Colorado Oil and Gas Conservation Commission

Cause 1-R, Docket No. 1211-RM-04

Regulatory Analysis pursuant to §24-4-103(4.5), C.R.S.

REGULATORY ANALYSIS OF PROPOSED STATEWIDE BASELINE GROUNDWATER SAMPLING AND MONITORING RULES (RULE 609)

(I) Description of the classes of persons who will be affected by the proposed rule(s), including the classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule(s).

a. The classes of persons who will be affected by the proposed Statewide Groundwater Baseline Sampling and Monitoring Rule include:

1. Oil and gas operators
2. Groundwater users
3. Local Governments
4. Surface estate owners
5. Commission staff

b. The classes of persons who will bear the costs of the proposed Statewide Groundwater Baseline Sampling and Monitoring Rule include:

1. Oil and gas operators. The operators will bear the costs of identifying water features to be sampled, obtaining permission from water well owners, collecting water samples, analyzing samples for the required parameters, and reporting the results to the COGCC.

2. Commission staff. Additional costs associated with Commission staff time will be incurred. Additional time will be required for receiving and reviewing sample results, analyzing new groundwater data within the context of existing data, and responding to inquiries from water well owners that were selected for sampling and nearby water well owners that were not selected for sampling.

c. The classes of persons that will benefit from the Statewide Groundwater Baseline Sampling and Monitoring Rule.

1. Groundwater users. Groundwater users will be provided with data regarding the water quality of their well or spring. Initially, the program will provide baseline groundwater data. Subsequent data will be compared to the initial data to determine if an impact from oil and gas operations has occurred. In the event that oil and gas impacts are indicated, mitigation actions can be undertaken by the operators and COGCC immediately after discovery.

2. Oil and gas operators. Oil and gas operators will benefit by establishing baseline groundwater quality data, so that pre- oil and gas development conditions are understood and available for comparison to subsequent sampling data to determine if an oil and gas impact has occurred. In the event that oil and gas impacts are indicated, mitigation actions can be undertaken by the operators and COGCC immediately after discovery.

3. Local Governments. Local governments will benefit by having groundwater sample data available for their review so that they can respond to local resident concerns. Local governments will also benefit by having access to a large database of groundwater quality data within their jurisdictions.

4. Surface estate owners. Surface owners will be provided information regarding groundwater quality over several years of monitoring.

5. General Public. All data will be stored in the COGCC environmental database and made accessible via the internet.

(II) Probable quantitative and qualitative impact of the proposed rule, economic or otherwise, upon affected classes of persons.

a. Quantitative Impacts.

1. Oil and gas operators. Oil and gas operators will bear most of the costs for the proposed rule. COGCC staff completed a cost analysis for the first seven (7) years of the sampling required under the proposed rule.

The following assumptions were made for the cost analysis:

- Initial Baseline sample costs include administrative time locating and obtaining permission from water well owners, sample collection, analysis, and reporting;
- Basic lab analyses costs $690 per sample;
- Eleven percent (11%) of the samples will require isotopic analysis, adding an additional $660; and
- Subsequent monitoring sample costs include sample collection, analysis, and reporting, but no administrative expenses.

Based on these assumptions, the weighted average cost per sample is $1,877.27, bringing the total cost per location, for the 6 samples collected during the three sampling events, to $11,264.

Industry currently conducts baseline and follow-up sampling at a large percentage of Oil and Gas Locations under a voluntary program. Under the voluntary program, two locations are sampled and two sampling events occur at each location. We estimate that approximately 45% of all new locations would be sampled under the voluntary industry program. At locations that would be sampled under the voluntary program, the incremental additional sampling cost under the proposed rule would be limited to the second subsequent sampling event, or $3,526 per location in year 7.

2. Groundwater users. Groundwater users whose wells are sampled by industry will receive water sampling and analysis about their water supply free of charge. Based on the sampling costs assumed above, the value of three sampling events is $5,632.

b. Qualitative Impact.

1. Oil and gas operators. The initial baseline samples are generally viewed as a protective measure for the oil and gas operator because they reduce the likelihood of the operator being held responsible for a pre-existing groundwater condition. Many operators will collect this sample regardless of the proposed rule. Subsequent monitoring data will benefit the operators by either demonstrating no impact or by detecting an impact early enough to implement effective mitigation measures.

2. Groundwater users. Groundwater users whose wells are sampled will benefit by obtaining information about the quality of their domestic water supply. This may provide peace of mind by learning that their water has not been impacted by nearby oil and gas activities. The groundwater users may discover that their groundwater quality is good overall, or that other issues, not related to oil and gas operations, require attention.

3. Local Governments. Local governments will benefit by being better informed about the groundwater quality within their jurisdictions. This will provide a better foundation for them to respond to citizen concerns about groundwater quality.

4. Surface Estate Owners. Surface estate owners will benefit by obtaining free information about the groundwater quality of their property.

5. Commission Staff. The proposed rule will provide a much more complete groundwater data set that commission staff can use to determine if oil and gas impacts have occurred. This will strengthen our ability to execute our regulatory charge of protecting public health, safety, welfare, and the environment.

(III) Probable cost to the agency or any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues.

The estimated cost to the COGCC is in the form of staff time. Additional time will be required for receiving and reviewing sample results, analyzing new groundwater data within the context of existing data, and responding to inquiries from water well owners that were selected for sampling and nearby water well owners that were not selected for sampling. During 2013, it is estimated that 3700 new samples will be submitted to and processed by commission staff. At least 7400 samples will be submitted, under this rule, in subsequent years. It is anticipated that each sample will take 20 minutes to process. By multiplying 7400 samples per year times 0.333 hours we arrive at 2464 hours, or approximately 1 full-time employee (FTE). Salary and benefits for this additional employee, an environmental specialist, would be about $82,500.

There are no anticipated costs to other agencies.

The proposed Rule is not expected to materially affect state revenues, positively or negatively.

(IV) Comparison of probable costs and benefits of proposed rule to the probable costs and benefits of inaction.

The primary benefits of the proposed rule are set forth in Section II, above.

The only benefit of inaction is that oil and gas operators and the COGCC would not incur the costs of the program.

The cost of inaction is that a systematic, predictable approach to groundwater sampling could not be guaranteed, and assessments of groundwater impacts could only occur through existing area-specific sampling rules, the COGA Voluntary Program, or complaints from constituents. Groundwater users would likely continue to express concern regarding impacts of nearby oil and gas operations. Uncertainty as to causes of impacts to groundwater could lead to disputes and litigation over groundwater quality.

(V) Determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule.

COGCC staff does not believe there is a less costly or less intrusive method for achieving the purpose of the proposed rule. Reducing the number of locations required to be sampled, or reducing the number of samples required per location would reduce the program costs, but would also reduce the overall quantity and quality of data collected, reduce the likelihood of detecting adverse impacts, and reduce the public's confidence in the sampling program.

(VI) Description of any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule.

One alternative that was considered was to sample all available water features within a ½ mile radius of the oil and gas location. This alternative was rejected due to costs, but it is acknowledged that this alternative might increase public confidence and acceptance of the program.

A second alternative considered involved requiring one sample site per quarter section rather than the two sample sites within the ½ mile radius. This alternative was rejected because it appeared that many samples sites would not be close enough to the oil and gas activity being monitored.

A third alternative considered was to rely on the COGA Voluntary program alone. This alternative was rejected because it was felt that the COGA program was voluntary and that the sampling program fell short regarding statewide coverage of groundwater users.