

DIRECTOR'S RECOMMENDATION

Crestone Peak Resources Operating LLC (Crestone), Operator ID #10633. Blue 3-65 33-32-31 OGD, OGD ID #481173, Form 2C #402779844, Form 2A #402779501, Form 2B #402779821, Docket #210900150

Pursuant to Rule 306, the Director submits to the Commission this recommendation for the Crestone Blue 3-65 33-32-31 OGD located in the City of Aurora.

BACKGROUND

On August 15, 2021, Crestone Peak Resources LLC (Crestone) filed an application for an Oil and Gas Development Plan (OGDP) with the Colorado Oil and Gas Conservation Commission (COGCC). Staff returned the Form 2A to the operator on 10/15/21 to make corrections prior to the determination the application was complete on November 30, 2021. Multiple revisions were coordinated between Staff and the applicant throughout the technical review process. This recommendation is based on the information in the Form 2A, the Form 2B, and the hearing application as of February 16, 2022. No additional revisions will be made to the application prior to the Commission hearing scheduled for March 2, 2022.

The proposed Crestone Blue OGD is within the boundaries of the proposed Crestone Box Elder Comprehensive Area Plan (CAP Hearings docket number 210700116). The Crestone Box Elder CAP was returned to the applicant for revisions in November 2021 and has not yet been resubmitted to COGCC for continued review.

Crestone Blue 3-65 33-32-31 OGD Proposed Development:

The proposed OGD includes 1,940-acres of application lands in Township 3 South, Range 65 West, Sections 31, 32, and 33, with the surface location being in the southwest quarter of Section 34. The OGD is in the City of Aurora in Adams County in a rural/industrial setting. The location is proposed to be sited between a gas plant and an asphalt plant with adjacent cropland to the north. An active railroad grade and Interstate 70 are immediately to the south.

Crestone proposes one new Oil and Gas Location that will have seven horizontal wells that will develop minerals in a proposed new 1920-acre Drilling and Spacing Unit (DSU). On-site production facilities include four oil tanks, two produced water tanks, four vapor recovery units, one vapor recovery tower, one heater-treater, two gas compressors, one meter/sales building, one LACT unit, and various other minor production related equipment.

Surface Lands:

The proposed Oil and Gas Location lies on Fee Surface and is located outside of the mineral development area. The operator is the surface owner; no Surface Use Agreement is required.

The proposed location requires a new surface disturbance of 13 acres (to be reclaimed to 9.3 acres after interim reclamation). The access roads require a total disturbance of 1.767 acres.

Mineral Lands and Development:

Crestone has proposed wells for this OGDG with the intent to develop Fee minerals as follows:

- A 1,920-acre DSU is being requested in this OGDG application for all of sections 31, 32, and 33;
- Seven (7) three-mile long horizontal wells, to be drilled from east to west, will produce hydrocarbons from the Niobrara formation;
- There is one horizontal well currently producing in sections 32 & 33 from the nearby Blue 3-65 23-33 1H Location (Location ID# 439625); neither this well nor this existing Location will be included as part of the Blue OGDG - the existing well will remain subject to its original DSU and Order.

Financial Assurance:

Staff confirmed that Crestone has a valid blanket plugging bond of \$100,000 for this OGDG, as well as a valid excess inactive plugging bond. No additional bonding is required per current COGCC Rules.

LOCAL GOVERNMENT PERMITTING AND PRE-APPLICATION CONSULTATIONS

Relevant Local and Proximate Governments:

The City of Aurora is the relevant local government for the OGDG. Adams and Arapahoe Counties are the proximate local governments to the proposed OGDG.

Local Permit with the City of Aurora:

Crestone indicated that a siting permit application was submitted by Crestone to the City of Aurora Planning Department on June 29, 2021. The siting permit was approved and issued on October 13, 2021 and a copy of the local siting permit decision is attached to the Form 2As.

ADMINISTRATIVE CONSIDERATIONS

Crestone did not request a variance from COGCC rules or a Lesser Impact Area Exemption for any required information or Plan on this OGDG.

PUBLIC COMMENTS

The public comment period was open for 30 days from November 30, 2021 to December 30, 2021, per Rule 303.d.(1).A.ii. No public comments were received on the Form 2A during the Public Comment Period. No public comments were received in the eFiling system as of February 15, 2022.

COGCC STAFF'S TECHNICAL REVIEW HIGHLIGHTS

This section addresses issues related to siting, public health, safety, welfare, the environment, and wildlife resources, within the context of SB 19-181 for Crestone's proposed location in the Blue 3-65 33-32-31 OGD.

Alternative Location Analysis (ALA)

The proposed location does not meet any of the criteria listed in Rule 304.b.(2); an ALA was not required and none was submitted. Staff identified no significant concerns regarding the siting of the OGD or the proposed Location.

Public Health, Safety, and Welfare Considerations

Staff confirmed there are no Residential Building Units (RBUs), High Occupancy Building Units, School Facilities, or Child Care Centers within 2,000 feet of the proposed Location. The nearest RBU is approximately 2,728 feet southwest of the WPS and across Interstate 70. The OGD is not within a Disproportionately Impacted (DI) Community, nor is the proposed Location within 2,000 feet of a Building Unit within a DI Community. The proposed Location is approximately 1,800 feet north of a DI Community boundary.

Staff concludes that there are no significant potential direct adverse impacts to public health, safety, and welfare.

Environmental Resource Considerations

Water Resources:

The Operator indicated that the proposed Oil and Gas Location does lie within a Sensitive Area for water resources due to an estimated depth to groundwater greater of approximately 18 feet below ground surface. The nearest downgradient Waters of the State is approximately 1,661 feet to the northwest. There are no wetlands within one mile of the proposed Location. The proposed Location is not within a mapped floodplain.

Site Specific Measures to Address Water Resources:

Crestone provided BMPs to ensure the protection of possible shallow groundwater at the location. Staff has reviewed those BMPs and included them on the Form 2A. A summary of Crestone's relevant minimization and mitigation measures includes:

1. Continuous monitoring and third-party systems will be used to track fluid volumes and monitor for leaks.
2. Drill rig will be placed on an impervious plastic liner including four-inch to six-inch high berm walls.
3. Temporary portable containers (e.g. drums) are stored inside plastic lined or other impervious containment.
4. General secondary containment (impervious liner) will be placed under equipment.
5. Fluid storage tanks on the location will be equipped with mechanical (visual) level indicators that are inspected by operation personnel.

6. Secondary containment will be installed with an impervious liner and will be sized to 150% of the largest storage tank.

COGCC Staff Analysis of Water Resource Considerations:

Based on this information, Staff concludes the risk of contamination from this location to groundwater will be minimized by the successful implementation of the proposed BMPs.

Wildlife Resource Considerations

Staff evaluated the Location's potential for adverse impacts to wildlife resources through desktop review and Crestone's Wildlife Protection Plan. The proposed location is not in, or within one mile of, a Colorado Parks and Wildlife (CPW) mapped High Priority Habitat (HPH). A CPW-mapped Burrowing Owl Active Nest site is approximately 3,900 feet northeast of the WPS; this nest is not HPH and no consultation with CPW is required.

Staff concludes that there are no significant potential direct adverse impacts to wildlife resources. Crestone will comply with all applicable 1200-Series Rules regarding the protection of wildlife resources.

