Response to the Approval with Modifications for the Work Plan to Conduct Reliability Assessment of Multiscreened Westbay Wells, Los Alamos National Laboratory, EPA ID No: NM0890010515, HWB-LANL-MISC-GW, Dated June 15, 2010

INTRODUCTION

To facilitate review of this response, the New Mexico Environment Department's (NMED's) comments are included verbatim. Los Alamos National Laboratory's (LANL's or the Laboratory's) responses follow each NMED modification.

NMED Modification

1. *In NMED's April 16, 2010 letter* (Approval with Direction of Request for Extension to Submit a Work Plan to Conduct a Reliability Assessment of Multiscreened Westbay Wells)*, the Permittees were required to assess all screens in monitoring wells CdV-R-15-3, CdV-R-37-2, and R-26. The Plan does not include the assessment of R-26 screen 2. If rehabilitated, R-26 screen 2 could potentially serve as an upgradient regional aquifer background well for Consolidated Unit 16-021(c)-99. The Permittees must incorporate R-26 screen 2 into the assessment.*

LANL Response

1. Downhole video camera surveys were performed in R-26 on April 22 and July 14, 2004, to document screen conditions before the Westbay sampling system was installed. The results indicated the lower screen (screen 2) had significant fine-grained materials present throughout the slot openings, suggesting either ineffective development of the screened interval or invasion of the annular seal materials into the well screen. Subsequent attempts to sample R 26 screen 2 with the Westbay sampling system resulted in the plugging of the sampling port and sampler with a tan, viscous material, indicating potential problems with this well screen.

   During the Westbay reliability assessment, R-26 screen 2 will be further assessed using a borehole video camera following removal of the Westbay system. Additionally, an attempt will be made to bail solid material from the sump to determine if the well screen was invaded by bentonite. If the video assessment suggests R-26 screen 2 has the potential to be a productive screen that produces representative data, the screen will be redeveloped using the methods planned for CdV-R-15-3 screen 4 and CdV-R-37-2 screen 2. However, if bentonite is confirmed in the screen or evidence is found of significant damage to the well screen, rehabilitation of the R-26 screen 2 will not be attempted.

NMED Modification

2. *The Permittees must conduct rigorous redevelopment of CdV-R-15-3 screen 4 and CdV-R-37-2 screen 2. After swabbing and pumping, which are proposed in the Plan, the Permittees must jet the well screens with contaminant-and tritium-free local regional groundwater while simultaneously pumping the screens. Water quality samples must be collected and tested for the analytical suite presented in Table 4.1-1 of the Plan, at the midpoint of swabbing and pumping, at the end of swabbing and pumping, and at the end of jetting and pumping.*

LANL Response

2. Jetting of the well screens will be performed at CdV-R-15-3 screen 4 and CdV-R- 37-2 screen 2.

NMED Modification

3. *In addition to water quality samples, the Permittees must collect supplementary unfiltered sample aliquots during purging and redevelopment of CdV-R-15-3 screen 4 and CdV-R-37-2 screen 2 in order to determine the amount and composition of solids removed from the well screen, filter pack, and/or formation. At each screen, the Permittees must collect a minimum of four samples for solids determination during purging, a minimum of four samples during swabbing and pumping, and a minimum of two samples during jetting and pumping. Solids obtained from each sample must be analyzed for mineralogy and trace elements.*

LANL Response

3. The Laboratory will collect the specified number of unfiltered sample aliquots during purging and redevelopment of CdV-R-15-3 screen 4 and CdV-R-37-2 screen 2 identified by NMED. Solids obtained from each sample will be analyzed at the on-site Geochemistry and Geomaterials Research Laboratory (GGRL) for clay mineralogy using x-ray diffraction.

NMED Modification

4. *The Permittees must add total alkalinity to the list of field parameters collected during all purging and redevelopment activities.*

LANL Response

4. Alkalinity will be determined on field samples with the analysis being performed on-site at GGRL.

NMED Modification

5. *All laboratory data collected by the Permittees must be submitted to NMED within **60 days** of sample collection. All field data must be submitted to NMED within **15 days** of collection. Data submittals must be in the form of two paper copies and one electronic copy in accordance with Section XI.A of the March 1,2005 Order on Consent (Order).*

LANL Response

5. The Laboratory proposes to provide data in the following manner: field data, sample numbers, and sample type will be provided within 15 d of completion of field activities at each well, analytical data for samples analyzed on-site will be provided within 60 d of sample collection, and data for samples analyzed off-site will be provided via RACER (the Laboratory will notify NMED when the analytical data have been uploaded to RACER).

   Data submitted to NMED will be in the form of two paper copies and one electronic copy in accordance with Section XI.A of the Compliance Order on Consent.