


**COLORADO**

Oil & Gas Conservation  
Commission

Department of Natural Resources

1120 Lincoln Street, Suite 801  
Denver, CO 80203

July 1, 2016

Via Email Only

Mr. Brad Schol  
Special Projects Manager  
City of Longmont  
350 Kimbark Street  
Longmont, CO 80501

Re: COGCC Review of Annual 2016 Monitoring Report

Dear Mr. Schol,

The Colorado Oil & Gas Conservation Commission (COGCC) has reviewed the Annual 2016 Monitoring Report dated August 31, 2016, for monitoring performed at eleven oil and gas sites in Longmont. In an email to COGCC, you indicated that some of the results are above reporting levels and provided the information in case any action is warranted. We appreciate that you shared this report and have the following comments regarding the results.

### Organic Constituent Results

Only one sample collected from SGU-MW02 at the Srafini Gas Unit contained a concentration of an organic contaminant of concern (benzene) above applicable groundwater standards. COGCC has an active remediation project (#6883) open with Top Operating for the Serafini Gas Unit. They are required to continue with remediation at the site until such time that contaminants of concern in soil and groundwater comply with Table 910-1. Based on this report, COGCC has requested a status update from Top Operating in regard to Remediation #6883.

COGCC would not typically require analysis for dissolved gasses using Method RSK 175 in groundwater from shallow unconfined alluvial aquifers. The monitor wells at these locations are all completed less than 20-feet total depth. Terracon references COGCC Rule 318A.f.(8), which was developed for baseline groundwater sampling. The rule requires that compositional and stable isotope analysis be performed for samples containing > 1.0 mg/L methane. This threshold is used as a trigger for additional analysis in the baseline sampling, but is not an enforceable cleanup standard for methane in groundwater. COGCC does not

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require the operator of these locations to perform any compositional or isotopic analysis based on these results. If the City of Longmont wants to perform additional analysis, we would be happy to review those results.

### Inorganic Constituent Results

In Section 6.2 of the report, Terracon states, "The COGCC has defined the groundwater standard exceedance concentrations for chloride and sulfate to be a regional background concentration with a multiplier of 1.25." COGCC does not use a "regional background" as a basis to develop cleanup standards for chloride or sulfate under Table 910-1. In the event there is a release that causes an impact from inorganic constituents to groundwater, COGCC uses a site specific determination. Up gradient wells on a site that are determined to represent background groundwater quality would be sampled to develop a site specific concentration using the 1.25 multiplier.

Terracon's use of sample results for chloride and sulfate from all of the sample sites to develop a regional cleanup goal for chloride and sulfate is not appropriate. The chloride results were all below the 250 mg/L CDPHE Regulation 41 Drinking Water Standard for domestic water supplies.

Regarding the alleged sulfate exceedances, results indicate several detections of sulfate greater than the CDPHE 250 mg/L SMCL standard; however, COGCC would expect to see elevated sulfate in the shallow unconfined alluvial groundwater. A Scientific Investigations Report 2014-5051 published by USGS entitled Quality of Groundwater in the Denver Basin Aquifer System demonstrates that sulfate concentrations in water-table wells vary from 10.6 mg/L to 2,830 mg/L. Elevated sulfate concentrations are quite common and would not by themselves be an indicator of an oil & gas impact. The notion that a regional cleanup goal for sulfate has been exceeded is not correct.

Based on review of the results, COGCC does not require the operator to take any action regarding the inorganic results reported.

COGCC noted that several of the monitoring wells at the various locations were reported to have been damaged or destroyed. COGCC strongly encourages the City of Longmont to protect and maintain these wells to prevent them from acting as conduits for surface contaminants to impact the shallow aquifer. Wells that were destroyed or cannot be sampled should be properly abandoned in accordance with Colorado Division of Water Resources requirements.

Mr. Brad Schol  
November 16, 2016  
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Please let me know if you have any questions regarding the COGCC review of this report.

Sincerely,

A handwritten signature in black ink, appearing to read "John Axelson", written in a cursive style.

John Axelson, P.G.  
East Environmental Supervisor

Cc. Matthew J. Lepore - COGCC Director  
Greg Deranleau - COGCC Environmental Manager