DIRECTOR'S RECOMMENDATION:

The Director has obtained and fully reviewed all required and supplemental information necessary to evaluate the OGD's proposed operation and its potential impacts on public health, safety, welfare, the environment and wildlife resources. Through this review, the Director has determined that this OGD complies with all applicable requirements of the Commission's Rules. The Director recommends that the Commission approve the Crestone Blue 3-65 33-32-31 OGD.

**FORM
2A**Rev
01/21**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:

402779501

Date Received:

09/15/2021

Oil and Gas Location Assessment

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 <https://cogcc.state.co.us/> for all accompanying information pertinent this Oil and Gas Location Assessment.

Location ID:

OGDP ID:

Expiration Date:

☒ New Location ☐ Refile ☐ Amend Existing Location # _____

If this Location assessment is a component of an Oil and Gas Development Plan (OGDP) application, enter the OGDP docket number(s).

Docket Number	OGDP ID	OGDP Name
210900150		

If this Location assessment is part of an approved Oil and Gas Development Plan, enter the OGDP ID number(s).

OGDP ID Number	OGDP Name
481173	Blue 3-65 33-32-31

CONSULTATION

- ☐ This location is included in a Comprehensive Area Plan (CAP). CAP ID # _____
- ☐ This Location or its associated new access road, utility, or Pipeline corridor meets Rule 309.e.(2).A, B, or C.
- ☐ This Location is within 2,640 feet of a GUDI or Type III Well per Rule 411.b.(4).
- ☐ This Location includes a Rule 309.e.(2).E variance request.
- ☐ This location includes a Rule 309.f.(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: Kathy Denzer

Phone: (720) 822-8083

Fax: ()

email: RegulatoryState@crestonepr.com

FINANCIAL ASSURANCE

- ☒ Plugging and Abandonment Bond Surety ID (Rule 706): 20160104 ☐ Gas Facility Surety ID (Rule 711): _____
- ☐ Waste Management Surety ID (Rule 704): _____

LOCATION IDENTIFICATIONName: Blue Number: 3-65 33-32-31

Provide the location description and the latitude and longitude of a single point near the center of the Working Pad Surface as a reference for this Location.

Quarter: NWSW Section: 34 Township: 3S Range: 65W Meridian: 6 Ground Elevation: 5593Latitude: 39.746222 Longitude: -104.657704GPS Quality Value: 1.7 Type of GPS Quality Value: PDOP Date of Measurement: 10/27/2020

RELATED REMOTE LOCATIONS

(Enter as many Related Locations as necessary. Enter the Form 2A document # only if there is no established COGCC Location ID#)

This proposed Oil and Gas Location is: LOCATION ID # FORM 2A DOC #



RELEVANT LOCAL GOVERNMENT SITING INFORMATION

County: ADAMS Municipality: Aurora

Per § 34-60-106 (1)(f)(I)(A), the following questions pertain to the "Relevant Local Government approval of the siting of the proposed oil and gas location."

This proposed Oil and Gas Location is in an area designated as one of State interest and subject to the requirements of § 24-65.1-108, C.R.S. No

Does the Relevant Local Government regulate the siting of Oil and Gas Locations, with respect to this location? Yes

A siting permit application has been submitted to the Relevant Local Government for this proposed Oil and Gas Location: Yes

Date Relevant Local Government permit application submitted: 06/29/2021

Current status or disposition of the Relevant Local Government permit application for this proposed Oil and Gas Location: Approved

Status/disposition date: 10/13/2021

If Relevant Local Government permit has been approved or denied, attach final decision document(s).

Provide the contact information for the Relevant Local Government point of contact for the local permit associated with this proposed Oil and Gas Location:

Contact Name: Jeffrey Morre Contact Phone: 303-739-7676

Contact Email: jsmoore@auroragov.org

PROXIMATE LOCAL GOVERNMENT INFORMATION

For every Proximate Local Government (PLG) associated with this proposed Oil and Gas Location, provide the PLG's point of contact and their contact information.

Type of Proximate Govt	County	Municipality	Contact Name	Contact Phone	Contact Email
County	ADAMS		Greg Dean	720.523.6891	gdean@adcogov.org
County	ARAPAHOE		Diane Kocis	720-425-0422	dkocis@arapahoegov.com

FEDERAL PERMIT INFORMATION

A Federal drilling permit (or related siting application) has been submitted for this proposed Oil and Gas Location: No

Date submitted: _____

Current status or disposition of the Federal drilling permit (or related siting application) for this proposed Oil and Gas Location: _____

Status/disposition Date: _____

If Federal agency permit has been approved or denied, attach the final decision document(s).

Provide the contact information of the Federal point of contact for the Federal permit associated with this proposed Oil and Gas Location.

Contact Name: _____ Contact Phone: _____

Contact Email: _____ Field Office: _____

Additional explanation of local and/or federal process:

There are no federal leases involved in this Form 2A.

RELEVANT LOCAL GOVERNMENT OR FEDERAL PRE-APPLICATION CONSULTATION

Complete this section for any pre-application consultation related to this proposed Oil and Gas Location that occurred prior to the submission of this Form 2A. If a pre-application Formal Consultation Process occurred, attach a Consultation Summary.

Did a pre-application Formal Consultation Process occur with the Relevant Local Government per Rule 301.f.(3)? No

Date of local government consultation: _____

Did a pre-application Formal Consultation Process occur with the Federal land manager per Rule 301.f.(3)? No

Date of federal consultation: _____

Was an ALA that satisfies Rule 304.b.(2).C (or substantially equivalent information per Rule 304.e) developed during a federal or local government permit application process? If yes, attach the ALA to the Form 2A. No

ALA APPLICABILITY AND CRITERIA

Complete this section for any pre-application consultation related to this proposed Oil and Gas Location that occurred prior to the submission of this Form 2A. If a pre-application Formal Consultation Process occurred, attach a Consultation Summary.

Does the proposed Oil and Gas Location meet any of the criteria listed in Rule 304.b.(2)B? No

If YES, indicate by checking the box for every Rule 304.b.(2).B criterion met by this proposed Location, and attach an ALA. See Rule 304.b.(2).B.i-x for full text of criteria.

- | | |
|---|--|
| <input type="checkbox"/> i. WPS < 2,000 feet from RBU/HOBU | <input type="checkbox"/> vi.aa. WPS within a surface water supply area |
| <input type="checkbox"/> ii. WPS < 2,000 feet from School/Child Care Center | <input type="checkbox"/> vi.bb. WPS < 2,640 feet from Type III or GUDI well |
| <input type="checkbox"/> iii. WPS < 1,500 feet from DOAA | <input type="checkbox"/> vii. WPS within/immediately upgradient of wetland/riparian corridor |
| <input type="checkbox"/> iv. WPS < 2,000 feet from jurisdictional boundary and PLG objects/requests ALA | <input type="checkbox"/> viii. WPS within HPH and CPW did not waive |
| <input type="checkbox"/> v. WPS within a Floodplain | <input type="checkbox"/> ix. Operator using Surface bond |
| | <input type="checkbox"/> x. WPS < 2,000 feet from RBU/HOBU/School within a DIC |

Is the proposed Oil and Gas Location within the exterior boundaries of the Southern Ute Indian Reservation, and the Tribe objects to the Location or requests an ALA? If YES, attach an ALA to the Form 2A. No

Operator requests the Director waive the ALA requirement per Rule 304.b.(2).A.i: ☐

Provide an explanation for the waiver request, and attach supporting information (if necessary).

