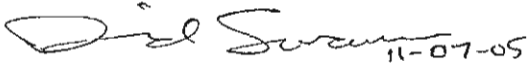







**NYE COUNTY NUCLEAR WASTE
REPOSITORY PROJECT OFFICE**

TEST PLAN

TITLE: Data Collection at the U.S. Department of Energy Volcanic Hazard Boreholes in the Vicinity of Lower Fortymile Wash		REVISION: 0 DATE: 11-07-05 PAGE: 1 of 4
TEST PLAN NUMBER: TPN-5.4	SUPERSEDES: None	
APPROVAL  Project Manager Date 11-07-05	CONCURRENCE  On-Site Geotechnical Representative Date 11/7/05  Principal Investigator Date 11/7/05  Quality Assurance Officer Date 11-7-05	

1.0 INTRODUCTION

This test plan (TPN) describes limited data collection activities by the Nye County Nuclear Waste Repository Project Office (NWRPO) in several U.S. Department of Energy (DOE) volcanic hazard boreholes in the vicinity of lower Fortymile Wash. Each of these wells is located within 6 miles of Lathrop Wells (i.e., the junction of State Highway 372 and U.S. Highway 95). The DOE is directly funding and supervising the drilling of three to five such boreholes in this area of interest to Nye County.

The Nye County Independent Scientific Investigation Program (ISIP) believes that these boreholes have the potential to fill hydrogeologic data gaps in its Early Warning Drilling Program (EWDP) regarding potential flowpaths from Yucca Mountain to residents in Amargosa

Valley, including those in Lathrop Wells. For this reason, the ISIP has requested and received permission from the DOE to conduct the following activities at each borehole:

- Obtain field splits of drill cuttings at regular depth intervals.
- Geologically log the cuttings.
- Place a representative subsample of the cuttings from each depth interval in chip trays.
- Measure water levels in the boreholes.

This TPN references applicable quality assurance (QA) technical procedures (TPs) that provide more detailed instructions to NWRPO personnel for routine data collection. This TPN applies solely to the DOE volcanic hazard boreholes described in this section.

2.0 PURPOSE AND JUSTIFICATION

Very few hydrogeologic data are available from wells located in the area of lower Fortymile Wash south of U.S. Highway 95. The proposed limited data collection at the DOE boreholes has the potential to provide much-needed hydrogeologic data for this area.

3.0 SCOPE OF WORK FOR SAMPLING, LOGGING, AND WATER LEVEL MEASUREMENTS

3.1 Responsibilities

The Nye County NWRPO On-Site Geotechnical Representative will be the Principal Investigator (PI) responsible for supervising all technical data collection described in this TPN. The NWRPO-designated field representative (NDFR) will carry out the field data collection activities described in Section 3.2 of this TPN. The NDFR will cooperate with the DOE and its contractors, follow drill site rules, and participate in safety meetings. However, the NDFR will not be responsible for DOE drilling-related tasks or data-collection activities, including supervising the drilling contractor, conducting depth control, collecting and labeling drill cuttings and core samples for storage and archiving, geologic logging at the Sample Management Facility (SMF) on the Nevada Test Site, or the distribution of subsamples to various DOE contractors.

3.2 Data Collection Tasks

The NDFR will conduct the following tasks:

1. Maintain a general record of drilling activities in the assigned field scientific notebook. Include information that would affect the representativeness of drill cuttings. For example, record any applicable borehole caving or drill cuttings return problems as well as the type of drilling fluid and/or lost circulation material used.
2. Obtain representative samples of drill cuttings from regular depth intervals determined by the DOE. These samples will be used for field geologic logging and the filling of plastic chip trays for future reference, as described in the following. In

all cases, DOE sample requirements have priority over those of the NWRPO. For example, the NWRPO may not be able to obtain a sample for depth intervals where sample quantity is limited. Moreover, the NWRPO will not receive splits of core samples collected by the DOE.

3. Geologically log the drill cuttings following procedures, to the extent possible, specified in TP-8.0, *Field Collection, Logging, and Processing of Borehole Samples*. It will not be possible to fill in all fields of the Alluvium or Non-Alluvium Drill Cuttings Logging Forms. For example, due to the use of liquid drilling fluids, it will not be possible to enter "Particle Size Distribution" estimates on the Alluvium Drill Cuttings Logging Form. Instead, the NDFR will make qualitative estimates of changes in relative size fractions and record this information in the scientific notebook. In addition, because drilling methods will likely preclude obtaining meaningful data for sample recovery, sample density, and moisture content, these parameters will be left blank for each depth interval on the form(s). Finally, record reasons in the scientific notebook for not entering data on the forms.
4. For future reference, place a small representative drill cuttings sample from each depth interval in a plastic chip tray. Label the chip tray with the borehole name and each compartment with the appropriate depth interval. If no sample is available, place a marker in the empty compartment. Drill cuttings samples will not be sent to the NWRPO laboratory for analysis or sent to the SMF for storage and future use by Nye County.
5. Measure groundwater levels in the borehole prior to the start of drilling each day and at other times deemed appropriate by the NDFR. Follow procedures specified in TP-9.9, *Measurement of Groundwater Levels Using Electric Well Sounders*. In the scientific notebook, record borehole and drilling fluid information that would help in interpreting borehole water level measurements.

All data recorded on QA forms and in the field scientific notebook will be reviewed by NWRPO personnel not directly involved in recording the data and submitted to the NWRO Quality Assurance Records Center with all supporting documentation and metadata.

4.0 HEALTH AND SAFETY

The NDFR will be trained in the EWDP Health and Safety Plan (NWRPO, 2002). In addition, as stated previously, the NDFR will follow DOE drill site safety rules and participate in tailgate safety meetings before each shift. In the event of injury or medical need, DOE emergency response procedures will be followed.

5.0 MANAGEMENT

Before conducting work, the NDFR performing the tasks described in this TPN will be trained in the procedures specifically applicable to the equipment and methods used herein. Personnel will document that they have read and understand this TPN and other applicable QA documents.

The QA Officer is responsible for ensuring that this TPN meets QA requirements and that the NDFR is trained in and complies with the requirements of this TPN. The PI is responsible for the preparation, technical review, and revision of this TPN, as well as oversight of its performance.

6.0 REFERENCES

NWRPO (Nuclear Waste Repository Project Office), 2002. *EWDP Health and Safety Plan*, Nye County Department of Natural Resources and Federal Facilities, Pahrump, Nevada.

TP-8.0, *Field Collection, Logging, and Processing of Borehole Samples*.

TP-9.9, *Measurement of Groundwater Levels Using Electric Well Sounders*.