

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:

401118629

(SUBMITTED)

Date Received:

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 ☐

Well Name: Cosslett

Well Number: 1G-22H-B168

Name of Operator: CRESTONE PEAK RESOURCES OPERATING LLC

COGCC Operator Number: 10633

Address: 1801 CALIFORNIA STREET #2500

City: DENVER

State: CO

Zip: 80202

Contact Name: Toby Sachen

Phone: (720)410-8536

Fax: ()

Email: toby.sachen.contractor@crestone.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20160104

WELL LOCATION INFORMATION

QtrQtr: NWNE Sec: 22 Twp: 1n Rng: 68w Meridian: 6

Latitude: 40.041390

Longitude: -104.987869

Footage at Surface: 925 Feet FNL/FSL FNL 2190 Feet FEL/FWL FEL

Field Name: WATTENBERG

Field Number: 90750

Ground Elevation: 5172

County: WELD

GPS Data:

Date of Measurement: 03/24/2015 PDOP Reading: 2.0 Instrument Operator's Name: Jason Dahlman

If well is ☐ Directional ☒ Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: FNL/FSL FNL/FWL Bottom Hole: FNL/FSL FNL/FWL
480 FNL 1455 FEL 460 FSL 1450 FEL
Sec: 22 Twp: 1n Rng: 68w Sec: 27 Twp: 1n Rng: 68w

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.)

T1N-R68W-Sec. 22 (N2NE, SE)

Total Acres in Described Lease: 240 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: 0 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 1343 Feet
Building Unit: 2045 Feet
High Occupancy Building Unit: 4677 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 909 Feet
Above Ground Utility: 885 Feet
Railroad: 5280 Feet
Property Line: 397 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: 267 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

DSU: T1N, R68W: E2 SEC 22; E2 SEC 27; ALL SEC 23; ALL SEC 26
DSU has not yet been approved.

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		1920	S22&27:E2;S23&26:ALL

DRILLING PROGRAM

Proposed Total Measured Depth: 17620 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: 875 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? Yes

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?

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	30	20	52.78	0	120	149	120	0
SURF	12+1/4	9+5/8	40	0	2475	627	2475	0
1ST	8+1/2	5+1/2	20	0	17620	2536	17620	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

Nearest horizontal well on the pad being permitted in the same formation as this proposed wellbore is Cosslett 1E-22H-B168.

Nearest well to the proposed wellbore belonging to another operator is Lovely 34-15, 123-22711, operated by KMG.

Interwell distances were determined using our in-house 3D anti-collision reports.

Crestone Peak Resources respectfully requests an exception to the Open Hole Logging requirement. See attached letter.

Deep conductor: 17 1/2" hole; 13 3/8" casing; 54.50 lb/ft; 0' casing liner top; 500' setting depth; 538 sacks cement; 500' cement bottom; 0' cement top; VISU (form will not take second conductor string)

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

Location ID: 332117

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: Toby Sachen

Title: Contractor Date: _____ Email: toby.sachen.contractor@cresto

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	Maximize equipment and wellhead setbacks from occupied buildings and residences to the extent feasible and practicable, as determined by Crestone Peak Resources.
2	Planning	For the Identified Well Pads, the minimum distance between a well or surface equipment, and the nearest exterior wall of an existing Erie Building Unit (as of the Effective Date) shall not be less than the following: Cosslett 1,150 feet
3	Planning	Crestone Peak Resources shall conduct all operations in accordance with the plans discussed during the Conceptual Review Process as updated from time to time.
4	Community Outreach and Notification	Prior to commencement of any new drilling or completion operations, provide notification to landowners within one-half (1/2) mile of the well site.
5	Community Outreach and Notification	<p>"Maximize equipment and wellhead setbacks from occupied buildings and residences to the extent feasible and practicable as determined by Crestone Peak Resources. Prior to commencement of any new drilling or completion operations, provide to an Erie designated staff member the following for the well-site for informational purposes only, which Crestone Peak Resources may revise from time to time during operations:</p> <ul style="list-style-type: none"> a) A summary of planned operations, including identified access points and operational timeline, for posting to a local community information web-page b) A site plan for site preparation, mobilization and demobilization c) A plan for interim reclamation and vegetation of the site and final reclamation of the site d) A plan for noise, light and dust mitigation, to the extent feasible e) A traffic management plan f) Updates of this information if any change during operations"
6	Community Outreach and Notification	Crestone Peak Resources shall include its contact information on both the mailed notice required by Article III, Section 8 and the posted notice required by Article III, Section 9. This information shall include both a telephone number for Crestone Peak Resources and the address and hours of Crestone Peak Resources's Erie community office. Members of the public with concerns or complaints regarding the oil and gas development covered by this Agreement may use this information to speak with Crestone Peak Resources.
7	Traffic control	To reduce truck traffic, Erie and Crestone Peak Resources will encourage the use of nearby water resources for the drilling and hydraulic fracturing of wells at the pad sites, including the use of Erie municipal water when determined technically feasible and economically practicable by Crestone Peak Resources.
8	Traffic control	Crestone Peak Resources will implement the Traffic Management Plan required by Article III, Section 3, Subpart 10.
9	General Housekeeping	Crestone Peak Resources will install down cast lighting or some other form of lighting that mitigates light pollution and spill-over onto adjacent properties; provided, however, that Crestone Peak Resources may still use lighting that is necessary for public and occupational safety.
10	General Housekeeping	Crestone Peak Resources will recycle and reuse water at the pad sites and otherwise minimize waste water production to the extent that it determines such recycling, reuse, and waste water minimization is technically and economically feasible.