ALTERNATIVE LOCATIONS DASHBOARD

List every alternative location reviewed and included in the ALA. Provide a latitude and longitude for the approximate center of the alternative location, all Rule 304.b.(2).B Criteria met, if a variance would be required to permit the location, and a brief comment on the key points of the alternative location.

304.b.(2).B.i-x Criteria Met:

< No row provided >

SURFACE & MINERAL OWNERSHIP

Surface Owner Info:

Name: Crestone Peak Resources

Phone: _____

Address: 1801 California St.

Fax: _____

Address: Suite 2500Email: jsonnier@civiresources.comCity: Denver State: CO Zip: 80202Surface Owner at this Oil and Gas Location: ☒ Fee ☐ State ☐ Federal ☐ IndianCheck only one: ☒ The Operator/Applicant is the surface owner.☐ The Operator has a signed Surface Use Agreement for this Location – attach SUA.☐ All operations on this Oil & Gas Location will develop the minerals beneath the Location, and the surface owner owns the minerals beneath this Location and is committed to an oil and gas lease – attach lease map or provide lease description.☐ All operations on this Oil & Gas Location will develop the minerals beneath the Location, and the Operator intends to use a surface bond per Rule 703 to secure access to this Location – attach lease map or provide lease description.Surface Owner protection Financial Assurance type: N/A

Surety ID Number: _____

Mineral Owner beneath this Oil and Gas Location: ☒ Fee ☐ State ☐ Federal ☐ IndianMinerals beneath this Oil and Gas Location will be developed from or produced to this Oil and Gas Location: No

Lease description if necessary: _____

SITE EQUIPMENT LIST

Indicate the number and type of major equipment components planned for use on this Oil and Gas Location:

Wells	<u>7</u>	Oil Tanks	<u>4</u>	Condensate Tanks	<u>0</u>	Water Tanks	<u>2</u>	Buried Produced Water Vaults	<u>0</u>
Drilling Pits	<u>0</u>	Production Pits	<u>0</u>	Special Purpose Pits	<u>0</u>	Multi-Well Pits	<u>0</u>	Modular Large Volume Tank	<u>2</u>
Pump Jacks	<u>0</u>	Separators	<u>0</u>	Injection Pumps	<u>0</u>	Heater-Treaters	<u>1</u>	Gas Compressors	<u>2</u>
Gas or Diesel Motors	<u>0</u>	Electric Motors	<u>0</u>	Electric Generators	<u>0</u>	Fuel Tanks	<u>0</u>	LACT Unit	<u>1</u>
Dehydrator Units	<u>0</u>	Vapor Recovery Unit	<u>4</u>	VOC Combustor	<u>0</u>	Flare	<u>0</u>	Enclosed Combustion Devices	<u>2</u>
Meter/Sales Building	<u>1</u>	Pigging Station	<u>0</u>	Vapor Recovery Towers	<u>1</u>				

OTHER PERMANENT EQUIPMENT

Permanent Equipment Type	Number
Pipe Rack	<u>4</u>
Combustor Knockout	<u>2</u>
Sales Gas Scrubber	<u>1</u>
Recycle Pump	<u>1</u>
Instrument Air Skid	<u>1</u>
Communications Tower	<u>1</u>
Fuel Gas Scrubber	<u>1</u>
Oil Pump Skid	<u>1</u>
Combustors	<u>2</u>
Flowline Inlet Manifold	<u>1</u>
Electrical Rack	<u>1</u>

OTHER TEMPORARY EQUIPMENT

Temporary Equipment Type	Number
VRU	2
Choke manifold	1
Enclosed Combustion Devices	2
Gas buster	1
Scrubber tank	1
Vapor/frac tanks	12
Separator	3

GAS GATHERING COMMITMENT

Operator commits to connecting to a gathering system by the Commencement of Production Operations? Yes

If the answer is NO, a Gas Capture Plan consistent with the requirements of Rule 903.e MUST be attached on the Plans tab.

FLOWLINE DESCRIPTION

Per Rule 304.b.(6), provide a description of all onsite and off-location oil, gas, and/or water flowlines.

From the wellheads, carbon steel flowlines run to an inlet manifold which routes flow to either separators or bulk 2 phase separators. High pressure gas from the bulk 2 phase and test separators is sent down the sales gas line to a third party. The liquid from the bulk 2 phase separators is carried to bulk 3 phase separators for further processing. Low pressure gas off the 3 phase bulk and test separators is sent to a vapor recovery unit to compress the low pressure gas so it can be sent down the high pressure sales line to a third party. Oil from the bulk and test 3 phase separators is transferred to a vapor recovery tower then to tankage for storage. Water from the bulk and test 3 phase separators is transferred to the water tanks for storage.

CULTURAL DISTANCE AND DIRECTION

Provide the distance and direction to the nearest cultural feature as measured from the edge of the Working Pad Surface.

			Rule 604.b Conditions Satisfied (check all that apply):					
	Distance		Direction	604.b. (1)	604.b. (2)	604.b. (3)	Details of Condition(s)	604.b. (4)
Building:	2059 Feet		NW					
Residential Building Unit (RBU):	2728 Feet		SW	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
High Occupancy Building Unit(HOBU)	5280 Feet		W	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
Designated Outside Activity Area:	5280 Feet		NW					
Public Road:	1625 Feet		SW					
Above Ground Utility:	1589 Feet		SW					
Railroad:	989 Feet		SW					
Property Line:	118 Feet		N					
School Facility:	5280 Feet		SW					
Child Care Center:	5280 Feet		SW					
Disproportionately Impacted (DI) Community:	1896 Feet		S					
RBU, HOBU, or School Facility within a DI Community.	2728 Feet		SW	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>

RULE 604.a.(2). EXCEPTION LOCATION REQUEST

☐ Operator requests an Exception Location Request from Rule 604.a.(2) [well is less than 150 feet from a property line]. Exception Location Request Letter and Waiver signed by offset Surface Owner(s) must be attached.

CULTURAL FEATURE INFORMATION REQUIRED BY RULE 304.b.(3).B.

Provide the number of each Cultural feature identified within the following distances, as measured from the Working Pad Surface:

	0-500 feet	501-1,000 feet	1,001-2,000 feet
Building Units	<u>0</u>	<u>0</u>	<u>0</u>
Residential Building Units	<u>0</u>	<u>0</u>	<u>0</u>
High Occupancy Building Units	<u>0</u>	<u>0</u>	<u>0</u>
School Properties	<u>0</u>	<u>0</u>	<u>0</u>
School Facilities	<u>0</u>	<u>0</u>	<u>0</u>
Designated Outside Activity Areas	<u>0</u>	<u>0</u>	<u>0</u>

CONSTRUCTION

Size of disturbed area during construction in acres: 13.00

Size of location after interim reclamation in acres: 9.30

Estimated post-construction ground elevation: 5594

DRILLING PROGRAM

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 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

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Method: Commercial Disposal

Cutting Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Beneficial reuse or land application plan submitted?

Reuse Facility ID: or Document Number:

Centralized E&P Waste Management Facility ID, if applicable:

CURRENT LAND USE

Current Land Use: check all that apply per Rule 304.b.(9).

Crop Land: ☐ Irrigated ☒ Non-Irrigated ☐ Conservation Reserve Program (CRP)

Non-Crop Land: ☐ Rangeland ☐ Forestry ☐ Recreation ☐ Other

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

Describe the current land use:

Current land use is non-irrigated crop land.

Describe the Relevant Local Government's land use or zoning designation:

Airport District

Describe any applicable Federal land use designation:

FINAL LAND USE

Final Land Use: check all that apply per Rule 304.b.(9).

