NYE County NWRPO -Technical Data Report

RID No.	Transmitter	Org.	Receiver	Org.	Key word1	Title/Description
7406	Gilmore	NWRPO	QARC	Nye	18P	NC-EWDP-18P Alluvium and Non-Alluvium Logging Forms

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Doc. Date 10/29/2007 **General Doc. Type** QA Program Doc **Keyword2** cuttings

Entry Date 1/30/2008 **Detailed Doc. Type** Alluvium/Non-Alluvium Logging **Keyword3** geology

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Title of Data NC-EWDP-18P Alluvium and Non-Alluvium Logging Forms

Description of Data Drill cuttings logging reports exported from drilling database (NC Drilling v3.6.mdb) in .pdf format (Alluvium Logging Form and Non-Alluvium Drill Cuttings Logging Form from 9/20/01 to 10/10/01).

Data Collection Method Borehole drilling and sampling, and borehole depth control procedures. Logs were reviewed for accuracy of field data. Samples collected at 18P during casing advance drilling to 45 ft. and open hole rotary drilling to 890 ft. with Ingersoll-Rand TH-75W drill rig.

Data Location(s) NC-EWDP-18P

Data Collection Period(s) 9/20/01 to 10/10/01

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. ; Drill cuttings samples and Nye County NWRPO laboratory data that includes grain size distribution (sieve data) and hydrometer data (silt/clay measurement).

Supporting Data: RIDs 4832, 5131, 6756.

Data Censoring

a) 5.0 ft. to 7.5 ft. sample missed.
b) 45 ft. to 890 ft. drilled open hole allowing contamination of all downhole samples.
c) 490 ft. to 495 ft. and 500 ft. to 505 ft. samples collected from lost circulation zone (490'-500') after LCM and EZ Mud and Portland cement pumped down annulus.
d) 730 ft. to 735 ft. lost circulation; regained samples after LCM and EZ Mud slugs downhole.

Particle Size Distribution data and USCS Group Name on Alluvium Logging Form. Water Production data from 0 to 890 ft.

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

Data Limitations NC-EWDP-18P was drilled with a percussion hammer casing advance rig and used a 7-7/8 in. milltooth tricone rock bit inside 9-5/8 in. drill casing with a 10 in. casing shoe for the first 40 ft in alluvium. From 40 to 890 (T.D.) ft, the hole was advanced in bedrock using open hole conventional air circulation and 7 7/8" rotary and hammer bits. Conventional air drilling requires more air volume than reverse circulation methods to lift an equal volume of sample. Open hole techniques allow contamination of samples from uphole sections of the borehole that can erode as the hole is deepened.

The Alluvium Logging Form includes preliminary field estimates of grain size distribution over the upper 40 ft. of alluvium. The estimates are made on every 2.5 ft sample interval 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 interval are considered representative of the geologic samples. A

comparison of preliminary field estimates with laboratory measurements of grain size distributions of geologic samples indicates significant error in field estimates. Therefore, particle size distribution data and USCS Group Name are censored.

The following data omissions from log columns are listed with the following comments:
DRIVE CORE SAMPLING: CORE BARREL 4-inch inside diameter by 30-inch recoverable length.
a) No drive core was cut or processed from this hole as minimum planned core was 50-ft. and last alluvium sample was 42.5 ft. to 45.0 ft.
HOLE DIAMETERS:
a) 0 ft. to 45 ft. = 9 7/8 inch (7 7/8 inch tricone mill tooth)
b) 45 ft. to 85 ft. = 7 7/8 inch tricone mill tooth
c) 85 ft. to 350.1 ft. = 7 7/8 inch tricone mill tooth
d) 350.1 ft. to 506 ft. 7 7/8 inch (downhole hammer - button bit)
e) 506 ft. to 810 ft. = 7 7/8 inch tricone mill tooth
f) 810 ft. to 890 ft. = 7 7/8 inch tricone mill tooth
SAMPLING TYPE:
a) Drilling dry from 0 ft. to 85 ft.
b) Drilling wet from 85 ft. to 506 ft. (injected water to 440 ft. for improved sample recovery)
c) Drilling dry from 506 ft. to 810 ft. (Hole making water at 811 ft. / static water level = 776.7 ft.)
d) Drilling wet from 810 ft. to 890 ft. open hole (injected water to 880 ft. for improved sample recovery)
SAMPLE WEIGHTS / VOLUME:
a) Samples 500 ft. to 890 ft. open hole (IR-750 Auxiliary compressor added for more air volume)
SAMPLE RECOVERY:
a) Sample BCS00011508 added to BCS00011507 (505'-510') for combined depth interval 505 ft.-515 ft.
b) 205 ft. to 325 ft. Sample recovery dropped to 2 gallons or less/5 ft. interval
c) 485 ft. to 505 ft. Lost circulation (partial samples later recovered after cementing void) d.) 505 ft. to 890 ft. Low recovery even with added air volume from auxiliary compressor e) 730 ft. to 735 ft. Lost circulation (Regained samples after LCM and EZ Mud slugs downhole)
f) 825 ft. to 830 ft. Sample not logged but collected (BCS00011571)

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