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

This report summarizes Los Alamos National Laboratory (LANL) activities completed during February 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 on 9/8/99) and other related activities are described herein.

Description of Activities and Contacts – A meeting with NMED to discuss upcoming deliverables associated with the TA-16-260 CME/CMI was held on February 17, 2011. The discussion focused on how best to align the upcoming deliverables for the 260 Outfall project, including the TA-16 Well Network Evaluation requested by NMED in a letter dated January 31, 2011. NMED agreed LANL could request extensions on (1) the Pump Test Report, originally scheduled for delivery on March 25, 2011, because of the delays in completing well R-63 associated with drilling and development problems (see below); and (2) the Well Network Evaluation, originally scheduled for delivery on July 1, 2011, because of the need to include data and interpretations from R-63, the Westbay reliability study, and the Water Canyon and Cañon de Valle report in the Well Network Evaluation. LANL will submit requests for extension of the former document to May 31, 2011, and the latter document to October 31, 2011.

Surface CME/CMI

Best Management Practices (BMPs) – BMPs are inspected quarterly and following significant precipitation events. Three very small events occurred in February; 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 includes biannual sampling at Martin, SWSC, and Burning Ground springs. These activities are now conducted under the auspices of LANL's interim facility-wide groundwater monitoring plan.

Flow in the TA-16 canyons remained very low in February. Water levels have decreased by several inches in the wells and piezometers located near the permeable reactive barrier (PRB) since the summer water-level maxima. Martin Spring is flowing at a rate of <0.1 L/s, Burning Ground Spring is flowing at a rate of <0.3 L/s, and SWSC Spring is not flowing over the weir-box exit. Because of the hard freeze in early February, most of the water sources, including some alluvial water, at TA-16 froze.

The 90s Line Pond remains wet but frozen. Surface water, much of it frozen, is present in Cañon de Valle from upstream of the 260 Outfall channel to beyond the former location of Material Disposal Area P.

CMI – Permitting for CMI activities continues to proceed slowly. The U.S. Environmental Protection Agency (EPA) Region 6 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.

TerranearPMC continued water-level monitoring activities for the PRB in February. Several of the ports and the PRB itself froze during the extreme weather conditions at the beginning of February. At that time no flow through the vessel was occurring. By the end of the month, the PRB had largely thawed out and flow continued through the vessel. Quarterly water samples (both screening and laboratory) were collected in mid-month from those ports that had thawed by that time.

Subsurface CME/CMI

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

Well R-47(i) at TA-14 was completed in November 2009 to a depth of 895 ft (NMED complete on November 15, 2009).

Well R-63 was completed to a depth of 1423 ft (NMED complete on February 9, 2011). The single screen was installed at a depth of 1325–1345 ft, backfilling was completed, and the screen was developed. This interval is located in a productive zone based both on geophysics and observations made during drilling. NMED personnel were involved in the decision to locate the well screen at this depth. Following initial development, the development pump was accidentally dropped into the well. The pump was removed and the well screen was examined using borehole video; no damage to the screen was observed. The screen was redeveloped.

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

Planning for the CdV-16-4(ip) pump test was completed. The step drawdown test was completed and the pump test was initiated on February 26. Development water was treated on-site using a granular activated carbon (GAC) system. Rapid-turnaround RDX (hexahydro-1,3,5-trinitro-1,3,5 triazine) analyses were used to ensure high explosives have been removed by the GAC system and the water met requirements specified in the notice of intent to discharge.

Public and Stakeholder Involvement – As noted above, LANL and U.S. Department of Energy personnel met with NMED personnel during February.

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.

Key Personnel Issues – None

PROJECTED WORK FOR MARCH 2011

Surface CME/CMI

BMPs

- Continue inspection of existing BMPs following significant precipitation events

CME Hydrogeologic Investigations

- Maintain the site at 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 and EPA
- Continue monitoring water levels and field parameters in PRB wells
- Continue waste management activities for water at CMI remedy sites

Subsurface CME/CMI

- Complete the R-25b and CdV-16-4ip pump tests
- Complete the reliability assessment for well R-47i

Public and Stakeholder Involvement – Continue discussions with NMED personnel regarding the PRB and pump tests.