Crop Land: ☐ Irrigated ☒ Non-Irrigated ☐ Conservation Reserve Program (CRP)
Non-Crop Land: ☐ Rangeland ☐ Forestry ☐ Recreation ☐ Other
Subdivided: ☒ Industrial ☐ Commercial ☐ Residential

REFERENCE AREA INFORMATION

If Final Land Use includes Non-Crop Land (as checked above), the following information is required:

Describe landowner's designated final land use(s):

Industrial. This parcel is owned by the operator and intends to use it for oil and gas.

Reference Area Latitude: _____ Reference Area Latitude: _____

Provide a list of plant communities and dominant vegetation found in the Reference Area.

< No row provided >

Noxious weeds present: _____ No _____

SOILS

List all soil map units that occur within the maximum extent of the proposed Oil and Gas Location. Attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" listing the typical vertical soil profile(s). This data is to be used when segregating topsoil.

The required information can be obtained from the NRCS website at <https://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/> or from the COGCC website GIS Online map page. Instructions are provided within the COGCC website help section.

NRCS Map Unit Name: NRCS Map Unit PIC Platner Loam 3 to 5%

NRCS Map Unit Name: NRCS Map Unit Adena-Colby association

NRCS Map Unit Name: _____

GROUNDWATER AND WATER WELL INFORMATION

Provide the distance and direction, as measured from the Working Pad Surface, to the nearest:

water well: 1686 Feet E

Spring or Seep: 5280 Feet E

Estimated depth to shallowest groundwater that can be encountered at this Oil and Gas Location: 18 Feet

Basis for estimated depth to and description of shallowest groundwater occurrence:

Depth to shallowest groundwater that can be encountered at this Oil and Gas Location was determined by Water Well Permit #251827 located in T4S R65W Sec. 9: SENE.

SURFACE WATER AND WETLANDS

Provide the distance and direction to the nearest downgradient surface Waters of the State, as defined 1661 Feet NW
in the 100-Series Rules, measured from the Working Pad Surface:

If less than 2,640 feet, is the Waters of the State identified above within 15 stream miles upstream of a Public Water
System intake? No

Provide the distance and direction to the nearest downgradient wetland, measured from the Working

Pad Surface: 5280 Feet S

Provide a description of the nearest downgradient surface Waters of the State:

The nearest downgradient surface Waters of the State is a Riverine habitat classified as R4SBA NW of the Location.

If the proposed Oil and Gas Location is within a Rule 411.a Surface Water Supply Area buffer zone, select the buffer zone type: _____

Public Water System Administrator - Contact Name _____ Email _____

If the proposed Oil and Gas Location is within a Rule 411.b GUDI/Type III buffer zone, select the buffer zone type: _____

Public Water System Administrator - Contact Name _____ Email _____

Is a U.S. Army Corps of Engineers Section 404 permit required for the proposed Oil and Gas Location, access road, or associated pipeline corridor? No

If a U.S. Army Corps of Engineers Section 404 permit is required, provide the permit status, and permit number if available:

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

☒ Federal (FEMA) ☐ State ☐ County ☐ Local

☐ Other _____

Does this proposed Oil and Gas Location lie within a Sensitive Area for water resources, as defined in the 100-Series Rules? Yes

CONSULTATION, WAIVERS, AND EXCEPTIONS

When Rule 309.e.(2) Consultation must occur, check all that apply:

- ☐ This location is included in a Wildlife Mitigation Plan
- ☐ This Oil and Gas Location or associated new access road, utility, or pipeline corridor falls within federally designated critical habitat or an area with a known occurrence for a federal or Colorado threatened or endangered species. Provide description in Comments section of Submit tab.
- ☐ This Oil and Gas Location or associated new access road, utility, or pipeline corridor falls within an existing conservation easement established wholly or partly for wildlife habitat. Provide description in Comments section of Submit tab.

When Rule 309.e.(3) Consultation is not required, check all that apply:

- ☐ This Oil and Gas Location has been included in a previously approved, applicable Wildlife Protection Plan.
- ☐ This Oil and Gas Location has been included in a previously approved, applicable Wildlife Mitigation Plan.
- ☐ This Oil and Gas Location has been included in a previously approved, applicable conservation plan.

Pre-application Consultation:

- ☐ A pre-application consultation with CPW, regarding this Oil and Gas Location, occurred _____ on:

CPW Waivers and Exceptions (check all that apply and attach all CPW waivers to this Form 2A):

- ☐ The applicant has obtained a Rule 304.b.(2).B.viii CPW waiver for the requirement to complete an ALA.
- ☐ The applicant has obtained a Rule 309.e.(2).G CPW waiver and consultation is not required.
- ☐ The applicant has obtained a Rule 309.e.(5).D.i CPW waiver and is requesting an exception from Rule 1202.c.(1).R.

- ☐ The applicant has obtained a Rule 309.e.(5).D.ii CPW waiver and is requesting an exception from Rule 1202.c.(1).S.
- ☐ The applicant has obtained a Rule 309.e.(5).D.iii CPW waiver of Rule 1202.c.(1).T.
- ☐ The applicant has obtained a Rule 309.e.(5).D.iv CPW waiver and is requesting an exception from Rule 1202.c.(1) in accordance with an approved CAP.
- ☐ The applicant has obtained a Rule 1202.a CPW waiver.
- ☐ The applicant has obtained a Rule 1202.b CPW waiver.
- ☐ In accordance with Rule 1203.a.(3), the applicant requests an exception from compensatory mitigation Rule(s): _____

HIGH PRIORITY HABITAT AND COMPENSATORY MITIGATION

This Oil and Gas Location, associated access roads, utility, or Pipeline corridor falls wholly or partially within the following High Priority Habitats (Note: dropdown options are abbreviated - see Rule 1202 for full rule text):

< No row provided >

The following questions are for Oil and Gas Locations that cause the density to exceed one Oil and Gas Location per square mile in Rule 1202.d High Priority Habitat:

Direct Impacts:

Is Compensatory Mitigation required per Rule 1203.a for this Oil and Gas Location? No

Is a Compensatory Mitigation Plan proposed to address direct impacts for this Oil and Gas Location? No

Have all Compensatory Mitigation Plans been approved for this No Location?

If not, what is the current status of each Plan?

A Compensatory Mitigation Plan is not required for this location.

Is a Compensatory Mitigation Fee proposed for this Oil and Gas Location? No

Direct impact habitat mitigation fee amount: \$ _____

Indirect Impacts:

Is Compensatory Mitigation required per Rule 1203.d for this Oil and Gas Location? No

Is a Compensatory Mitigation Plan proposed to address indirect impacts for this Oil and Gas Location? No

Have all Compensatory Mitigation Plans been approved for this No Location?

If not, what is the current status of each Plan?

A Compensatory Mitigation Plan is not required for this location.

