

FORM
2A

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



Document Number:

401542163

(SUBMITTED)

Date Received:

Oil and Gas Location Assessment

New Location Refile Amend Existing Location Location#: 440933

This Oil and Gas Location Assessment is to be submitted to the COGCC for approval prior to any ground disturbance activity associated with oil and gas operations. Approval of this Oil and Gas Location Assessment will allow for the construction of the below specified Location; however, it does not supersede any land use rules applied by the local land use authority. Please see the COGCC website at <http://cogcc.state.co.us/> for all accompanying information pertinent this Oil and Gas Location Assessment.

Location ID:

440933

Expiration Date:

This location assessment is included as part of a permit application.

CONSULTATION

- This location is included in a Comprehensive Drilling Plan. CDP # _____
- This location is in a sensitive wildlife habitat area.
- This location is in a wildlife restricted surface occupancy area.
- This location includes a Rule 306.d.(1)A.ii. variance request.

Operator

Operator Number: 10633
 Name: CRESTONE PEAK RESOURCES OPERATING LLC
 Address: 1801 CALIFORNIA STREET #2500
 City: DENVER State: CO Zip: 80202

Contact Information

Name: Erin Lind
 Phone: (720) 410-8478
 Fax: ()
 email: erin.lind@crestonepr.com

RECLAMATION FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID: 20160104 Gas Facility Surety ID: _____
- Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: Bighorn Number: 17H-P267
 County: WELD
 Quarter: SESE Section: 17 Township: 2N Range: 67W Meridian: 6 Ground Elevation: 4959

Define a single point as a location reference for the facility location. When the location is to be used as a well site then the point shall be a well location.

Footage at surface: 925 feet FSL from North or South section line
770 feet FEL from East or West section line

Latitude: 40.133683 Longitude: -104.907948

PDOP Reading: 1.0 Date of Measurement: 07/03/2013

Instrument Operator's Name: CHRIS BETTENCOURT

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Bighorn 4792 Limited Part

Phone: _____

Address: 9730 Highland Glen Place

Fax: _____

Address: _____

Email: _____

City: Colorado Springs State: CO Zip: 80920

Surface Owner: Fee State Federal Indian

Check all that apply. The Surface Owner: is the mineral owner
 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 from or produced to this Oil and Gas Location: Yes

The right to construct this Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place: _____ Surface Surety ID: _____

Date of Rule 306 surface owner consultation 10/31/2013

CURRENT AND FUTURE LAND USE

Current Land Use (Check all that apply):

Crop Land: Irrigated Dry land Improved Pasture Hay Meadow CRP

Non-Crop Land: Rangeland Timber Recreational Other (describe): _____

Subdivided: Industrial Commercial Residential

Future Land Use (Check all that apply):

Crop Land: Irrigated Dry land Improved Pasture Hay Meadow CRP

Non-Crop Land: Rangeland Timber Recreational Other (describe): _____

Subdivided: Industrial Commercial Residential

CULTURAL DISTANCE INFORMATION

Provide the distance to the nearest cultural feature as measured from Wells or Production Facilities onsite.

	From WELL	From PRODUCTION FACILITY
Building:	719 Feet	466 Feet
Building Unit:	872 Feet	599 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	916 Feet	763 Feet
Above Ground Utility:	952 Feet	799 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	340 Feet	138 Feet

INSTRUCTIONS:

- All measurements shall be provided from center of nearest Well or edge of nearest Production Facility to nearest of each cultural feature as described in Rule 303.b.(3)A.
- 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.
- For measurement purposes only, Production Facilities should only include those items with an asterisk(*) on the Facilities Tab.

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.
- Large UMA Facility - 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: 01/18/2018

FOR MULTI-WELL PADS AND PRODUCTION FACILITIES WITHIN DESIGNATED SETBACK LOCATIONS ONLY:

- Check this box if this Oil and Gas Location has or will have Production Facilities that serve multiple wells (on or offsite) and the Production Facilities are proposed to be located less than 1,000 feet from a Building Unit. *(Pursuant to Rule 604.c.(2)E.i., the operator must evaluate alternative locations for the Production Facilities that are farther from the Building Unit, and determine whether those alternative locations were technically feasible and economically practicable for the same proposed development.)*
- By checking this box, I certify that no alternative placements for the Production Facilities, farther from the nearest Building Unit, were available based on the analysis conducted pursuant to Rule 604.c.(2)E.i.

In the space below, explain rationale for siting the multi-well Production Facility(ies) that supports your Rule 604.c.(2)E.i determination. Attach documentation that supports your determination to this Form 2A.

