

INITIAL REVIEW OF WATER QUANTITY AND QUALITY DATA FROM FOUR GEC GAS EXPLORATION WELLS IN DELTA COUNTY

EXECUTIVE SUMMARY

As part of Gunnison Energy Corporation's (GEC) commitment to sharing non-proprietary information obtained from the exploratory drilling program, Wright Water Engineers, Inc. (WWE) was asked to prepare an initial assessment report (initial report) summarizing the information obtained to date. The information was compared to WWE's March 2003 report entitled, *Analysis of Potential Impacts of Four Exploratory Natural Gas Wells to Water Resources of the South Flank of the Grand Mesa, Delta County Colorado*.

Data obtained from the four-well exploration program indicate that the March 2003 WWE report reasonably portrayed the geologic, hydrogeologic and hydrologic conditions. A side-by-side comparison of exploration observations to statements made in the March 2003 report is provided in Section 5.0 (Conclusions) of this report. The findings contained in this initial report were submitted to an independent body for peer review. Major findings in the report are as follows:

- The local water supplies were protected from GEC's drilling and exploration activities at the Spalding Peak #1, Dever Creek #1, Lone Pine #1 and Stevens Gulch #1 wells by using solid steel casing and cement as physical barriers.
- GEC did not encounter potable surface water at depths greater than approximately 800 feet. GEC encased each well in steel and cement to a depth below the potable water-bearing intervals, removing the potential risk of connection to saline water.
- Hydraulic fracturing data show that the uppermost fractures are far beneath the ground surface. No connection between the hydrofractures and shallow groundwater was established in any of the four wells, based on hydraulic pressure plots obtained during stimulation and the depths where the fracturing occurred.

- Each exploration well was drilled to an average depth of 2,400 feet or the depth of the Rollins Sandstone (i.e., the lowermost sandstone of the Mesaverde Formation immediately below the coal-bearing portion of the formation.) Very little water was evident at such depths. Analysis performed on the water encountered at these levels revealed that it was non-potable with average total dissolved solids (TDS) values between 3,900 and 14,695 (U.S. Environmental Protection Agency's [USEPA] secondary drinking water standard is 500 mg/L).
- The first naturally occurring gas was observed at depths ranging from 310 to 720 feet, at concentrations potentially perceptible in water-supply wells. The presence of gas at these depths is natural and not the result of GEC's exploration program.
- Water samples taken from Lone Pine #1, naturally produced between 1,850 and 2,250 feet, demonstrated that the water is not suitable for potable purposes. This interval was cemented and sealed off from the exploration well. Inflows appear to be associated with existing fractures.
- Onsite geological logs show very little water was evident in the Stevens Gulch #1.
- Naturally occurring water inflows at Dever Creek #1 were encountered in the interval from 300 to roughly 450 feet below the ground surface. This interval was encased in cement, causing no adverse impact to the water supply. Subsequent drilling at deeper depths found very little water.
- In Spaulding Peak #1, as expected, water was encountered in the colluvium at shallow depths to approximately 200 feet. This upper zone was cased and cemented. Intermediate casing was set and cemented to 1,200 feet. Drilling logs show little to no water inflow (except that associated with hydraulic

fracturing of the A- and B-seam coal) at depths below about 200 feet. Water samples taken from the stimulated A- and B-seam coals over a three-day period revealed high TDS, sodium, potassium, chloride and bicarbonate concentrations, making it non-potable.

Please refer to Section 5 for a more detailed discussion of findings and conclusions.