Is a Compensatory Mitigation Fee proposed for this Oil and Gas Location? No

Indirect impact habitat mitigation fee amount: \$ _____

Operator Proposed Wildlife BMPs

No BMP

CPW Proposed Wildlife BMPs

No BMP

AIR QUALITY MONITORING PROGRAM

Will the Operator install and administer an air quality monitoring program at this Location? Yes

Operator Proposed BMPs

No BMP

CDPHE Proposed COAs OR BMPs

No BMP

PLANS

Total Plans Uploaded: 16

- ☐ (1) Emergency Spill Response Program consistent with the requirements of Rules 411.a.(4).B, 411.b.(5).B, & 602.j
- ☒ (2) Noise Mitigation Plan consistent with the requirements of Rule 423.a
- ☒ (3) Light Mitigation Plan consistent with the requirements of Rule 424.a
- ☒ (4) Odor Mitigation Plan consistent with the requirements of Rule 426.a
- ☒ (5) Dust Mitigation Plan consistent with the requirements of Rule 427.a
- ☒ (6) Transportation Plan
- ☒ (7) Operations Safety Management Program consistent with the requirements of Rule 602.d
- ☒ (8) Emergency Response Plan consistent with the requirements of Rule 602.j
- ☐ (9) Flood Shut-In Plan consistent with the requirements of Rule 421.b.(1)
- ☐ (10) Hydrogen Sulfide Drilling Operations Plan consistent with the requirements of Rule 612.d
- ☒ (11) Waste Management Plan consistent with the requirements of Rule 905.a.(4)
- ☐ (12) Gas Capture Plan consistent with the requirements of Rule 903.e
- ☒ (13) Fluid Leak Detection Plan
- ☒ (14) Topsoil Protection Plan consistent with the requirements of Rule 1002.c
- ☒ (15) Stormwater Management Plan consistent with the requirements of Rule 1002.f
- ☒ (16) Interim Reclamation Plan consistent with the requirements of Rule 1003
- ☒ (17) Wildlife Plan consistent with the requirements of Rule 1201
- ☒ (18) Water Plan
- ☒ (19) Cumulative Impacts Plan
- ☐ (20) Community Outreach Plan
- ☒ (21) Geologic Hazard Plan

VARIANCE REQUESTS

Check all that apply:

- ☐ This proposed Oil and Gas Location requires the approval of a Rule 502.a variance from COGCC Rule or Commission

Order number: _____

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

RULE 304.d LESSER IMPACT AREA EXEMPTION REQUESTS

Check the boxes below for all Exemptions being requested. Lesser Impact Area Exemption Request must be attached, and will include all requested exemptions.

- | | |
|--|--|
| <input type="checkbox"/> 304.b.(1). Local Government Siting Information | <input type="checkbox"/> 304.c.(1). Emergency Spill Response Program |
| <input type="checkbox"/> 304.b.(2). Alternative Location Analysis | <input type="checkbox"/> 304.c.(2). Noise Mitigation Plan |
| <input type="checkbox"/> 304.b.(3). Cultural Distances | <input type="checkbox"/> 304.c.(3). Light Mitigation Plan |
| <input type="checkbox"/> 304.b.(4). Location Pictures | <input type="checkbox"/> 304.c.(4). Odor Mitigation Plan |
| <input type="checkbox"/> 304.b.(5). Site Equipment List | <input type="checkbox"/> 304.c.(5). Dust Mitigation Plan |
| <input type="checkbox"/> 304.b.(6). Flowline Descriptions | <input type="checkbox"/> 304.c.(6). Transportation Plan |
| <input type="checkbox"/> 304.b.(7). Drawings | <input type="checkbox"/> 304.c.(7). Operations Safety Management Program |
| <input type="checkbox"/> 304.b.(8). Geographic Information System (GIS) Data | <input type="checkbox"/> 304.c.(8). Emergency Response Plan |
| <input type="checkbox"/> 304.b.(9). Land Use Description | <input type="checkbox"/> 304.c.(9). Flood Shut-In Plan |
| <input type="checkbox"/> 304.b.(10). NRCS Map Unit Description | <input type="checkbox"/> 304.c.(10). Hydrogen Sulfide Drilling Operations Plan |
| <input type="checkbox"/> 304.b.(11). Best Management Practices | <input type="checkbox"/> 304.c.(11). Waste Management Plan |
| <input type="checkbox"/> 304.b.(12). Surface Owner Information | <input type="checkbox"/> 304.c.(12). Gas Capture Plan |
| <input type="checkbox"/> 304.b.(13). Proximate Local Government | <input type="checkbox"/> 304.c.(13). Fluid Leak Detection Plan |
| <input type="checkbox"/> 304.b.(14). Wetlands | <input type="checkbox"/> 304.c.(14). Topsoil Protection Plan |
| <input type="checkbox"/> 304.b.(15). Schools and Child Care Centers | <input type="checkbox"/> 304.c.(15). Stormwater Management Plan |
| | <input type="checkbox"/> 304.c.(16). Interim Reclamation Plan |
| | <input type="checkbox"/> 304.c.(17). Wildlife Plan |
| | <input type="checkbox"/> 304.c.(18). Water Plan |
| | <input type="checkbox"/> 304.c.(19). Cumulative Impacts Plan |
| | <input type="checkbox"/> 304.c.(20). Community Outreach Plan |
| | <input type="checkbox"/> 304.c.(21). Geologic Hazard Plan |

OPERATOR COMMENTS AND SUBMITTAL

Comments	<p>This location is included in Crestone's Box Elder Rule 314 Comprehensive Area Plan boundary. Given the anticipated timeframes associated with approval of the Box Elder CAP, Crestone made the strategic decision in early 2021 to proceed with a limited number of Aurora OGDs in advance of the CAP (Lone Tree and Blue) to avoid a year+ hold on all Aurora permitting. Those pad's cumulative impacts have been reflected in the Box Elder CAP CI Statement, and the siting is accurately reflected.</p> <p>The Blue 3-65 33-32-31 location has been approved by the City of Aurora planning department. Please find attached the Administrative Decision Letter approving the location. The site location is also approved by the Operator Agreement. There was a Neighborhood Meeting on September 13, 2021. Only 3 residents attended and they did not have any questions.</p>
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I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: _____ Date: 09/15/2021 Email: agross@upstreampm.com

Print Name: Andrea Gross Title: Permit Agent

Based on the information provided herein, this Oil and Gas Location Assessment complies with COGCC Rules, applicable orders, and SB 19-181 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.

Condition of Approval

COA Type

Description

0 COA

Best Management Practices

No BMP/COA Type

Description

1 General Housekeeping

E&P wastes will be transported offsite via truck by a licensed transporter to a licensed third party solid waste disposal facility/landfill. Frequency of these operations will vary by site based on waste volumes but will be temporary in most cases. Waste will be stored on location in compatible container or containment devices designed or engineered for the purposes for which they will be utilized. These containers will be inspected on a regular basis to ensure that no undue wear, structural issues, severe rust, other defects, which may impact their effectiveness. Drilling fluids are recovered and will be separated from the cuttings at surface. At the end of its use on a particular well, the liquid synthetic mud will be reused for additional drilling operations, or it will be returned to then vendor who originally supplied the mud. Transportation will occur on a daily basis as required to facilitate on ongoing drilling operations in accordance with COGCC Rule 905d. Drill cuttings will be separated from liquid mud onsite, and the cuttings will be temporarily stored onsite in steel bins. Accumulated cuttings will be transported for permanent disposal to a licensed solid waste disposal facility. The actual solid waste disposal facility that will be used will depend on geographic proximity to the well being drilled. Transportation will occur on a daily basis as required to facilitate ongoing drilling operations. Any soils contaminated by E&P waste will be disposed of at a licensed third-party solid waste disposal facility/landfill. Tank bottoms will be disposed of at licensed third-party solid waste disposal facilities. Liquid wastes such as produced water will be disposed of at licensed third-party injection facilities such as those run by NGL Water Solutions.