Considering the proximity of an irrigation ditch and property lines to the south and east of the location, the facilities were placed as far away as possible from nearby homes. Also, based on future development plans of the surface owner, this was the most desirable location for the permanent equipment.

SOIL

List all soil map units that occur within the proposed location. attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to used when segregating topsoil.

The required information can be obtained from the NRCS web site at <http://soildatamart.nrcs.usda.org/> or from the COGCC web site GIS Online map page found at <http://colorado.gov/cogcc>. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: Map Symbol 72: Vona loamy sand, 0 to 3 percent slopes

NRCS Map Unit Name: _____

NRCS Map Unit Name: _____

PLANT COMMUNITY:

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes No

Plant species from: NRCS or, field observation Date of observation: 07/09/2014

List individual species: _____

Check all plant communities that exist in the disturbed area.

- Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)
- Native Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)
- Shrub Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)
- Plains Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)
- Mountain Riparian (Cottonwood, Willow, Blue Spruce)
- Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon, Aspen)
- Wetlands Aquatic (Bullrush, Sedge, Cattail, Arrowhead)
- Alpine (above timberline)
- Other (describe): Thistle

WATER RESOURCES

Is this a sensitive area: No Yes

Distance to nearest

downgradient surface water feature: 315 Feet

water well: 309 Feet

Estimated depth to ground water at Oil and Gas Location 32 Feet

Basis for depth to groundwater and sensitive area determination:

Depth to groundwater was taken from water well permit #15260. Area was determined to be sensitive due to a nearby irrigation ditch. Well permit #13263 is 1610 feet south with a depth of 32 feet

Is the location in a riparian area: No Yes

Was an Army Corps of Engineers Section 404 permit filed No Yes If yes attach permit.

Is the location within a Rule 317B Surface Water Supply Area buffer zone: No

If the location is within a Rule 317B Surface Water Supply Area buffer have all public water supply systems within 15 miles been notified: _____

Is the Location within a Floodplain? No Yes Floodplain Data Sources Reviewed (check all that apply)

Federal (FEMA)

State

County

Local

Other _____

GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A _____

WILDLIFE

- This location is included in a Wildlife Mitigation Plan
- This location was subject to a pre-consultation meeting with CPW held on _____

Operator Proposed Wildlife BMPs

No BMP

DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of a Building Unit) and is in an Urban Mitigation Area
- 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)

RULE 502.b VARIANCE REQUEST

- Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number _____

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 is a refile document with no changes from the original filing. All previously submitted attachments are still relevant except for the Waste Management Plan which has been updated and is attached.

The closest Building Unit to the MLVTs is 1010' away.

This pad will be reclaimed to match the land currently surrounding the site, as seen in the attached location pictures for the pad.

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: _____ Date: _____ Email: erin.lind@crestonepr.com

