

SUPPLEMENTAL SITE SPECIFIC WATER QUALITY MONITORING PLAN
Blue 3-65 33-32-31
Location ID pending

Crestone Peak Resources Operating, LLC
1801 California Street #2500
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ATTACHMENTS

1. DWR water sources - Blue 3-65 33-32-31 area map with one-half mile radius
2. DWR water sources inventory

1.0 - INTRODUCTION

This supplemental, site specific water quality monitoring plan was developed as an attachment to the Crestone Peak Resources Operating, LLC (Crestone) Fieldwide Water Quality Monitoring Plan for the City of Aurora, Colorado, dated September 29, 2020 (Plan), to address City of Aurora requirements for a Water Quality Monitoring plan as specified in the City of Aurora Oil and Gas Operator Agreement (OA) to monitor groundwater quality conditions around proposed oil and gas well locations within the City of Aurora.

The plan complies with the procedures, guidelines, and reporting requirements in accordance with the Colorado Oil and Gas Conservation Commission (COGCC) Model Sampling and Analysis Plan (SAP). See **Attachment A** for Plan Professional Geologist (PG) certification and **Attachment B** for Plan contacts. The contacts list will be reviewed on an annual basis unless more frequent updates are warranted.

2.0 - ENVIRONMENTAL DUE DILIGENCE

The following describes the process Crestone used for identifying up to four sampling / monitoring locations within a one-half mile radius and frequency of sampling / monitoring prior to commencement of drilling a New Well at the Blue 3-65 33-32-31 (Blue South) location.

Water sources and associated reference data for this effort were acquired from publicly available datasets, including the Colorado Division of Water Resources (DWR). Spatial analysis will be completed using queries in a geographic information system (GIS) desktop environment. For purposes of the assessment, a water source is a properly and well-maintained domestic water source registered with the DWR. When evaluating locations as potential available water sources (AWSs) for sampling / monitoring, Crestone considers water sources for which the water well owner or a landowner, as applicable, has given consent for sampling and testing and had consented to having the sample data obtained made available to the public, including without limitation, being posted on the COGCC website.

2.1 - Water Source Identification

Crestone identified all AWS within a one-half mile radius of the Blue South location and evaluated the DWR water sources using the selection, exception, and timing criteria identified in the Aurora OA. The criteria includes proximity to the proposed location, radial pattern around the new well, aquifer availability, and orientation of sampling locations.

As shown on the attached map and DWR water sources inventory, one available water source was identified within the one-half mile radius. A good faith effort will be made to contact the respective water source owner(s) to request and obtain permission for site access and collect water samples, including the acknowledgement that the sample data will be accessible to the public through the COGCC website and submitted to the City of Aurora.

2.2 - Installation of Monitoring Well

If no sample is collected from the previously identified domestic water well, Crestone will drill and construct a Westbay System or equivalent for multilevel monitoring well per the Aurora OA Requested Well criteria. A well diagram will be provided to the City of Aurora if the Requested Well is required.

3.0 - FIELD ASSESSMENT / DATA EVALUATION

Baseline and subsequent water quality scheduling, field assessments, sampling processes, and data evaluations will be completed using standard industry procedures consistent with the COGCC Model SAP and as defined in the Plan.

4.0 - PROTECTION AND MITIGATION MEASURES

If Crestone identifies degradation to water quality as a result of its oil and gas development, Crestone shall be responsible to mitigate the degradation of water quality to the applicable regulatory standards as defined in the City of Aurora OA. A mitigation plan will be developed on a case-by-case basis depending on the degradation observed and the degree of impairment. The plan will identify locations and frequency for sampling to document baseline groundwater conditions prior and subsequent to drilling activities.

5.0 - REPORTING RESULTS

Crestone will provide copies of all test results to the City of Aurora and the water source owners within 30-days after receiving the analytical results. All results will be submitted electronically to the City of Aurora contacts identified in Plan **Attachment B** unless otherwise directed by the City of Aurora.

6.0 - REFERENCES

Apex Companies, LLC (2020). *Fieldwide Water Quality Monitoring Plan – City of Aurora*.

City of Aurora (2019). *Oil and Gas Operator Agreement* (Document No. 0.337206). City of Aurora, CO.

Colorado Oil and Gas Conservation Commission. (2020). *Model Sampling and Analysis Plan Rules 609 and 318A.e(4) Colorado Oil and Gas Conservation Commission Version 2* Retrieved May 28, 2020, from https://cogcc.state.co.us/documents/about/COGIS_Help/COGCC_Model_SAP_20200414.pdf



CRESTONE PEAK
RESOURCES

Blue 3-65 33-32-31
Location ID: pending
DWR Water Sources



Crestone Peak Resources
DWR Water Source Inventory
Blue 3-65 33-32-31

Status	Receipt	Permit	Permit Status	Contact Name	County	TwN	Rng	Sec	Q40	Q160	Latitude	Longitude	Aquifer(s)	Use(s)	TD
1 -- Water source will be sampled upon landowner permission	9000351	2195-	Well Constructed	CLOUD, WILLIAM A	ADAMS	3S	65W	33	SE	SE	39.741922	-104.6619	UPPER ARAPAHOE	Domestic	860
Eliminated -- DWR location plots within the Center of the QtrQtr. Permit and desktop review unable to identify water source in area.	C010378	378-WCB	Well Constructed	KEIL, W	ADAMS	3S	65W	34	NE	SW	39.747263	-104.6501	ALL UNNAMED	Domestic	713
Eliminated -- Permit Status	59697	19440-F	Permit Expired	FAST CNSTR CO	ADAMS	3S	65W	34	SW	SW	39.740311	-104.6585	ALL UNNAMED	Other	
Eliminated -- Permit Status	0246808A	30903-F	Permit Expired	DOT-SAL INC	ADAMS	3S	65W	34	NE	SW	39.744757	-104.6507	DENVER	Municipal	
Eliminated -- Permit Status	0246808D	30906-F	Permit Expired	DOT-SAL INC	ADAMS	3S	65W	34	NE	SW	39.74473	-104.6507	ARAPAHOE	Municipal	
Eliminated -- Permit Status	203831	114551-	Permit Issued	OTIS, ELEVATOR	ADAMS	3S	65W	33	NE	NE	39.752638	-104.6619	ALL UNNAMED	Commercial	
Eliminated -- Permit Status	232566	129650-	Permit Issued	OTIS, ELEVATOR	ADAMS	3S	65W	33	NE	NE	39.752638	-104.6619	ALL UNNAMED	Commercial	
Eliminated -- Permit Status	0246808G	28665-F	Permit Issued	DOT-SAL INC	ADAMS	3S	65W	34	NE	SW	39.744703	-104.6507	ALL UNNAMED	Municipal	
Eliminated -- Permit Status	10005070	84753-F	Permit Issued	CITY OF AURORA	ADAMS	3S	65W	33	NE	SE	39.745317	-104.6601	UPPER ARAPAHOE	Commercial, Fire, Industrial, Irrigation, Other	
Eliminated -- Permit Status	3619996	66253-F	Permit Issued	AURORA CITY OF UTILITY ENTERPRISE	ADAMS	3S	65W	33	SE	SE	39.742198	-104.6629	LOWER ARAPAHOE	Industrial, Municipal	