

**APPLICATION FOR PERMIT TO:**

**Drill**       Deepen       Re-enter       Recomplete and Operate

Date Received:  
07/17/2017

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

Refiling   
Sidetrack

Well Name: IGS      Well Number: 148  
Name of Operator: CATAMOUNT ENERGY PARTNERS LLC      COGCC Operator Number: 10464  
Address: 1801 BROADWAY #1000  
City: DENVER      State: CO      Zip: 80202  
Contact Name: Nolan Redmond      Phone: (720)484-2344      Fax: (720)484-2363  
Email: nredmond@catamountep.com

**RECLAMATION FINANCIAL ASSURANCE**

Plugging and Abandonment Bond Surety ID: 20160137

**WELL LOCATION INFORMATION**

QtrQtr: NWNE      Sec: 21      Twp: 33N      Rng: 8W      Meridian: N  
Latitude: 37.093531      Longitude: -107.718866

Footage at Surface:      1188      Feet      FNL      1485      Feet      FEL  
FNL/FSL      FEL/FWL

Field Name: IGNACIO BLANCO      Field Number: 38300  
Ground Elevation: 6786      County: LA PLATA

GPS Data:  
Date of Measurement: 06/26/2017      PDOP Reading: 1.8      Instrument Operator's Name: Nelson Ross

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  
1928      FNL      770      FEL      1985      FNL      660      FEL  
Sec: 21      Twp: 33N      Rng: 8W      Sec: 21      Twp: 33N      Rng: 8W

**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.)

E/2NE/4, W/2NE/4, E/2 NW/4, W/2 NW/4, SEC 21, T33N, R8W

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: 660 Feet

**CULTURAL DISTANCE INFORMATION**

Distance to nearest:

Building: 438 Feet  
 Building Unit: 468 Feet  
 High Occupancy Building Unit: 5280 Feet  
 Designated Outside Activity Area: 5280 Feet  
 Public Road: 1162 Feet  
 Above Ground Utility: 665 Feet  
 Railroad: 5280 Feet  
 Property Line: 152 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: 06/22/2017

**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: 1042 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 660 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.)
FRUITLAND COAL	FRLDC	112-195	320	N/2

## DRILLING PROGRAM

Proposed Total Measured Depth: 3595 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: 1463 Feet  No well belonging to another operator within 1,500 feet

Will a closed-loop drilling system be used? Yes

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No (If Yes, attach an H<sub>2</sub>S 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 608

## 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? \_\_\_\_\_

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	8+5/8	24	0	596	300	596	0
2ND	7+7/8	5+1/2	17	0	3595	490	3595	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

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

Location ID:       311891      

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:       Nolan Redmond      

Title:       Geo/Eng Tech       Date:       7/17/2017       Email:       nredmond@catamountep.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:       9/20/2017      

Expiration Date:       09/19/2019      

<b>API NUMBER</b>
05 067 10009 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>
	<p>1) Set at least 596' of surface casing per Rule 317 (g) cement to surface</p> <p>2) The two closest water wells within 1/2 mile radius of the proposed bottom hole shall be sampled (Cause 112 Orders 156-157, 180-181 and rule 608 if not done previously.</p> <p>Because there is a conventional well within a 1/4 mile of the proposed well, the distance to find water wells to test increases from 1/4 mile to 1/2 mile.</p> <p>3) If borehole problems occur while drilling and an unplanned sidetrack is required, the following shall apply:</p> <p>a.) Before proceeding, contact the COGCC Regional Engineer for SW Colorado for verbal approval and provide an explanation as to what happened to the original borehole and what the plan is for the sidetrack.</p> <p>Contact Information:            Mark Weems – Regional Engineer-SW Colorado            970-259-4587 off            970-749-0624 cell            mark.weems@state.co.us</p> <p>b.) Adhere to the instructions provided in the “UNPLANNED Sidetrack While Drilling: Approval and Reporting Process – Southwestern Colorado San Juan Basing ONLY” that can be found on the COGCC website at:</p> <p>Go to COGCC Web Site for more details if necessary            Forms            Form 2-Permit to Drill            Instructions</p> <p>4) Contact COGCC Regional Engineer – Mark Weems when encountering kicks requiring a mud weight increase of 0.5 ppg to control the kick, unexpected water flows, and unexpected Hydrogen Sulfide.</p>

## Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	Open-hole Resistivity Log with Gamma Ray Log will be run from TD into the surface casing. A Cement Bond Log with Gamma-Ray will be run on production casing, or on intermediate casing if a production liner is run. The Form 5, Completion Report, will list all logs run and have those logs attached.