11	General Housekeeping	<p>"Road repairs.</p> <p>(a) Erie and Crestone Peak Resources recognize that truck traffic accessing the Identified Well Pads may cause damage to Erie roads and that road repairs may be needed to mitigate such damage. To this end, Crestone Peak Resources will arrange for a qualified outside consultant to perform a road impact study for all Erie roads that are used to access an Identified Well Pad during the Term of this Agreement. The consultant will conduct the first part of the study prior to Crestone Peak Resources's operations at such Well Pad and the second part of the study after Crestone Peak Resources completes all drilling and hydraulic fracturing at such Well Pad. Crestone Peak Resources and Erie will use these studies to determine the extent of any damage accruing to the road during the study period. Crestone Peak Resources will then promptly pay Erie to repair such damage or else arrange and pay the cost of such repairs itself whichever Erie prefers.</p> <p>(b) Crestone Peak Resources shall maintain Financial Assurance to secure its road repair obligations under this Agreement. The amount of such Financial Assurance shall equal Erie's annual road maintenance budget as of the Effective Date multiplied by the percentage yielded by dividing the total number of Erie road miles as of the Effective Date into the number of such road miles that Crestone Peak Resources will use to access the Identified Well Pads. Crestone Peak Resources shall select the form of such Financial Assurance and shall maintain such Assurance until Crestone Peak Resources fulfills its obligation to repair road damage under Subsection (a). "</p>
12	General Housekeeping	Access roads to well and production facilities that connect to a street within Erie shall be improved from the point of connection to a street within Erie a minimum distance of two hundred (200) feet on the access road as specified by the then current requirements of the Code.
13	General Housekeeping	Oil and gas well facilities (above ground) within the Erie Town Limits shall be fenced as specified by the then current requirements of the Code.
14	General Housekeeping	Upon the request of either party, the Parties may revise one or more of these BMPs if they mutually agree such revision would better avoid or mitigate impacts the BMP(s) is intended to address.
15	Material Handling and Spill Prevention	Crestone Peak Resources shall use steel rim berms or some other state of the art technology that will contain fluids and other material instead of sand or soil berms.
16	Material Handling and Spill Prevention	Utilize steel rim berms around tanks and separators instead of sand and soil berms.
17	Noise mitigation	<p>"Crestone Peak Resources will comply with the following noise mitigation requirements at all pad sites:</p> <p>(a) For db(A) scale noise, Crestone Peak Resources will insure that the noise level from operations subject to the light industrial zone noise standard under COGCC Regulations 802.b and 604.c.(2)(A) does not exceed sixty (60) db(A) and that the noise level from operations subject to the industrial zone noise standard under COGCC Regulations 802.b and 604.c.(2)(A) is reduced at least five (5) db(A) below the maximum level permitted by those Regulations. For this purpose, the noise level shall be measured as set forth in COGCC Regulations 802.b & c, except no measurements shall be taken when traffic is passing the sound level meter, Crestone Peak Resources shall be present during all measurements, and building units shall be limited to those units existing as of the Effective Date. As set forth in COGCC Regulation 802.b, the noise levels shall be subject to increase for a period not to exceed fifteen (15) minutes in any one (1) hour period and reduction for periodic, impulsive or shrill noises.</p> <p>(b) For db(C) scale noise, Crestone Peak Resources shall comply with the requirements of COGCC Regulation 802, "</p>

