Monthly Progress Report
Corrective Measures Evaluation (CME)/Corrective Measures Implementation (CMI) for Consolidated Unit 16-021(c)-99
April 2011

This report summarizes Los Alamos National Laboratory (LANL) activities completed during April of fiscal year 2011 on the CME/CMI for Consolidated Unit 16-021(c)-99, the Technical Area 16 (TA-16) 260 Outfall. Activities outlined in the corrective measures study (CMS) plan ([LA-UR-98-3918] approved by the New Mexico Environment Department [NMED] Hazardous Waste Bureau [HWB] on 9/8/99) and other related activities are described herein.

Description of Activities and Contacts – A meeting with Michael Dale of the NMED HWB was held on April 21, 2011, to discuss three topics. First, the potential reconfiguration of the permeable reactive barrier (PRB) cells to improve barium removal and to minimize plugging was discussed. For the former goal, the amount of zeolite would be increased. For the latter goal, granular activated carbon (GAC) would replace the zero-valent iron (ZVI)/sand mix. Second, the loss of the pressure transducer from the lower screen of the CdV-16-4(ip) pump test was noted. LANL representatives informed NMED that the contractor was going to try to retrieve the transducer (see discussion below). Because of the time associated with this retrieval effort, LANL requested NMED HWB consider a 2-wk extension on the pump test report, from May 26 to June 9, 2011. Third, LANL noted that a meeting with the NMED Surface Water Quality Bureau (SWQB) was being scheduled to discuss the issue of aluminum in the TA-16 springs (see discussion below). NMED HWB requested to be invited to this meeting.

The discussion was documented in an email dated May 2, 2011. NMED concurred with the proposed PRB reconfiguration in an e-mail dated May 3, 2011.

Surface CME/CMI

Best Management Practices (BMPs) – BMPs are inspected quarterly and following significant precipitation events. Several very small events occurred in April; none exceeded 0.5 in.

CME Hydrogeologic Investigations – Hydrogeologic investigations include periodic water sampling as outlined in the Phase II Resource Conservation and Recovery Act facility investigation (RFI) work plan as well as continuing investigations delineated in the CMS plan. The ongoing spring sampling program, conducted under the auspices of LANL's interim facility-wide groundwater monitoring plan, includes biannual sampling at Martin, SWSC, and Burning Ground springs. The sampling of locations within the Water/Cañon de Valle Aggregate Area, including those surface sites most relevant for the TA-16-260 CME/CMI, was initiated in late March 2011 and continued into early April 2011.

Flow in the TA-16 canyons remained low in April because of minimal spring runoff. Martin Spring is flowing at a rate of ~ 0.08 L/s, Burning Ground Spring is flowing at a rate of ~ 0.3 L/s, and SWSC Spring did not flow over the weir-box exit.

The 90s Line Pond remains wet but is very small in extent. Surface water is present in Cañon de Valle from upstream of the 260 Outfall channel to beyond the former location of Material Disposal Area P. Most alluvial wells in Cañon de Valle and Martin Spring Canyon are wet (except CdV-02657 and MSC-06293), but those in Fishladder Canyon are dry.

CMI – Permitting for CMI activities continues to proceed slowly. It was previously determined the storm-filter systems in the springs required National Pollutant Discharge Elimination System (NPDES) permits because of elevated levels of aluminum. The basic problem is that naturally occurring levels of aluminum in the spring water exceed current water standards. LANL and the U.S. Department of Energy commented on NMED SWQB's Draft Water Quality Management Plan, particularly on expediting the use of the attainability analysis process to take background concentrations into consideration, which would potentially allow the stormfilters to be turned on. A follow-up meeting with the SWQB will be scheduled for early May.

TerranearPMC continued water-level monitoring activities for the PRB in April. As noted above, a meeting with NMED was held to propose increasing the amount of zeolite media in the PRB to improve barium removal and replacing the ZVI/sand media with GAC to minimize plugging. These changes will be implemented in May.

Subsurface CME/CMI

RFI/Investigation Report and CME for Deep Groundwater – Well R-25c, completed in September 2008, is not producing water.

Well CdV-16-4(ip) was drilled to a depth of 1150 ft in August (NMED complete on August 23, 2010).

The CdV-16-4(ip) pump test was completed in April. The 10-d recovery period for the lower screen test was completed. No obvious response was observed in any of the nearby wells associated with the lower screen test. As noted above, when the subcontractor attempted to retrieve the transducer from the lower screen test on April 21, 2011, the transducer was dislodged from its cage and was trapped in the sump at the bottom of the borehole. The subcontractor remobilized equipment to the site, including specialized "fishing" equipment to retrieve items from boreholes and successfully removed the transducer in less than 12-h on April 30, 2011. The R-25(b) 24-h single-screen hydrologic test was completed in April.

Public and Stakeholder Involvement – None.

Problems Encountered/Actions to Rectify Problems

The status of aluminum under potential NPDES permits for the storm-filter systems is problematic, as noted above in the CMI section. A meeting with NMED SWQB will be held in May in an ongoing effort to resolve this issue.

The ZVI cell in the PRB has problems with clogging. The media in the high explosives–removal cell will be adjusted from ZVI/sand to GAC.

Key Personnel Issues – None

PROJECTED WORK FOR MAY 2011

Surface CME/CMI

BMPs

- Continue inspection of existing BMPs following significant precipitation events

CME Hydrogeologic Investigations

- Maintain the TA-16 trailers
- Check for the presence and levels of water in Cañon de Valle alluvial system
- Continue precipitation monitoring

CMI

- Continue NPDES permitting discussions with NMED
- Continue monitoring water levels and field parameters in PRB wells
- Reconfigure PRB cells (as described above)
- Continue waste management activities for water at CMI remedy sites

Subsurface CME/CMI

- Analyze data from pump tests
- Complete draft of pump test report

Public and Stakeholder Involvement – Continue discussions with NMED personnel regarding aluminum in springs issue