Total: 1 comment(s)

## Applicable Policies and Notices to Operators

Policy
Notice Concerning Operating Requirements for Wildlife Protection. <a href="http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf">http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf</a>

## Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
1857842	SELECTED ITEMS REPORT

401341591	FORM 2 SUBMITTED
401344529	WELL LOCATION PLAT
401344531	DEVIATED DRILLING PLAN
401344532	DIRECTIONAL DATA
401352891	SURFACE AGRMT/SURETY
401409522	OFFSET WELL EVALUATION

Total Attach: 7 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	09/11/2017
Permit	Per operator, added distance to nearest lease line and corrected Rule 317.p BMP.	09/11/2017

Engineer	<p>This is a build and hold directional well bore (straight line-constant angle). The operator will likely fracture stimulate this well.</p> <p><b>Alluvial Fresh Water Reservoirs</b> The proposed gas well is located within an area where fresh water aquifers are mostly developed in an alluvial deposit of gravel and sandstone commonly found in river, stream, and ephemeral creek valleys. Water wells found in these locations can vary in depth from 10' to 200'. These aquifers are commonly identified as the San Jose and Nacimiento formations.</p> <p><b>Bedrock Aquifers</b> The proposed gas well is located within an area where unconfined fresh water aquifers are mostly developed in bedrock formations consisting mainly of shale with intermittent sandstone stringers with limited areal extent or having pockets of isolated water reservoirs. Water wells found in these locations can vary in depth from 100' to 800'. These aquifers are commonly identified as the Animas formation.</p> <p>Respective to the proposed gas well, a one (1) mile radius of investigation of all offsetting fresh water wells has determined that the deepest surface casing required to protect the aquifers is a depth of 596' (includes a 50' margin of additional protection). The operator proposed a depth of 500' which is 96' shallower than the minimal requirement. The surface casing will be deepened to a depth of 596'. The surface casing on the proposed well will be cemented from total depth to surface. The production casing on the proposed gas well will also be cemented from total depth to surface. This will serve two purposes (1) it will isolate and confine all hydrocarbon and brackish waters to their respective zones and (2) it will provide double protection for the fresh water aquifers which includes two concentric (2) steel casing strings and two concentric external (2) cement sheaths extending from total depth to surface (see attached SELECTED ITEMS REPORT).</p> <p>A probable fresh water aquifer has been identified from the depth of 980'-1008' in the adjacent gas well Catamount Criegler #1A - API #067-08797. Operator take note of appropriate measures &amp; options depicted in Rule 317. General Drilling (see attached SELECTED ITEMS REPORT pg 6-7)</p> <p><b>Spacing &amp; Formations Tab:</b> Distance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted completed in the same formation is acceptable.</p> <p><b>Drilling and Waste Plans Tab:</b> Distance from proposed wellbore to nearest existing or permitted wellbore belonging to another operator (Including plugged wells)" is acceptable and it is the 05-067-09713, BP Pan Am FEE C 2.</p> <p>All wells within 1500' of the proposed well bore has more than 200' of cement above the Fruitland coal.</p> <p>There is one conventional well within a 1/4 mile of the pay zone of the proposed well and it is the 05-067-08796, CRIEGLER 1-A - CATAMOUNT ENERGY PARTNERS LLC. This will require the search for water wells for sampling to extend from 1/4 mile to 1/2 mile.</p>	08/22/2017
LGD	A land use permit will be required from the La Plata County Planning Department	08/04/2017
Permit	Edited Bond number, per Operator's request. Passed Completeness.	08/04/2017

Permit	Returned to draft for: - "Well Name & Contact Info" tab: the "Plugging and Abandonment Bond Surety ID" is expired, please replace with the current active plugging surety ID - "Well Location" tab: the footage at Top Prod Zone and Bottom Hole do not match the PLAT - "Surface & Minerals" tab: the right to construct is listed as "Surface Use Agreement", but there is no "Surface Use Agreement" attachment - "Cultural Setbacks" tab: "Buffer Zone" needs to be checked - "Cultural Setbacks" tab: the date given for "Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners" is less than 30 days before upload of the Form 2 - "Offset Wells Evaluation" tab: there is no email listed for the "Operator's Wellbore Integrity Contact Email" - "Operator BMP/COA" tab: there is no Rule 317.p. MBP	07/24/2017
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Total: 6 comment(s)