Print Name: Erin Lind Title: Regulatory Analyst

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: _____

Conditions Of Approval

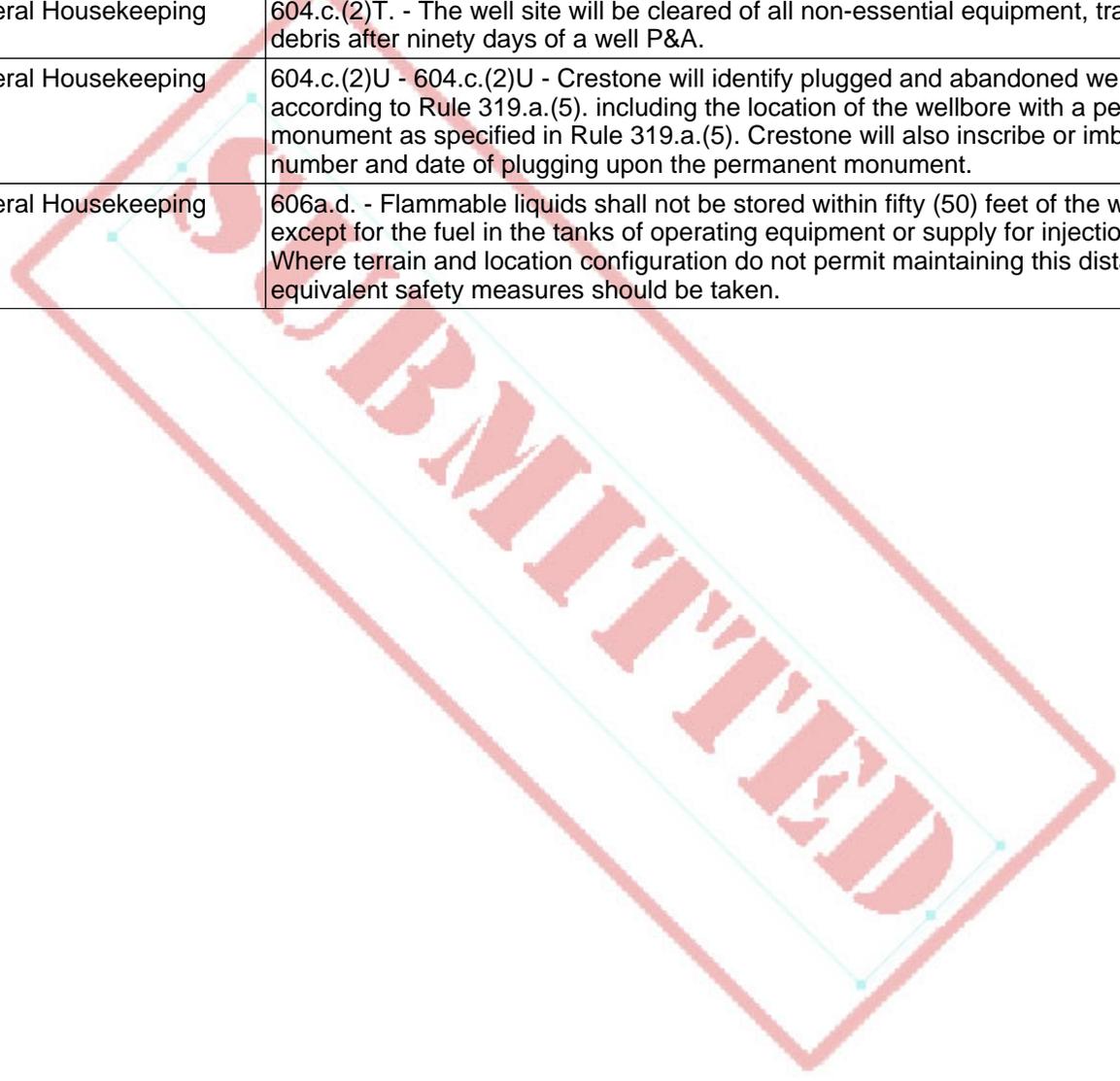
All representations, stipulations and conditions of approval stated in this Form 2A for this location shall constitute representations, stipulations and conditions of approval for any and all subsequent operations on the location unless this Form 2A is modified by Sundry Notice, Form 4 or an Amended Form 2A.

COA Type	Description

Best Management Practices

No	BMP/COA Type	Description
1	Traffic control	604.c.(2)D. - Crestone will work with the Town of Firestone on a traffic route and plan, if necessary, during the municipal permitting process. Crestone will also obtain a right of way (access) permit through the town.

2	General Housekeeping	604.c.(2)N. - Any material not in use that might constitute a fire hazard will be removed a minimum of twenty-five (25) feet from the wellhead, tanks and separator. Any electrical equipment installations inside the bermed area will comply with API RP 500 classifications and comply with the current national electrical code as adopted by the State of Colorado.
3	General Housekeeping	604.c.(2)P. - All surface trash, debris, scrap or discarded material connected with the operations of the property shall be removed from the premises or disposed of in a legal manner.
4	General Housekeeping	604.c.(2)T. - The well site will be cleared of all non-essential equipment, trash and debris after ninety days of a well P&A.
5	General Housekeeping	604.c.(2)U - 604.c.(2)U - Crestone will identify plugged and abandoned wellbores according to Rule 319.a.(5). including the location of the wellbore with a permanent monument as specified in Rule 319.a.(5). Crestone will also inscribe or imbed the well number and date of plugging upon the permanent monument.
6	General Housekeeping	606a.d. - Flammable liquids shall not be stored within fifty (50) feet of the wellbore, except for the fuel in the tanks of operating equipment or supply for injections pumps. Where terrain and location configuration do not permit maintaining this distance, equivalent safety measures should be taken.



