

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

TYPE OF WELL OIL <input type="checkbox"/> GAS <input type="checkbox"/> COALBED <input type="checkbox"/> OTHER <u>Injection</u>	Refiling <input checked="" type="checkbox"/>
ZONE TYPE SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONES <input type="checkbox"/> COMMINGLE ZONES <input type="checkbox"/>	Sidetrack <input type="checkbox"/>

Date Received:
08/25/2017

Well Name: Greeley SWD Well Number: 1

Name of Operator: IRISH OWL LLC COGCC Operator Number: 10545

Address: 153 FOSTER STREET

City: CENTER State: TX Zip: 75935

Contact Name: Jeremiah Demuth Phone: (303)290-9414 Fax: ()

Email: jdemuth@petrotek.com

RECLAMATION FINANCIAL ASSURANCE
Plugging and Abandonment Bond Surety ID: 20150005

WELL LOCATION INFORMATION

QtrQtr: SESE Sec: 16 Twp: 6N Rng: 66W Meridian: 6

Latitude: 40.481780 Longitude: -104.774560

Footage at Surface: 229 Feet FNL/FSL FSL 335 Feet FEL/FWL FEL

Field Name: BRACEWELL Field Number: 7487

Ground Elevation: 4756 County: WELD

GPS Data:
Date of Measurement: 03/09/2018 PDOP Reading: 1.6 Instrument Operator's Name: Duncan Hotchkiss

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

Sec: _____ Twp: _____ Rng: _____ Sec: _____ Twp: _____ Rng: _____

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: applicant is owner

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.)

N/A

Total Acres in Described Lease: _____ 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: _____ Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 434 Feet
 Building Unit: 1230 Feet
 High Occupancy Building Unit: 3507 Feet
 Designated Outside Activity Area: 5280 Feet
 Public Road: 205 Feet
 Above Ground Utility: 255 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: _____

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: 5280 Feet

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

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

SPACING & FORMATIONS COMMENTS

This is a commercial class II well.

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
LYONS	LYNS			

DRILLING PROGRAM

Proposed Total Measured Depth: 9250 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: 235 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
CONDUCTOR	20	16	42	0	70	71	70	0
SURF	12+1/4	9+5/8	36	0	655	214	655	0
1ST	8+3/4	7	23	0	9250	210	9250	7000
			Stage Tool		7000	885	7000	0

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 SHL lat/longs and footages have been updated per new well location plat. Cultural setbacks have slightly changed since the approval of this form 2A. New 2A has been submitted.

BMP's were updated, and cement column re-calculated for accuracy.

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

Location ID: 443002

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: Jeremiah Demuth

Title: Engineering Technician Date: 8/25/2017 Email: jdemuth@petrotek.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: 5/21/2018

Expiration Date: 05/20/2020

API NUMBER
05 123 42099 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>
	Bradenhead tests shall be performed and reported according to the following schedule and Form 17 submitted within 10 days of each test: 1) Within 60 days of rig release and prior to stimulation or 2) If a delayed completion, 6-7 months after rig release and prior to stimulation. 3) Within 30 days after first production, as reported on Form 5A.
	1.) Injection is not authorized until approval of Forms 31 and 33. 2.) Operator required to contact COGCC to discuss Step Rate Test or Injectivity Test criteria for Maximum Surface Injection Pressure determination. 3.) Prior approval of Form 4 is required for step rate and injectivity tests. 4.) Retrieve water sample(s) from injection zone(s) before stimulating formation. Samples must be analyzed for Total Dissolved Solids at a minimum. 5.) For all new drill Underground Injection Control wells a suite of open-hole Resistivity/Gamma Ray and Density/Neutron logs is required from Surface Casing shoe to TD. A PDF, TIFF, or PDS visual image and a LAS or DLIS file version of each log is required. 6.) Operator must provide all tops of formations encountered from surface to TD on the Form 5 when submitted.
	1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU. 2) Comply with Rule 317.j and provide cement coverage from end of 7" casing to a minimum of 200' above Niobrara. Verify coverage with cement bond log.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	Green Completions – No hydrocarbons are anticipated in this well.
2	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.
3	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.
4	Drilling/Completion Operations	Drill stem tests. Not applicable; no Drill Stem tests are planned.
5	Final Reclamation	Identification of plugged and abandoned wells. P&A'd wells shall be identified pursuant to 319.a.(5).

Total: 5 comment(s)

Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection.
http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2473192	WELL LOCATION PLAT
401384112	FORM 2 SUBMITTED

401388020

WELLBORE DIAGRAM

Total Attach: 3 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final review complete.	05/17/2018
Permit	Changes made with operator concurrence: - changed closed loop drilling system from NO to YES. - deleted surface-related BMPs: load lines, fire hazards, guy-line anchors, and well site clearing, as these are on the associated Form 2A.	05/17/2018
Permit	Final review pending the associated Form 2A; this APD will not be approved until the 2A is approved.	04/23/2018
UIC	Form 31 # 401527627 and Form 33 # 401527700 received 2/19/2018.	04/23/2018
Permit	Corrections made per Operator request: - updated Cultural distances to building unit, high occupancy building unit, and above-ground utility. - added Form 2A doc #. - attached revised well location plat and updated lat/longs, SHL footages, and GPS data. - changed "application is being submitted with an Oil & Gas Location Assessment" from No to YES. - updated comments on Submit tab. Permitting review complete.	04/20/2018
Permit	Operator agreed to removal of 317.p BMP. Logging COA has been added by engineering. Still waiting on submission of required Form 31 and 33.	12/06/2017
Permit	Placed form on hold pending submission of Form 31 and 33. Corrected zone type to Single. Assigned task to UIC Lead.	12/04/2017
Engineer	There are no accompanying Forms 31/33 as required per Rule 325 - Persons wishing to obtain authorization to conduct underground disposal activities shall file with the Director an Underground Injection Formation Permit Application, Form 31, and an Injection Well Permit Application, Form 33. If the disposal well is to be drilled, this application shall be submitted concurrently with the Application for Permit-to-Drill, Form 2. These forms weren't ever filed with original application, this is a new drill.	11/22/2017
Permit	Passed Completeness.	08/31/2017

Total: 9 comment(s)