18	Emissions mitigation	In an effort to reduce air emissions, Crestone Peak Resources intends to construct a central gathering and storage facility at a location in 1N-68W-Section 21 (the "Hub") to receive liquids from the wells which are the subject of this Agreement. As a result, Crestone Peak Resources will not install hydrocarbon storage tanks at these pad sites, which will eliminate potential sources of hydrocarbons from the sites. However, Crestone Peak Resources will still install at the pad sites all other equipment and facilities necessary for the production of hydrocarbons, including wellhead equipment, separation equipment, electrical equipment, and temporary flowback equipment (including temporary storage tanks). In addition, this BMP is subject to Article IV, Sections 3 and 4 of the Agreement
19	Emissions mitigation	<p>"Well leak detection and repair</p> <p>(a) To identify leaks, Crestone Peak Resources will perform audio, visual and olfactory inspections on a monthly basis at all of its new and existing wells and related facilities and equipment within Erie's Town Limits, provided that such related facilities and equipment are located on the pads for such wells, are part of adjacent tanks used for such pad sites, or are part of storage tanks for such pad sites authorized under Article IV, Section 4 of the Operator Agreement. Crestone Peak Resources will also inspect each such well with an infra-red camera on a monthly basis. The initial baseline inspections will occur within sixty (60) calendar days after the Effective Date. After a well has produced for twelve (12) months, the frequency of such inspections shall decrease from monthly to quarterly. If Crestone Peak Resources determines that any repairs are required based on these inspections, Crestone Peak Resources will promptly initiate these repairs.</p> <p>(b) Crestone Peak Resources will report to Erie on the inspection results and any associated repairs the month after the inspection or repair occurs. This information will be collectively reported on a monthly basis in the same format that Crestone Peak Resources uses for reporting to the Air Pollution Control Division under Regulation 7, but that is specific to wells located within the Erie Town Limits. Erie will make this information publicly available.</p> <p>(c) This BMP will terminate five (5) years after the Effective Date, after which Crestone Peak Resources will continue to comply with the leak detection, repair, and reporting requirements of Regulation 7, as such requirements may be amended.</p> <p>"</p>
20	Drilling/Completion Operations	Adequate blowout prevention equipment will be used on all well servicing operations.
21	Drilling/Completion Operations	Backup stabbing valves will be used on well servicing operations during reverse circulation. Valves will be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
22	Drilling/Completion Operations	No drill stem tests will be performed
23	Drilling/Completion Operations	Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.
24	Drilling/Completion Operations	Crestone Peak Resources will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.

25	Drilling/Completion Operations	One of the first wells drilled on the pad will be logged with Cased-hole Pulsed Neutron Log with Gamma Ray Log from 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 in that well and have those logs attached. The Form 5 for each well shall clearly state "No openhole logs were run" and shall reference the Rule 317.p Exception granted for the well."
26	Drilling/Completion Operations	Utilize a high-low pressure vessel (HLP) and vapor recovery unit (VRU) for new wells drilled. Crestone Peak Resources may remove the VRU system at such time Crestone Peak Resources determines that the VRU system is no longer necessary due to reduced emission recoveries and/or efficiencies, but no earlier than one (1) year after the new well is drilled.
27	Drilling/Completion Operations	Crestone Peak Resources shall use closed-loop systems for drilling and completion operations.
28	Drilling/Completion Operations	Crestone Peak Resources has developed and implemented a company-wide Responsible Products Program to manage the fluid products used in its hydraulic fracturing operations. This Responsible Products Program helps Crestone Peak Resources evaluate the hydraulic fracturing fluid products it uses in its operations for safety, effectiveness and potential public health and environmental impacts. As part of this program, Crestone Peak Resources has informed all of its hydraulic fracturing fluid product suppliers that any products containing diesel fuels (as defined by EPA 816-R-12-004), 2-Butoxyethanol (2-BE), benzene or heavy metals (i.e. lead, mercury, arsenic, cadmium and chromium) cannot be used in hydraulic fracturing at Crestone Peak Resources operations. Crestone Peak Resources will continue to conduct its hydraulic fracturing operations within the Erie town limits in accordance with its Responsible Products Program.
29	Underground Injection Control	Crestone Peak Resources shall not develop any new Class II underground injection control wells within the Operator Agreement Area during the Term of this Agreement.

Total: 29 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401452541	EXCEPTION LOC WAIVERS
401452543	EXCEPTION LOC WAIVERS
401467562	SURFACE AGRMT/SURETY
401493345	OPEN HOLE LOGGING EXCEPTION
401493346	EXCEPTION LOC REQUEST
401493931	OffsetWellEvaluations Data
401494691	DEVIATED DRILLING PLAN
401494692	DIRECTIONAL DATA
401500329	WELL LOCATION PLAT

Total Attach: 9 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)

Public Comments

No public comments were received on this application during the comment period.