2	Wildlife	<ol style="list-style-type: none"> 1. Inform and educate employees and contractors on wildlife conservation practices, including no harassment or feeding of wildlife; 2. Consolidate and centralize fluid collection and distribution facilities to minimize impact to wildlife; 3. Adequately size infrastructure and facilities to accommodate both current and future gas production; 4. Protect culvert inlets from erosion and sedimentation and install energy dissipation structures at outfalls; 5. Implement fugitive dust control measures; 6. Install screening or other devices on the stacks and on other openings of heater treaters or fired vessels to prevent entry by migratory birds; 7. Minimize rig mobilization and demobilization by completing or re-completing all wells from a given well pad before moving rigs to a new location; 8. To the extent practicable, share and consolidate new corridors for pipeline rights-of-way and roads to minimize surface disturbance; 9. Engineer new pipelines to reduce field fitting and reduce excessive right-of-way widths and reclamation; 10. Mow or brush hog vegetation where appropriate, leaving root structure intact, instead of scraping the surface, where allowed by the surface owner; 11. Limit access to oil and gas access roads where approved by surface owners, surface managing agencies, or local government; 12. Post speed limits and caution signs to the extent allowed by surface owners, Federal and state regulations, local government, and land use policies; 13. Use wildlife-appropriate fencing where acceptable to the surface owner; 14. Use topographic features and vegetative screening to create seclusion areas, where acceptable to the surface owner; 15. Use remote monitoring of well production to the extent practicable; 16. Reduce traffic associated with transporting drilling water and produced liquids through the use of pipelines, large tanks, or other measures; and 17. Install automated emergency response systems (e.g., high tank alarms, emergency shutdown systems). 	
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3	Storm Water/Erosion Control	<p>Reinforced rock berms (RRCs) shall be utilized immediately upstream of the culverts. Reinforced rock berms (RRBs) will also be placed intermittently along the flowline of the roadside ditches.</p> <p>Where the tributary disturbed area is greater than 1 acre, a sediment basin will be planned for the well site at the low point of the pad. It will be implemented at the downstream termination of the diversion ditches. The basin will contain silt from the upstream cut and fill slopes around the drill pad site. Periodic maintenance of the pond may be necessary to remove accumulated silt and debris. Sediment basins shall be installed before the pad site grading begins.</p> <p>Where the tributary disturbed area is less than 1 acre a sediment trap will be planned for the well site at the low point of the pad. It may be implemented at the downstream termination of the diversion ditches. The trap will contain silt from the upstream fill slopes around the pad site. Periodic maintenance of traps may be necessary to remove accumulated silt and debris. Sediment traps shall be installed before the pad site grading begins.</p> <p>Unlined diversion ditches will be constructed at the toe of the cut and fill slopes along the boundaries of the pad site. These ditches will capture sediment laden runoff from the slopes and channel it into sediment basins and/or traps. In the fill slope application, the material excavated for the ditch shall be compacted and bermed on the downhill side for an additional layer of protection. Diversion ditches shall be installed before grading work begins on the fill slopes and as soon as the pad site grading is complete on the cut slopes</p> <p>Cut and fill slopes adjacent to the pad site and access road swales shall be stabilized with seeding and mulching. It shall be applied after grading is complete in the final phase. If the seeding and mulching application does not provide adequate stabilization for the area where slopes exceed 4:1, then more robust bmp's shall be utilized.</p> <p>12" diameter sediment control logs shall be used on the downstream perimeter of the spoil and topsoil stockpiles per manufacturer specifications. Sediment control logs shall be installed in the interim phase once stockpiles have been created.</p> <p>In lieu of a vehicle tracking control (VTC), the contractor shall install an asphalt apron where a proposed access road intersects a paved public roadway. If the public roadway is gravel, a VTC is not necessary. VTC or asphalt apron shall be installed in the initial phase before the pad site grading begins.</p> <p>Type-m riprap shall be installed downstream of all culverts for a width of 4 times the culvert diameter and a length of 4 times the culvert diameter. Riprap shall be installed in the interim phase, following culvert installation.</p> <p>Steep slopes shall be protected with straw coconut blankets where indicated on the SWMP plan or where seeding and mulching application is not effective. Blanket shall be installed with seeding during the final phase.</p> <p>During construction, inspections shall be conducted every 14 days, and after a major precipitation or melt event, which has the potential to cause surface runoff.</p> <p>For sites earthwork and construction is completed, but final stabilization is not achieved due to vegetative cover, inspections shall be conducted every 30 days and exclude precipitation or melt event response. Inspections will continue until all reclaimed areas have achieved a cover of 70% the pre-construction reference vegetation (i.e. final stabilization).</p> <p>Post-construction stormwater inspections will be conducted in accordance with COGCC Rules 1002.f and 1003.e, to document the status of the location, maintenance needs, effectiveness of stormwater control measures, to evaluate pollution sources, and to document reclamation / final stabilization progress. Inspections will be managed by the Stormwater Manager and conducted by their designated representative(s). Findings, inspection records and site maps are documented electronically and available within 24 hours of any inspection. All inspection records are stored for a minimum of three years after the location has achieved final stabilization.</p> <p>Action and documentation towards completing repairs identified at the time of inspection shall be made within 24 hours of discovery.</p> <p>For maintenance items during post-construction, items will be documented and coordinated with production crews.</p> <p>Timeline for completion of maintenance items are a priority and will depend on scope; but in all cases, shall not be completed until field conditions allow for safe access, and utility clearance has been confirmed for actions requiring ground disturbance / earthwork.</p>	
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4	Material Handling and Spill Prevention	<p>Frequent and thorough inspections throughout all stages of operations.</p> <p>Procedures and training on equipment use in place to avoid and mitigate spills.</p> <p>Continuous monitoring and third-party systems will be used to track fluid volumes and monitor for leaks.</p> <p>Rig will be placed on an impervious plastic liner including four-inch to six-inch high berm walls.</p> <p>Closed loop drilling systems will be utilized.</p> <p>Temporary portable containers (e.g., drums) are stored inside plastic lined or other impervious containment.</p> <p>General secondary containment (impervious liner) will be placed under equipment.</p> <p>Active drilling fluid tanks will be equipped with a third-party measurement and alarm system (Pason Pit Volume Totalizer) to track tank volumes and changes during the drilling operation.</p> <p>Fluid storage tanks on the location will be equipped with mechanical (visual) level indicators that are inspected by operation personnel.</p> <p>Third-party continuous monitoring on integral systems in addition to routine inspections. In the event of an upset condition, Operators are notified and respond immediately.</p> <p>Regular preventative maintenance schedules followed for equipment.</p> <p>Qualified third-party inspectors will inspect equipment to evaluate compliance with COGCC Rules and Regulations and applicable technical standards.</p> <p>Secondary containment will be installed with an impervious liner.</p> <p>Secondary containment will be sized to 150% of the largest storage tank.</p> <p>Production tanks will be lined where applicable.</p> <p>Pressure and Integrity testing prior to placing equipment into service.</p> <p>All equipment will be installed and tested in accordance with applicable American Society of Mechanical Engineers (ASME) and American Petroleum Institute (API) standards.</p> <p>Underground piping on the facility will be electronically inspected prior to installation using coating deficiency detectors per COGCC 1102.I.(1).</p> <p>Flowlines will be inspected by a qualified third-party inspector who is trained in accordance with 1102.h prior to placing into service.</p> <p>Flowlines will be integrity tested per 1100 Series Rules.</p> <p>All production tanks are built in accordance with API 12F standards.</p> <p>Produced water production tanks at the facility utilize an internal liner.</p> <p>Test ports for integrity testing are installed on insulated tanks.</p> <p>Inspections of all production equipment including temporary equipment.</p> <p>Routine operational checks on the facility.</p> <p>Documented weekly inspections.</p> <p>Audio, Visual, Olfactory (AVO) inspections in accordance with COGCC Rule 609.d. and Air Quality Control Commission Regulation 7</p> <p>Annual Spill Prevention and Control Countermeasure Inspections.</p> <p>Periodic operator training on spill prevention best management practices and equipment operations.</p> <p>Fluid handling equipment will have valves and caps to mitigate leaks.</p> <p>Internal and External Tank integrity Inspections.</p> <p>Annual separator and flow through process equipment cleanouts and integrity evaluations.</p> <p>Pressure testing of all flowlines.</p> <p>Response to all spills and release in accordance with COGCC 900 Series Rules including timely reporting, response, and investigation.</p>	
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5	Dust control	<ul style="list-style-type: none"> • Application of fresh water to disturbed areas during earth moving activities. • Application of fresh water or magnesium chloride to graveled surfaces of the Site and associated roads. • Use of high-quality construction materials such as crushed granite road base, which generates less dust than other aggregates. • Limit disturbance of natural vegetation to only that area that is reasonably necessary for construction. • Re-establishment of vegetation on disturbed areas not graveled. • Covered storage containers to be used for sand, silica, proppant or similar material during hydraulic fracturing. • Establish speed limit on all access roads of 20MPH or less. Personnel failing to comply will be subject to disciplinary action. • Establish speed limit on the Site of 5MPH or less. Personnel failing to comply will be subject to disciplinary action. • Curtail scope of work during high wind conditions (sustained winds 25MPH or greater). • Regular road maintenance will include adding gravel and grading when needed per the executed Road Maintenance Agreement between the Operator and City of Aurora. • Additional management practices such as road surfacing, natural wind breaks and barriers, or automation of wells to reduce truck traffic may also be utilized to minimize fugitive dust emissions. • Crestone will use a rock base tracking pad at the access point to help remove dirt and prevent debris from collecting on all access roads. As necessary, Crestone will sweep roads nearest the access point of dirt and debris to maintain a clean entrance. • Vertically track the stockpile by heavy equipment to prevent wind and water erosion. • During construction, salvaged topsoil will be seeded and monitored for erosion and the establishment of undesirable and noxious weeds routinely. • Seeding and straw mulch application will occur on the long-term topsoil storage stockpile during interim reclamation. 	
6	Construction	<p>LIGHT MITIGATION - No permanent lighting is proposed for this project. All temporary lights will be directed toward working areas on the pad surface inward and angled approximately 45-65° downward and/or shielded to prevent direct light from leaving the site. Lighting BMPs will be used to minimize light pollution, which may include but is not limited to:</p> <ul style="list-style-type: none"> • Shielding sensitive areas with a temporary lighting barrier such as a sound/visual wall • Using automation, timers, or motion sensors to control and minimize lighting when not needed • Turning off or shielding redundant or un-needed light • Using full cut-off lighting to better direct light • Using lighting colors that reduce light intensity • Using low-glare or no-glare lighting • Watching for and removing glare points 	
7	Construction	<ul style="list-style-type: none"> • During drilling operations, current Crestone pad construction practice places Soilcrete® in a roughly 60 foot wide by 150 foot long rectangle to support the drilling rig loads, and in the remainder of the pad, plastic/rubber and oak mats are placed under the drill rig substructure and other ancillary third party equipment. • Provide adequate surface drainage in accordance with a SWMP to reduce ponding and infiltration of water into the surficial soils. The SWMP will identify surface grading and completion, utilization of swales, spillways, diversion ditches, and retention ponds to channelize and contain stormwater. • Following construction, Crestone will complete daily inspections at the Well Site to identify and document any changes in ground surface (e.g., erosion, depressions, pooling water, heaving, swelling) and implement corrective actions. 	
8	Noise mitigation	<p>AVOIDANCE - This site was selected to maximize distance to the nearest RBU which is over 2,000 feet from edge of working pad surface. Quiet-Fleet™ hydraulic fracturing technology will be utilized to decrease noise.</p> <p>MINIMIZATION - Eight foot visual berm will be installed on the south side of the Well Site. Drilling rig engine exhausts are pointed straight up. Crestone will install "quash" sound damping material in all permanent buildings that house noise sources. Crestone has completed an ambient sound level survey for this location.</p>	

