed prior to operations.

Total: 10 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401085812	OffsetWellEvaluations Data
401086908	DEVIATED DRILLING PLAN
401086913	DIRECTIONAL DATA
401087213	SURFACE AGRMT/SURETY
401087749	WELL LOCATION PLAT

Total Attach: 5 Files

General Comments

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

Total: 0 comment(s)

