

Technical Data Information Report

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8168.00	Klenke	Nye County NWRPO	QARC	Nye County NWRPO	EWDP

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Document Title/Subject EWDP Manual Water Level Measurements from January 1, 2014 through June 30, 2014

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Data Description EWDP Manual Water Level Measurements from January 1, 2014 through June 30, 2014. Data package includes Nye County's Regional Groundwater Elevation Database (RGED V. 6.0_063014.accdb containing Early Warning Drilling Program (EWDP) manual water level measurements, from January 1, 2014 through June 30, 2014, field forms, hydrographs (available on request) and exported data from database - posted to nyecounty.com website as rid8168.xlsx.

Data Collection Method NWRPO calibrated electric water level sounders in accordance with, Technical Procedure TP-9.9 Revision 4, Measurement of Groundwater Levels Using Electric Well Sounders dated 8/6/09.

Data Collection Location EWDP Wells: 1DX Shallow, 2DB recompleted 7/08, 3D, 4PA, 4PB, 5SB, 7S, 12PA, 12PB, 12PC, 13P, 15P, 16P, 19P, 24P, 24PB, 27P, 28P, 29P, 32P Shallow, 32P Intermediate, 32P deep, 33P Shallow, 33P Intermediate, 33P Deep, Washburn Deep, 10P Deep, 10P Shallow, 18P, 22PA Deep, 22PA Shallow, 22PB Deep, 22PB Shallow, 22PC Deep, 22PC Shallow, 22S-Z2, 23PA Deep, and 23PA Shallow. Note: all EWDP well surveys were performed by the YMP Site Facilities Department /Field Engineering, Survey Section, with all elevations reported in NGVD-29. Therefore all EWDP water levels in this submittal and all previous EWDP Water Data Submittals (RID 8131, 6360, 6631, 7044, 7122, 7618, and 7904) have been reported in NGVD-29.

Data Collection Period 1/1/14 through 6/30/14

Data Sources 1) Department of Energy (DOE) Management and Operating Contractor (M&O) derived latitude and longitude for well location and elevation data for well pad elevation; 2) Depth to groundwater measured with electric water level sounders as recorded either in the Scientific Notebook (SNB) dedicated to each well, EWDP Groundwater Level SNB #144, EWDP Westbay Instrumented Wells SNB #177, Site 22 Tracer Test SNBs #166 and #181, and/or on the NWRPO Water Level Measurement Field Form (Form TP-9.9-1 Rev 1 dated 7/21/09 ; 3) NWRPO approved Well Completion Diagrams for each EWDP well for casing type, diameter, and measuring point stickup (as established with engineers steel tape and recorded in Scientific Notebook). Supporting Data: Metadata for prior submittals of manual water level measurements in EWDP wells (RIDs, 8131, 6360, 6631, 7044, 7122, 7618, 7904, 8099, and 8100).

Data Censoring No data were censored for the period of this submittal.

Data Processing Routinely, data processing consists of calculations made in the Microsoft Access database (RGED v.6.0_063014accdb) and exports made from the database to Microsoft Excel. Additionally, data are evaluated through the use of hydrographs to determine whether anomalous data exist. Anomalous data are investigated (through scientific notebooks, earthquake records, etc.) to determine the source of the anomaly. If the anomaly cannot be explained, the data are censored.

Data Limitations 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 be 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.

Water level measurements in well 2DB recompleted 7/08, may not represent water levels of the Paleozoic carbonate aquifer completion as expected.

Problems encountered after the completion of the piezometer in the Paleozoic carbonate, primarily clay swelling and/or caving of the open hole completion, likely have isolated the production casing from the aquifer. See RID 7559 for more details.

Water level measurements in well 32P shallow piezometer may be impacted by the presence of polymer-based drilling fluids. These drilling fluids were used in the drilling of the now abandoned USW VA-3 borehole, which was situated approximately 50 feet south of 32P. The borehole was drilled by a Department of Energy contractor, under the Probabilistic Volcanic Hazard Analysis program for the Yucca Mountain project, on magnetic anomaly "g", with a modified conventional circulation system utilizing Baroid EZ Mud polymer.

Water level measurements in well 33P shallow piezometer may be impacted by the presence of polymer-based drilling fluids. The initial borehole for well NC-EWDP-33P was drilled by Department of Energy contractors as borehole USW VA-5, and used a modified conventional circulation system utilizing Baroid EZ Mud polymer. Details of the completion can be found in RID 7009, "NC-EWDP-33P Field" As-Built Well Completion and Wellhead Protection Diagrams."

Water levels have been steadily declining in this piezometer since it was developed by airlifting (7/17/07 to 9/20/07), and appear to indicate disequilibrium with the conterminous potentiometric surface.

Governing QA Docs: TP-9.9 Rev. 4

Frequency of Transmittal As necessary

Direct Questions
About Data To: NWRPO QA Records Center