9	Emissions mitigation	<p>Per CDPHE Regulation 7, continuous emissions monitoring will be performed for baseline air quality and monitoring during all pre-production operations through six months of initial production. Conducting weekly forward looking infrared (“FLIR”) camera evaluation of completions operations to minimize leaks.</p> <p>Using NeoFlo™ Drilling Fluid – a non-toxic and benzene, toluene, ethylbenzene, and xylenes (“BTEX”)-free fluid</p> <p>Piping fugitive emissions during drilling to a combustor</p> <p>Using Tier 4 dual fuel engines for completions</p> <p>Utilizing electric line power (when available) to power drilling and pumping equipment</p> <p>Fuel augmentation with compressed natural gas for the completion fleet</p> <p>Construction of facility and pipeline takeaway prior to flowback operations</p> <p>Enclosed flowback equipped with vapor recovery units piped into sales line</p> <p>Production gas connected to pipeline during flowback (green completion) and production (no flaring of production gas during pipeline downtime)</p> <p>Production oil connected to pipeline during production utilizing lease automated custody transfer (“LACT”) units</p> <p>Use of instrument air driven pneumatic controllers and pumps.</p>	
10	Odor mitigation	<ol style="list-style-type: none"> 1. Drilling rig engine exhausts are pointed straight up so as not to be directed towards any occupied buildings. 2. To mitigate the effects of odor from Crestone's operations, Crestone employ only International Association of Oil & Gas Producers (IOGP) Group III drilling base fluids with <0.5 weight % aromatics and will not use drilling fluids based on diesel. These Group III drilling fluids are odorless and contain no BTEX. 3. Drilling mud chillers are used to keep drilling fluid temperatures low. Low drilling fluid temperatures reduce the volume of fluid vaporized into the air. 4. All drilling fluids will be routed through a closed loop system. 5. No open earthen pits to store fluids or drill cuttings. 6. Drill piping is wiped down each time the drilling operation “trips” out of the hole. 7. Drill cuttings are placed in metal bins and covered to minimize odors prior to being transported to the designated waste management facilities. <p>Completions Operations - During the hydraulic fracturing process, diesel-fueled equipment is placed in a way that exhausts are pointed straight up to not direct exhaust towards any occupied buildings. Tier II or Tier IV diesel engines are used during hydraulic fracturing operations where available.</p> <p>Production Operations - During operations, tanks are sealed with a thief hatch to prevent emissions. Emission Control Devices (Combustors) will be used to combust any flash gas</p> <p>from tanks. During oil loadout operations, a Truck Loadout Vapor Recovery (TLVR) system will be used to capture and direct odorous air contaminants and emissions to a combustor.</p>	
11	Drilling/Completion Operations	<p>Water for drilling operations for the Blue 3-65 33-32-31 Pad will be sourced from a water hydrant near the intersection of 6th Avenue and N. Haysmount Road.</p> <p>Water used for completion operations will be transported by a temporary water line (“Layflat”).</p>	

