

# NYE County NWRPO -Technical Data Report

RID No.	Transmitter	Org.	Receiver	Org.	Key word1	Title/Description
6311	Gilmore	Nye	QARC	Nye	7SC, 10P,	Groundwater Isotope Geochemistry Data Analyzed by Geochron Laboratories
<b>Doc. Date</b>	8/10/2004	<b>General Doc. Type</b>	Report	<b>Keyword2</b>	groundwater	
<b>Entry Date</b>	8/11/2004	<b>Detailed Doc. Type</b>	Data	<b>Keyword3</b>	geochemistry	

**Data Originator Preparer** Geochron Laboratories

**Title of Data** Groundwater Isotope Geochemistry Data Analyzed by Geochron Laboratories

**Description of Data** Isotope data from groundwater obtained 8/02 through 10/02 during EWDP sampling events. Filename: "Geochrondatatable0304rev1.xls". Data are included for the following water samples: GWS 0009 (18P) collected 8/26/02; GWS 0010 (10P shallow zone) and GWS 0011 (10P deep zone) collected 8/27/02; GWS 0012 (22PA shallow zone), GWS 0013 (22PA shallow zone blind field duplicate), and GWS 0014 (22PA deep zone) collected 8/28/02; GWS 0015 (22PB shallow zone) and GWS 0016 (22PB deep zone) collected 8/29/02 and 8/30/02; GWS 0021 (22S zone 4), GWS 0022 (22S zone 3), GWS 0023 (22S zone 2), GWS 0024 (22S zone 1), and GWS 0031 (22S zone 3 blind field duplicate) collected 9/9/02 to 9/11/02; GWS 0025 (10S zone 2) and GWS 0026 (10S zone 1) collected 9/11/02 and 9/12/02; GWS 0028 (7SC zone 1), GWS 0027 (7SC zone 2), and GWS 0030 (7SC zone 3) collected 9/13/02 and 10/03/02; and GWS 0034 (23P Deep) collected 10/1/02. Included in the data package: typed analytical results including laboratory QA duplicate analyses.

**Data Collection Method** For wells NC-EWDP-7SC, -10S and -22S, groundwater was pumped to the ground surface with a submersible impeller pump. For wells NC-EWDP-10P, -18P, -22PA, -22PB, and -23P, groundwater was pumped to the ground surface with a Bennett pump (piston pump operated with compressed air). The wells were purged a minimum of three well volumes and samples collected, processed, bottled, and shipped to the testing laboratory following standard methods documented in Nye County QA technical procedure TP-8.1.

**Data Location(s)** NC-EWDP-7SC, -10P, -10S, -18P, -22PA, -22PB, -22S, and -23P.

**Data Collection Period(s)** 8/02 through 10/02

**Data Source(s)** Geochron Laboratories, Cambridge, MA. Refer to RID 5194 and 5196 for field chemistry parameters and RID 5723 for original raw data.

**Data Censoring** GWS 0012 and GWS 0013 values del. <sup>18</sup>O atm. and del. <sup>15</sup>N atm. in nitrate due to unacceptable relative percent difference (RPD) between blind field duplicates. GWS 0015 values del. <sup>18</sup>O atm. in nitrate due to unacceptable RPD between laboratory QA duplicates. GWS 0034 values del. <sup>18</sup>O atm. and del. <sup>15</sup>N atm. in nitrate due to suspected anthropogenic alteration of in situ conditions.

**Data Processing** Geochron processed data from database into typed data sheets. RIDs 6078 through 6085 were combined into this one Microsoft Excel spreadsheet for posting on the nyecounty.com website.

**Data Limitations** Air bubbles were noted in the Bennett pump discharge line suggesting an air leak in the pump and/or natural out-gassing of the water. If the former was occurring, chemical parameters sensitive to dissolved oxygen may be disturbed from in situ conditions. A water sample was not collected from the deepest well screen (zone 4) in NC-EWDP-7SC because it produced water too slowly to support pumping with a submersible pump. A low flow rate Bennett pump will be used instead of a submersible pump to sample this zone during the next scheduled sampling session. The results of field blank (field QA sample taken while sampling at NC-EWDP-10P) analyses performed by NEL Laboratories (RID 5434) showed concentrations of several metals and chloride above instrument detection levels suggesting the possibility of slight contamination of groundwater samples from the atmosphere (e.g. dust), preservatives, and/or bottle preparation. Nitrate concentrations in GWS 0021, GWS 0022, GWS 0023, GWS 0025, GWS 0026, GWS 0027, GWS 0028, GWS 0030 and GWS 0031 were too low to determine isotope ratios (del. <sup>18</sup>O atm. and del. <sup>15</sup>N atm. in nitrate). The laboratory duplicate samples (del. <sup>18</sup>O atm.) for GWS-0015 were not within the allowable RPD stated in TP-8.1 (30%) (see "Data Censoring").

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Relative percent difference (RPD) analysis for GWS 0012 and blind field duplicate GWS 0013 values del. <sup>18</sup>O atm. and del. <sup>15</sup>N atm. were not within the allowable RPD stated in TP- 8.1 (30%) (see "Data Censoring").

Significant amounts of bentonite drilling fluid were lost to the formations surrounding NC-EWDP-23P which is suspected to have altered in situ conditions (see "Data Censoring").

Several sample bottles leaked or ruptured in shipping which resulted in the loss of data for GWS 0015 (Tritium), GWS 0016 (del. <sup>18</sup>O SMOW, del. Deuterium SMOW, and del. <sup>13</sup>C PDB), GWS 0034 (del. <sup>18</sup>O SMOW, del. Deuterium SMOW, Tritium, and del. <sup>13</sup>C PDB), GWS 0025 (del. <sup>18</sup>O SMOW, del. Deuterium SMOW, and del. <sup>13</sup>C PDB) and GWS 0026 (del. <sup>18</sup>O SMOW, del. Deuterium SMOW, Tritium, and del. <sup>13</sup>C PDB).

..... Governing QA Docs.	TP-8.1 Rev. 2
..... Frequency of Transmittal	As required
..... Direct Questions About Data To-	Nye County QA Records Center