

Technical Memorandum (Canon City Milling Facility)

**To: Jim Cain, Environmental Coordinator/Radiation Safety Officer,
Cotter Corporation**

From: Errol P. Lawrence, HydroSolutions

Date: February 28, 2011

**Subject: Review of the 4th quarter, 2010 water quality analytical results for the
Cotter Corporation Canon City Milling Facility**

A review of the water quality analytical results from the fourth quarter sampling round of 2010 was performed. The data included radionuclides, trace metals, major ions, TDS, pH, alkalinity and conductivity results. Not all of the analyses for radionuclides, uranium molybdenum and selenium were completed at the time of this reporting because of equipment changeout that is being conducted in the onsite laboratory. Those results will be reviewed once they are available.

The analytical results for the fourth quarter sampling round were compared with historical results/trends to identify potential values that might be of concern with respect to changes in water quality and laboratory accuracy/validity.

Locations 035, 036, 326, 347, 710C, 711A and PW-2 were not sampled during the fourth quarter because of insufficient flow. Sampling locations 129, 173, 274, were not sampled because they were winterized. Locations 15B, 347, 381, 817, 701 and newly installed location 049, were dry and not sampled. There was also no flow at surface water sampling location 526.

Twelve monitor wells (039, 040, 041, 042, 043, 044, 045, 046, 047, 048, 051 and 052) were sampled three times in the fourth quarter. Nine of these monitor wells were installed and sampled as part of the investigation of groundwater quality north and west of the milling facility. CDPHE has approved a reduction in the sampling frequency for those nine monitor wells from monthly to quarterly based on the data collected to date. Three wells were installed and sampled as part of the investigation of groundwater quality between the SCS Dam and the Deweese Dye Ditch, north of the facility. That investigation is ongoing.

Changes between the fourth and third quarter sampling events that are notable are indicated in the table below.

Review of 4th Quarter, 2010 Water Quality Analytical Results, Canon City Mill Site

Location ID	Parameter	Description
015A	Water level	The water level was significantly shallower than any previous measurement at that location
048	Molybdenum	Mo was nearly twice as high as the initial sampling of this well, but then returned to the previous level for the next two sampling events