

ABSTRACT-ESN

**PRODUCED GAS AND WATER TESTING
OF CBM GAS WELLS IN THE RATON BASIN,
HUERFANO AND LAS ANIMAS COUNTIES, COLORADO**

The Colorado Oil and Gas Conservation Commission (COGCC) contracted ESN Rocky Mountain to collect and analyze produced gas and water samples from 50 selected coalbed methane gas wells in Huerfano and Las Animas Counties, Colorado. This sampling program is part of a multi-phase project being conducted by the COGCC to assess the potential impact to ground water resources in the Raton Basin. Analysis from these samples will be compared to samples collected from water wells in the area in a later phase of the project.

The 50 wells sampled were selected by the COGCC from various operators throughout the basin over an area that spanned about 20 townships. Well locations were confirmed using a handheld Global Positioning System (GPS) instrument. The gas wells are all located in the Raton Basin of south-central Colorado that covers an area of about 1,300 square miles. The producing coal bearing formations include the Raton and Vermejo Formations. Current operators of the wells include Barrett Resource, Cedar Ridge, Evergreen Operating, Petroglyph Operating and Sonat Raton.

Water samples were analyzed for pH, anions, cations, total dissolved solids (TDS) and selected dissolved metals. Gas samples were analyzed for gas hydrocarbon and fixed gas composition, including isotopic ratios. The results are presented in tables in the appendix of this report and in digital format (Microsoft Excel and Access) for input into COGCC's database. Maps of all the data variables were also generated in a color 8.5" x 14" format and are also provided in PDF format on data CD provided with this report.