NYE County NWRPO -Technical Data Report

RID No.	Transmitter	Org.	Receiver	Org.	Key word1	Title/Description
7340	Gilmore	NWRPO	QARC	Nye	10S	NC-EWDP-10SA Alluvium and Non-Alluvium Logging Forms, 7/19/01 to 7/27/01

1

Doc. Date 12/20/2007 **General Doc. Type** QA Program Doc **Keyword2** drill cuttings

Entry Date 12/20/2007 **Detailed Doc. Type** Alluvium/Non-Alluvium Logging **Keyword3** geology

Data Originator Preparer Kathy Gilmore

Title of Data NC-EWDP-10SA Alluvium and Non-Alluvium Logging Forms, 7/19/01 to 7/27/01

Description of Data Drill cuttings logging reports exported from drilling database (NC Drilling v3.6.mdb) in .pdf format (Alluvium Logging Form and the Non-Alluvium Drill Cuttings Logging Form from 7/19/01 to 7/27/01).

Data Collection Method Borehole drilling and sampling, and borehole depth control procedures. Logs were reviewed for accuracy of field data. Drill cuttings subsamples were examined to verify information and changes were made as needed (in red).

Data Location(s) NC-EWDP-10S

Data Collection Period(s) 7/19/01 to 7/27/01

Data Source(s) Visual field description per TP-8.0, Field Logging and Handling of Borehole Samples, Revision 2, 06/01/01, Section 5.5.
Supporting Data: RIDs 4729, 5130, 5529, 6756.

Data Censoring Samples collected from 0-22.5 ft. interval are considered biased toward the coarse fraction due to the drilling and sampling method. This short section of the borehole was drilled with conventional or normal air circulation with an air hammer to install a pilot hole for a surface casing. The sample was blown to surface through the annulus and was winnowed of fines and likely contaminated with uphole material. Beyond 22.5', a casing was installed to maintain annular pressure and the borehole was advanced using reverse circulation dual-wall technique.
Particle size distribution data and USCS Group Name on Alluvium Logging Form. Water Production data for interval 655 to 1200 ft.; data recalculated for interval 655 to 865 ft. in RID 5529.

Data Processing Data from field logging forms were entered into the drilling database, reviewed, and transmitted to the QARC.

Data Limitations There were two boreholes drilled to complete well NC-EWDP-10S. The first borehole, NC-EWDP-10SA, was a pilot hole as well as a sampling hole, and was drilled from 07/18/01 through 07/28/01. This borehole is a 5-3/8" diameter hole and was drilled and sampled from ground surface to a total depth of 1200 feet by Eklund Drilling Company, Inc. Drilling was conducted using dual-wall drill pipe with reverse air circulation methods. The second borehole, NC-EWDP-10S, is the stabilized borehole in which the well was completed and was drilled during the period of 09/23/01 through 11/07/01 by Beylik Drilling, Inc. It was collared at the same location as NC-EWDP-10SA but with a different drill rig employing mud rotary, flooded reverse methods. The borehole is 14-3/4" in diameter and the total depth is 900 feet and the well was completed with 6 5/8" O.D. casing to 880 feet.
The near surface (0 to 22.5 ft) alluvial drill cuttings samples are not representative of in situ sediments due to hole erosion and related sample contamination resulting from the use of conventional air circulation drilling methods to start the borehole. Some sample disturbance from in situ conditions in the remaining alluvium is due to several drilling related factors including: 1) sample degradation by the mechanical action of the rotary bit; 2) contamination due to some hole erosion and related sample mixing typical of reverse circulation drilling; and 3) winnowing of fines at the cyclone collector during dry drilling. Major sample disturbance resulting from a sample handling factor present in several other boreholes (NC-EWDP-10P, 22PA and 22PB) was not a factor in this borehole. This was the loss of some of the fine fraction (and relative increase of the coarse fraction) when attempting to homogenize saturated zone samples containing too much water. In addition, minor disturbance may have been introduced into samples by: 1) gravel accumulating on the rotating splitter during wet drilling; 2) unsaturated zone sample homogenization process and sample splitting; 3) loss of fines during pumping and siphoning of clear water from wet bucket samples; and 4) a very minor introduction of wind-blown fines during sample

NYE County NWRPO -Technical Data Report

RID No.	Transmitter	Org.	Receiver	Org.	Key word1	Title/Description

drying.
The Alluvium Logging Form includes preliminary field estimates of grain size distribution for the approximately 750 ft of alluvium penetrated. The estimates are made on every 2.5 and 5 ft sample intervals and used for preliminary layering information and general planning of wells and screen intervals prior to receipt of laboratory data. These field estimates of grain size distribution should not be considered representative of the geologic samples. However, grain size distribution data determined by laboratory analysis on every second 2.5 ft sample and every 5 ft sample interval are considered representative of the geologic samples. A comparison of preliminary field estimates with laboratory measurements of grain size distributions of alluvium geologic samples indicates significant error in field estimates. Therefore, Particle Size Distribution data and USCS Group Name have been censored.
The following data omissions from log columns are listed with the following commentary or reasons:
SAMPLE WEIGHTS and SAMPLE RECOVERY: 665-1200' due to excessive water.

Governing QA Docs.	TP-8.0, Field Logging and Handling of Borehole Samples, Revision 2, 06/01/01, Section 5.5
Frequency of Transmittal	once per borehole
Direct Questions About Data To-	NWRPO QA Records Center