



NOAV 200123526  
Facility ID 119049  
Facility ID 107649

DEPARTMENT OF NATURAL RESOURCES  
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May 6, 2008

Mr. Mark Brown  
Markus Production, Inc.  
621 17<sup>th</sup> Street, Suite 1710  
Denver, CO 80293



Re: Notice of Alleged Violation - Closure  
Jolly 41X-6 Produced Water Pit  
NENE Section 6, T-3-S, R-55-W, 6<sup>th</sup> PM  
Washington County, Colorado

Dear Mr. Brown,

Colorado Oil & Gas Conservation Commission (COGCC) staff has reviewed the two site assessment reports provided by LT Environmental dated February 29, 2008 and April 10, 2008, in regard to the referenced Notice of Alleged Violation (NOAV). The sample results for benzene, toluene, ethyl benzene and xylene (BTEX) in groundwater were below the detection limits except for one sample with a Toluene concentration far below the Colorado Groundwater Quality Standard.

The allowable concentrations of inorganic constituents in groundwater were exceeded in most of the samples based on 1.25 times the concentration of the background sample (MW-3). However, the results of the sample collected from MW-3 generally indicate groundwater of poor overall quality with same order of magnitude concentrations of inorganics. The background sample also contained higher concentrations of several metals and anions than the groundwater samples collected directly down gradient from the pit. In addition, the up gradient surface water sample collected from the spring at Plum Bush Creek also indicates water of poor overall quality.

Based on the depth to groundwater and the location of the pit next to the creek, COGCC does classify the location as a sensitive area. However, the results from the site investigation document that there is not a widespread, productive, unconfined aquifer with water of good quality at the Jolly 41X-6 location. Based on these results, no additional sampling or monitoring will be required at this time and Markus Production may resume use of the produced water pit. Should conditions change indicating there is an impact to groundwater in the future, the COGCC may require additional site investigation and remediation as appropriate.

Soil sample results indicated elevated levels of salt based on the Sodium Absorption Ratio (SAR). In the future, when the pit is closed, remediation of shallow soils and additional confirmation sampling will be required to properly close the pit. A Form 27 shall be submitted prior to closure at that time.

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During the inspection that resulted in the NOAV there was less than two feet of free board in the produced water pit as required by COGCC rule 902 c. During continued use of the pit, two feet of freeboard must be maintained. It is also the Operator's responsibility to prevent any unauthorized discharge of E&P waste. The pit dikes should be improved and maintained to prevent any release of produced water into Plum Bush Creek. In addition, the berms around the tank battery should also be improved and maintained accordingly.

A copy of the NOAV documenting the approved resolution is enclosed for your reference. If you have any questions or require additional information, please call me at 303-637-7178.

Sincerely,



John Axelson, P.G.  
Environmental Protection Specialist

Enclosures

Cc: David Neslin – COGCC Acting Director  
Debbie Baldwin – COGCC Environmental Manager  
Randall Ferguson – COGCC Environmental Supervisor  
Mike Leonard – COGCC Field Inspector  
Brian Dodek – LT Environmental