7	Emissions mitigation	<p>1. Integrity testing of flowlines connecting wellheads to the separators: CONSTRUCTION PHASE: The flowlines that Crestone uses are designed/constructed/tested to ASME B31.3/4/8 and API 1104 standards. Only materials with Material Test Reports (MTRs) provided by the pipeline supplier are used in the construction of the flowlines. Construction is tested with 100% x-ray and goes through hydrotest per the applicable B31-code. OPERATIONS PHASE: Pressure testing of the flowlines is conducted on an annual basis. Additionally, Crestone is already in compliance with 1104.i. Continuous Pressure Monitoring Requirements of the 1100 Series Flowline Regulations. Crestone utilizes a series of standard operating procedures to define our flowline integrity testing program.</p> <p>2. Frequency on valve and fitting inspections: Crestone Lease Operators inspect all equipment on their locations at a minimum of once every 48 hours, but most sites are inspected every 24 hours. Valves and fittings inspections are part of the daily job duties of our lease operators. Any valve or fitting that is found to be leaking is either repaired immediately by the lease operator or shut-in procedures are implemented as described below. Additionally, lease operators conduct a documented monthly inspection of the facility and this includes inspection of all valves and fittings.</p> <p>3. Description of Lease Operator Inspections, Monthly Documented Inspections & Environmental Inspections: The Crestone lease operator inspections are done as a routine part of the lease operators job. The lease operator would typically visit each of their assigned locations daily. They conduct a visual inspection of the facility which includes all valves, fittings, wellhead, tanks, vapor control systems and all connections. The lease operator also checks our Cygnet automation system for system pressures and flows. Pressure and flow sensors are placed on multiple points throughout the system and are specifically designed to measure the system for irregularities that would indicate a leak in the system or change in production of oil, water, or gas. The Cygnet system is also set-up with alarms that are triggered by anomalous pressure or flows. Low pressure warnings can activate automatic shut-in of the well and system. The monthly documented inspection is done using an electronic form that is recorded in the EU system. This thorough inspection and documentation requires the lease operator to inspect all aspects of the site and then triggers work orders for any leaks, or housekeeping issues. This inspection would note any leaks of either gas or fluids which triggers an immediate repair or shut-in. The Lease operators also conduct a weekly CDPHE Regulation 7 – Audible, Visual, and Olfactory (AVO) inspection, which focus on the tanks and vapor control system. The Regulation 7 AVO is also a documented inspection. In addition, the sites are inspected with optical gas imaging cameras on a routine schedule, annually for compliance purposes with our Spill Prevention Containment and Countermeasures (SPCC) plan, depending on the status of reclamation the sites are also inspected on either a 14-day, 30-day, annual or rain triggered event in accordance with both the COGCC and the CDPHE Stormwater Management Plans (SWMP).</p> <p>4. Measures for when leaks are discovered: - If we suspect a leak we shut in the well and hydrotest the line. If it passes, then the well is brought back onto production. - If there is an actual leak, well is kept shut in while leak is found and fixed. Not until the line has passed hydrotesting, would the well be brought back online.</p>
8	Material Handling and Spill Prevention	604.c.(2)O. - All loadlines will be capped for every location in the DJ.
9	Material Handling and Spill Prevention	Well effluent containing more than ten (10) barrels per day of condensate or within two (2) hours after first encountering hydrocarbon gas of salable quality will be directed to a combination of sand traps, separators, surge vessels, and tanks as needed to ensure safe separation of sand, hydrocarbon liquids, water, and gas and to ensure salable products are efficiently recovered for sale or conserved and that non-salable products are disposed of in a safe and environmentally responsible manner.

10	Material Handling and Spill Prevention	<ul style="list-style-type: none"> • Annual hydrostatic test on the oil dump line from the separator to the tank battery. • Annual hydrostatic “static” tests on our oil tanks. <p>Leak Detection Program:</p> <ul style="list-style-type: none"> • Annual hydrostatic “static” tests on our produced water tank and water dump line from the separator to the produced water tank. • Lease Operator inspections of all equipment not to exceed 48 hours. • Monthly documented inspections (EU). • Annual environmental inspections of all battery and well equipment and pads. • Annual UT inspections of the pressure vessels and input into Crestone’s RIPL Predictive Integrity Maintenance Program. (HLP separators and fuel gas separators)
11	Dust control	Crestone Peak Resources places road base, rock and recycled asphalt to assist with dust abatement. During construction, drilling, completions and reclamations phases, Crestone monitors each site and if needed we will run water trucks.
12	Construction	A temporary completions area of approximately five acres will be utilized for 3 fresh water storage tanks to be used during completions operations. The state-licensed manufacturer for the subject site will either be MWS or Pinnacle Manufacturing. The tanks will hold between 40,000-42,000 barrels, are between 153’-158’ in diameter, and plan to be on location for 84 days. Once completions operations are complete, this area will be completely reclaimed. Crestone certifies that the MLVTs are designed and implemented consistent with the June 13, 2014 “Policy on the Use of Modular Large Volume Tanks in Colorado.” Please see location drawing on file for the location of the tanks.
13	Construction	604.c.(2)E.ii. - The pad will be constructed in such a manner that noise mitigation may be installed and removed without disturbing the site or landscaping.
14	Construction	604.c.(2)E.iii. - Subject pad will have all weather access roads to allow for operator and emergency response.
15	Construction	604.c.(2)G. - Crestone utilizes 24” tall corrugated galvanized metal berm walls with a capacity in excess of 150% of the largest tank contained within the wall. In addition, Crestone best practices mandates the use of impervious liners that extends under each storage tank and up the walls, permanently affixed to the top of the metal berm wall. Protrusions of piping that come through the liner include a fully sealed “boot” to prevent leakage.
16	Construction	604.c.(2)M. - Fencing style will be installed as required by the Town of Firestone.
17	Construction	604.c.(2)S. - At the time of construction, all leasehold roads will be constructed to accommodate local emergency vehicle access requirements, and will be maintained in a reasonable condition.
18	Construction	<p>1002.f.(2) - Crestone will comply with COGCC Rule 1002.f.(2). by utilizing BMPs at the oil and gas location to control stormwater runoff in a manner that minimizes erosion, transport of sediment offsite, site degradation and protects surface waters. Examples of engineering controls that could be used when needed are:</p> <ul style="list-style-type: none"> o Surface roughening o Silt fence o Erosion control blanket o Temporary slope drain o Temporary outlet protection o Sediment control log o Vehicle tracking control o Sediment trap o Stabilized staging area

