

Technical Memorandum (Canon City Milling Facility)

**To: Jim Cain, Environmental Coordinator/Radiation Safety Officer,
Cotter Corporation (N.S.L.)**

From: Errol P. Lawrence, HydroSolutions

Date: February 23, 2012

**Subject: Review of the 4th quarter, 2011 water quality analytical results for the
Cotter Corporation (N.S.L.) Canon City Milling Facility**

A review of the water quality analytical results from the fourth quarter sampling round of 2011 was performed. The data included radionuclides, trace metals, major ions, TDS, pH, alkalinity and conductivity results. Isotopic analysis of uranium was also performed for a select group of wells. 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 015B, 035, 049, 114, 173, 189, 231, 274, 347, 360, 380, 381, 526, 701, 710C, 711A, 814, 815 and 1343 were not sampled during the fourth quarter because they were either dry, had insufficient flow, or were winterized. Locations 199 and 1343 were not accessible at the time of sampling.

Three monitor wells (048, 051 and 052) were sampled three times in the fourth quarter. Sampling was attempted at one monitor well (049) three times in the fourth quarter but the well was either dry or had insufficient water for sampling during each event. These wells were installed and sampled as part of the investigation of groundwater quality between the SCS Dam and the Dewese Dye Ditch, north of the facility. It is recommended that those four monitor wells be sampled at a quarterly rather than monthly frequency. The wells have each been sampled a sufficient number of times that the results can be considered to be statistically representative of conditions at the respective monitoring locations. Further justification for changing the sampling frequency from monthly to quarterly is provided in Attachment A.

Additionally, several existing wells within the Dam to Ditch Area that are not part of the groundwater monitoring program were also sampled as part of the investigation. Those wells are 373 through 378, 823 and 826. The Dam to Ditch Area investigation and pilot study is ongoing.

Changes between the fourth quarter and third quarter of 2011 sampling events that are notable are indicated in the table below.

Review of 4th Quarter, 2011 Water Quality Analytical Results, Canon City Mill Site

Location ID	Parameter	Description
038	TSS	TSS was an order of magnitude higher than previous measurements