NYE County NWRPO -Technical Data Report

RID No.	Transmitter	Org.	Receiver	Org.	Key word1	Title/Description
6503	Gilmore	Nye County	QARC	Nye	10S	EWDP-10S Westbay Data, 5/18/04 - 12/14/04

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Doc. Date 2/15/2005 **General Doc. Type** QA Program Doc **Keyword2** WB

Entry Date 2/15/2005 **Detailed Doc. Type** Data **Keyword3** Data

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Title of Data EWDP-10S Westbay Data, 5/18/04 - 12/14/04

Description of Data One CD containing an Excel file, "121404_10S QA.xls". This file contains atmospheric pressure, temperature, and calculated water elevations for zones 1 and 2; and temperature data for probes 1 and 2 for the period from 5/18/04 to 12/14/04 collected at Phase III EWDP-10S Westbay instrumented well.

Data Collection Method Westbay Mosdax datalogger and pressure and temperature probes

Data Location(s) NC-EWDP-10S

Data Collection Period(s) 5/18/04 to 12/14/04

Data Source(s) From 5/18/04 to 6/29/04 : Westbay datalogger SN 2554 (Probe 0 - atmospheric) and two 250 psi probes - Probe 1 SN 2616, and Probe 2 SN 2446.
From 6/29/04 to 12/14/04: Westbay datalogger SN 2693 (Probe 0 - atmospheric) and two 250 psi probes - Probe 1 SN 2613 and Probe 2 SN 2610.
Probe. 1 depth = 682.13 ft
Probe 2 depth = 838.98 ft
Depths reflect measured values from the well ground surface to the subject measurement port.
Original Westbay pressure and temperature data can be found in RIDs 6250, 6251, 6318, 6399 and 6442. Well completion diagram in RID 5261, Westbay Casing Log Completion in RID 4923, Wellhead Protection Detail in RID 5456, and manual water level measurements in RID 6360.

Data Censoring No data from this submittal were censored.

Data Processing The water elevation (ft, amsl [above mean sea level]) in a Westbay isolated zone is calculated from the pressure probe measurement (lb/ft^2) below the water table by subtracting the atmospheric pressure measurement (lb/ft^2) at the ground surface from the pressure measurement, dividing the result by the specific weight (lb/ft^3) of water at 15 degrees Celsius, and adding to this result the elevation (ft, amsl) of the probe. This calculation is made prior to submitting a QA processed data file to the Quality Assurance Records Center (QARC).

Data Limitations EWDP-10S Westbay data limitations (data collection period 5/18/04 to 12/14/04). The following text contains additional information necessary for interpretation of the attached water elevation and temperature data. Time frames are listed for each activity. Certain activities, such as equipment testing or water sampling, may have impacted the data and the data analyzer should be aware of this.

6/29/04 0846 through 6/29/04 1256 - data gap due to replacement of probes with newly calibrated probes.

Port depths used for water elevation calculations are directly measured values reflecting the distance between ground level and the measurement port and are reported in RID 5616 (accuracy = +/- 0.015% of the depth measured).

Accuracy of the downhole probe pressure is based on the probe pressure range: 250 psi probe = +/- 0.25 psi (approx. +/-0.58 ft).

Specific weight values used in calculations assume a uniform water temp of 15 ° C. Probe temperature accuracy =+/- 1° C. The elevations were not corrected for temperature or borehole deviation; temperature and deviation information are available in the geophysical logging suite for this well (RIDs: 4950, 5020, 5241, and 5416).

The water-level elevations presented must be considered approximate because of the potential error in the GPS-based elevation of the land surface at the well site which is believed to the on the order of +/- 1.75 ft. according to work performed by the Center for Nuclear Waste Regulatory Analyses. The potential error in the GPS-based elevations does not affect the depth to water nor the absolute change in water levels over time that may be calculated using the elevation datum for land surface. The potential error may, however, result in limitations in the use of these data for the calculation of hydraulic gradients between wells with the error induced in such calculations being inversely proportional to the distance between the two wells being used to perform the calculation, and directly proportional the differences in surveying and processing techniques if different surveys were conducted for the two wells.

The probe replacement on 6/29/04 resulted in an apparent reduction in the amplitude of the daily variations in water level fluctuations until 8/17/04. A number of rapid rises and declines occur on the hydrograph of the water elevation data. The dates of these spikes were compared against the UNRSL Seismic Catalog (http://www.seismo.unr.edu/cgi-bin/catalog-search). A pronounced spike on 9/2/04 and corresponding drop on 9/5/04 cannot be attributed to a seismic event. The up and down spike on 9/19/04 through 9/21/04 corresponds with a series of earthquakes that occurred between 9/18/04 and 9/20/04, inclusive. During this period, there were three events in excess of magnitude 5.0 (two on 9/18/04 and one on 9/20/04). Similar magnitude earthquakes on 10/16/04 and 11/20/04 did not result in any apparent response in water levels in 10S but the epicenters for these events were further to the east. The rise and drop between 11/27/04 and 11/29/04 could be related to a single seismic event on 11/28/04; however, this event was small (magnitude 3.62) and distant (38°N 118.95°W). The observed water level rise and decline between 12/4/04 and 12/9/04 may be related to two seismic events on 12/2/04 and 12/9/04.

Governing QA Docs. TP-9.2 Rev. 1, WP-10 Rev. 0

Frequency of Transmittal Biannually

Direct Questions About Data To- Nye County QA Records Center