19	Noise mitigation	604.c.(2)A. - Crestone will perform a baseline noise survey prior to any operational activity measuring dBA at a distance 350 feet from the noise source or sound levels will be measured at a point twenty-five (25) feet from the structure towards the noise source. In situations where measurement of noise levels at three hundred and fifty (350) feet is impractical or unrepresentative due to topography, the measurement may be taken at a lesser distance and extrapolated to a 350-foot equivalent using the formula stated in Rule 802 of the State of Colorado Oil and Gas Conservation Commission. As necessary, based on the survey, Crestone will install temporary sound walls to minimize noise and light impacts during drilling and completions and will install permanent noise mitigation at the facility location as necessary to meet all COGCC regulations.
20	Emissions mitigation	604.c.(2)C.i. - Flow lines, separators, and sand traps capable of supporting green completions as described in Rule 805 will be installed on subject location at which commercial quantities of gas are reasonably expected to be produced based on existing adjacent wells within 1 mile.
21	Emissions mitigation	604.c.(2)C.iii. - Temporary flowback flaring and oxidizing equipment will include: adequately sized equipment to handle 1.5 times the largest flowback volume of gas experienced in a ten mile radius. If there is overrun, Crestone will shut in the well versus freely venting.
22	Emissions mitigation	604.c.(2)C.ii.cc. - Crestone will have a constant fuel gas supply for the pilot light that will always be available for burning.
23	Odor mitigation	Crestone operations will be in compliance with the 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. Where possible, drilling rig and completion equipment engine exhaust will be directed away from occupied buildings to assist in mitigating potential odors. As necessary, Crestone may utilize chemical additives during drilling operations to mitigate odor impacts. Sealed tanks with pressure relief valves and emissions controls will be utilized for the production facilities.
24	Drilling/Completion Operations	604.c.(2)B.i. - Crestone will utilize a closed-loop system for drilling operations at this location.
25	Drilling/Completion Operations	604.c.(2)B.ii.v. - Crestone will not utilize pits.
26	Drilling/Completion Operations	604.c.(2)Q. - Guy line anchors in the DJ Basin are not installed. Crestone will use an engineered base beam that we guy wire anchor the derricks to.
27	Drilling/Completion Operations	604.c.(2)R. - All newly installed or replaced crude oil and condensate storage tanks will be designed, constructed, and maintained in accordance with National Fire Protection Association (NFPA) Code 30 (2008 version). Crestone will maintain written records verifying proper design, construction, and maintenance, and will make these records available for inspection by the Director. In addition, onsite inspections are conducted internally to insure guidelines are met.
28	Drilling/Completion Operations	604.c.(2)H.i. & ii. - Crestone will employ a rig without kelly that has double ram with blind and pipe ram and an annular preventer. At least one person at the well site during drilling operations will have Mineral Management certification or Director approved training for blowout prevention.
29	Drilling/Completion Operations	800-5 C - Closed-top tanks will utilize backpressure systems that exert a minimum of four (4) ounces of backpressure and a maximum that does not exceed the pressure rating of the tank to facilitate gathering and combustion of tank.

Total: 29 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401547643	WASTE MANAGEMENT PLAN
401548628	RULE 305A CERTIFICATION OF COMPLIANCE

Total Attach: 2 Files

General Comments

User Group

Comment

Comment Date

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Stamp Upon Approval

Total: 0 comment(s)



Public Comments

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

