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P. B. McMahon, J. C. Thomas



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## Use of Diverse Geochemical Data Sets to Determine Sources and Sinks of Nitrate and Methane in Groundwater, Garfield County, Colorado, 2009: Usgs Scientific Investigations Report 2010-5215 (Paperback)

By P B McMahon, J C Thomas

Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*. Previous water-quality assessments reported elevated concentrations of nitrate and methane in water from domestic wells screened in shallow zones of the Wasatch Formation, Garfield County, Colorado. In 2009, the U.S. Geological Survey, in cooperation with the Colorado Department of Public Health and Environment, analyzed samples collected from 26 domestic wells for a diverse set of geochemical tracers for the purpose of determining sources and sinks of nitrate and methane in groundwater from the Wasatch Formation. Nitrate concentrations ranged from less than 0.04 to 6.74 milligrams per liter as nitrogen (mg/L as N) and were significantly lower in water samples with dissolved-oxygen concentrations less than 0.5 mg/L than in samples with dissolved-oxygen concentrations greater than or equal to 0.5 mg/L. Chloride/bromide mass ratios and tracers of groundwater age (tritium, chlorofluorocarbons, and sulfur hexafluoride) indicate that septic-system effluent or animal waste was a source of nitrate in some young groundwater (less than 50 years), although other sources such as fertilizer also may have contributed nitrate to the groundwater. Nitrate and nitrogen gas (N<sub>2</sub>) concentrations indicate that denitrification

### Reviews

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