NYE County NWRPO - Technical Data Report

RID No.	Transmitter	Org.	Receiver	Org.	Key word1
6801	Hammermeister	Nye County NWRPO	QARC	Nye	16P,

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Title/Description

Nye County Early Warning Drilling Program Phase IV Drilling Report, NWRPO-2004-04, July 2005

Doc. Date 7/1/2005 **General Doc. Type** QA Program Doc **Keyword2** EWDP IV

Entry Date 12/6/2005 **Detailed Doc. Type** Technical Report **Keyword3** hydrogeologic

Data Originator Preparer Dale Hammermeister

Title of Data Nye County Early Warning Drilling Program Phase IV Drilling Report, NWRPO-2004-04, July 2005

Description of Data

This record contains a CD and a hard copy of the subject report . The CD also contains an EXCEL spreadsheet file, titled "RIDS for Drill Rpt IV.xls", that lists the original RIDs for the following EWDP Phase IV data collection activities: well drilling and construction; geologic logging, sampling, and related tasks; laboratory hydraulic parameter testing of geologic samples; and borehole geophysical logging. The subject report describes the scope, methods, and results of Phase IV of Nye County's Early Warning Drilling Program (EWDP). Phase IV focused on the subsurface hydrogeologic characterization of an unnamed drainage located north of the Lathrop Wells cinder cone and the west side of the lower Fortymile Wash area located approximately several miles north of U.S. Highway 95. Phase IV field activities were conducted from late 2002 to late 2003. Characterization activities described include: drilling five exploratory boreholes and coring one sonic corehole, collecting drill cuttings and core samples, geologic logging and laboratory testing of these samples, borehole geophysical logging, developing interpretative geologic cross-sections, and constructing five single-string piezometers across the water table and one dual-string piezometer in the upper alluvial aquifer.

Data Collection Method

QA plans and procedures for Phase IV drilling, geologic sampling and logging, geophysical logging, and well construction are listed in Table 1.6-1 in the subject report. Industry-standard laboratory testing methods for measurement of hydraulic related parameters on Phase IV geologic samples are listed in Table 2.4-2 in the subject report. Finally, a summary of the types and application of geophysical logs used in Phase IV boreholes is presented in Table 2.5-1 of the subject report.

Data Location(s)

Three exploratory boreholes (NC-EWDP-16P, -27P, and -28P) were located in an unnamed drainage, called Flat Tire Flat by the NWRPO, north of the Lathrop Wells cinder cone. Two additional exploratory boreholes (NC-EWDP-24P and -29P) were located on the west side of lower Fortymile Wash, just outside the western border of the Nevada Test Site, several miles north of U.S. Highway 95. The corehole (NC-EWDP-19PB) was also located on the western side of lower Fortymile Wash, but immediately outside the southwest corner of the Nevada Test Site boundary on a large drill pad containing the Alluvium Testing Complex.

Data Collection Period(s)

Field activities were conducted from October 2002 through December 2003. Laboratory testing continued through September 2004.

Data Source(s)

RIDs containing original Phase IV drilling and hydrogeology related data are listed on the CD of the subject report as noted in the above description of the submitted record. In addition, the Nye County Drilling Database (RID 6756) contains all Phase IV geologic logging and most geologic sample laboratory testing data contained in or referenced in the subject report. Many of the graphs and tables in the subject report were generated as reports by this database.

Supporting Data: References to RIDs containing supporting hydrogeology original data collected from EWDP Phase I and II boreholes can be found on the nyecounty.com web site under "EWDP." Supporting hydrogeologic data from EWDP Phase III can be found in the technical report titled "Nye County Drilling, Geologic Sampling and Testing, Logging, and Well Completion Report for the Early Warning Drilling Program Phase III Boreholes,

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NWRPO-2002-04."

Data Censoring

Geologic data that were compromised or biased as a result of sampling, testing, and/or handling, or are shown to be unacceptably inaccurate field estimates, have been identified in Table 4.1-1 of the subject report. Borehole geophysical logging data that exhibit unaccceptable noise and/or do not respond to known formation conditions as advertised are identified in Table 6.2-1. These geologic and geophysical data have been censored and will not be published by Nye County. However, these data may be viewed in their entirety at the NWRPO QA Records Center in Pahrump, NV.

Data Processing

Data processing to support data analysis is described for different data types primarily in the results sections (Sections 4, 5, and 6) of the subject report.

Data Limitations

Limitations for different data types are discussed in the subject report primarily in Sections 4, 5, and 6. Many of the limitations primarily result from the disturbing effects of drilling on hydraulic related properties of cuttings samples collected from unsaturated alluvial sediments. These limitations are detailed in the metadata for RIDs containing the original geologic logging data for EWDP Phase IV boreholes. For example, the drilling method (dual-wall reverse-circulation air-rotary method) used in EWDP Phase IV exploratory boreholes disturbs the particle size distribution of unsaturated alluvium drill cuttings from in situ formation conditions to varying degrees. This method grinds formation particles into smaller drill cuttings particles. In gravely deposits this results in decreased gravel content and increased sand and fines content. Subsequently, a portion of the fines content is lost as dust from the cyclone separator, which captures the drill cuttings at the ground surface. Despite this drilling induced disturbance in particle size distribution, there is approximate agreement between particle size distributions obtained from drill cuttings and a limited number of drive core samples whose particle size distributions are generally considered representative of in situ conditions. As a result of this approximate agreement, drill cuttings particle size distributions were not censored. However, at the same time they should not be considered totally representative of in situ formation conditions.

Governing QA Docs.

WP-5. WP-6, WP-8, TP-7.0, TP-8.0, TPN-5.1, and TPN-8.1

Frequency of Transmittal

One time only

Direct Questions About Data To-

NWRPO QA Records Center