12	Interim Reclamation	<p>Topsoil will be monitored regularly by Crestone personnel and during routine stormwater inspections. During construction, drilling, and completions operations, stormwater inspections will occur on a 14-day frequency and within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion. Topsoil will be salvaged from the construction area to a depth of 6 inches or to the depth of the topsoil horizon, whichever is deeper.</p> <p>The topsoil stockpile will be vertically tracked by heavy equipment to inhibit wind and water erosion during active construction.</p> <p>Salvaged topsoil will be seeded with Quickguard sterile triticale hybrid grass, or a similar performing product, while stockpiled during drilling and well completions operations. Seeding will occur when earthwork operations are complete. During normal operations and stormwater inspections, the Crestone employees and contractors will monitor the stockpile for erosion and establishment of undesirable and noxious weeds. Weeds will be treated mechanically with a mower whenever plant height exceeds 6 inches or before seed development. Chemical treatment of weeds with broad-leaf herbicides will only occur in spot-specific situations where prostrate weed growth or other site conditions preventing mechanical treatment are encountered. Soil sterilant and non-selective herbicides will not be used.</p> <p>A portion of topsoil will be used to construct a containment and visual screening berm along the southern perimeter of the pad. The berm will be maintained for long-term topsoil storage for use in final reclamation. During interim reclamation operations, the berm will be seeded with native perennial grasses and temporarily stabilized with crimped straw mulch.</p>	
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13	Interim Reclamation	<p>Seeding and mulch application will be completed within 24 hours of seedbed preparation, weather permitting.</p> <p>The seed mix will be broadcasted and drill seeded throughout the interim reclamation area.</p> <p>All seed will be certified weed free and pure live seed (PLS) rated per federal, state, county, and municipal standards.</p> <p>Certified weed free grass or wheat origin straw mulch will be uniformly applied at rate of 2,000 lbs./ per acre to cover 100% of the seed bed.</p> <p>Mulch will be properly anchored to the soil surface using a commercial straw crimper with a final orientation south to north on slopes less than 8% and on contour on greater slopes.</p> <p>Hydraulically applied tackifier/Ecomatrix BFM will be applied at a rate of 1,000 lbs./ per acre to sufficiently secure straw mulch through the first growing season on slopes greater than 8%, stabilize soils and increase moisture retention, promote seed germination and establishment, and assist in erosion prevention.</p> <p>Topsoil horizon depth will be identified based on changes in physical characteristics. Topsoil will be separated from the disturbance area to the depth of the topsoil horizon. Salvaged topsoil will be stockpiled, seeded with cover crop grasses, and the location marked or documented.</p> <p>Topsoil will not be comingled with subsoil materials during recontouring and subsoil preparation operations.</p> <p>The surface elevation will be returned as close to the original relative position and contour as practicable during pad size reduction and grading operations.</p> <p>Seeding will be completed with broadcast and drill methods.</p> <p>Certified weed free grass or wheat origin straw will be utilized for mulching operations. Mowing operations will be commenced when the height of weeds exceeds 6 inches or before seed development.</p> <p>Herbicide applications will be utilized as needed to treat prostrate, low growing, or perennial noxious weed species for which mowing methods are ineffective. Herbicide applications will be spot-specific and only broadleaf herbicides will be deployed.</p> <p>A landscape assessment will be conducted prior to ground disturbance to ensure that the recontoured reclamation surface matches pre-disturbance grade and topography. Any preexisting drainage features will be reestablished during recontouring.</p> <p>Reseeding will be completed with species consistent with the adjacent plant community.</p> <p>The selected seed mix and rate for this location is the Loamy Plains Seed Mi. Crestone will consult with the surface owner regarding the planned seed mix.</p> <p>Seeding will occur throughout the interim reclamation area, the screening berms, and at least 5 feet into the adjacent landscape.</p> <p>A 4-foot-tall wildlife fence will be installed to mitigate wildlife access to the interim reclamation area.</p> <p>An 8-foot-tall privacy fence will be installed around the pad working surface to prevent the public and wildlife from entering the Location.</p>	
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Total: 13 comment(s)

Attachment List

<u>Att Doc Num</u>	<u>Name</u>
2479430	LOCAL/FED FINAL PERMIT DECISION
2479431	NRCS MAP UNIT DESC
2479432	CORRESPONDENCE
2479433	CORRESPONDENCE
2479434	DIRECTOR'S RECOMMENDATION
402779501	FORM 2A SUBMITTED
402812879	ACCESS ROAD MAP
402812885	DIRECTIONAL WELL PLAT
402812889	HYDROLOGY MAP
402812897	LAYOUT DRAWING
402812907	LOCATION DRAWING
402812918	LOCATION PICTURES
402812921	WILDLIFE HABITAT DRAWING
402812940	GEOLOGIC HAZARD MAP
402812942	PRELIMINARY PROCESS FLOW DIAGRAMS
402812956	NRCS MAP UNIT DESC
402854002	CULTURAL FEATURES MAP
402854006	RELATED LOCATION AND FLOWLINE MAP
402858870	OIL AND GAS LOCATION GIS SHP

Total Attach: 19 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	The Director has determined that the OGD application that this Form is a component of meets all requirements of Rule 306.a. The Director's Recommendation has been attached to the Form 2A	02/17/2022
OGLA	Operator clarified how the count of combustors should be listed, corrected a typo on a piece of production equipment, provided an operator comment concerning whether this proposed location will be included in the Box Elder CAP infrastructure connections and Cumulative Impacts, corrected a typo in a Stormwater BMP, requested a BMP about the use of double walled storage tanks be removed, and concurred with removing the DIC Map as it is not required for this location.	02/17/2022
OGLA	Sent email to operator requesting how the count of combustors should be listed, correct a possible typo on a piece of production equipment, provide an operator comment indicating whether this proposed location will be included in the Box Elder CAP infrastructure connections and Cumulative Impacts, correct a typo in a Stormwater BMP, confirm whether double walled storage tanks will or will not be used, and concur with removing the DIC Map as it is not required for this location.	02/17/2022
OGLA	Operator has indicated that a neighborhood meeting was held on September 13, 2021. Only three residents attended and they did not have any questions.	02/03/2022
OGLA	Operator responded indicating the siting permit application with the Relevant Local Government (City of Aurora) has been submitted and approved, indicated no consultations were requested by the Proximate Local Governments (Adams & Arapahoe County), confirmed the distance to the nearest DI Community, provided an additional NRCS Soil Map Unit Description, concurred with indicating the proposed Oil and Gas Location is within a Sensitive Area for water resources due to possible shallow groundwater, corrected errors found in the Light Mitigation Plan, updated the Cumulative Impacts Plan, updated the Water Plan, and provided an email address for the Surface Owner.	02/03/2022
OGLA	Sent email to operator requesting they provide an update on the siting permit application with the Relevant Local Government (City of Aurora), provide an update on any consultations with the Proximate Local Governments (Adams & Arapahoe County), confirm the distance to the nearest DI Community, provide an additional NRCS Soil Map Unit Description, concur with indicating the proposed Oil and Gas Location is within a Sensitive Area for water resources due to possible shallow groundwater, correct errors found in the Light Mitigation Plan, update the Cumulative Impacts Plan, update the Water Plan, and provide an email address for the Surface Owner.	01/07/2022
OGLA	The Director has determined this OGD application is complete. Form pushed to IN PROCESS.	11/30/2021
OGLA	As part of the Completeness review, OGLA staff have identified issues with this Form 2A and have returned it to DRAFT status for the operator to address.	10/15/2021

Total: 8 comment(s)

Public Comments

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