TA-16

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Date: March 14, 2006
Refer to: ER2006-0207

Mr. John Young
Permits Management Program
NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

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MAR 2006
NMED Hazardous Waste Bureau

SUBJECT: FEBRUARY 2006 MONTHLY PROGRESS REPORT FOR CORRECTIVE MEASURES STUDY FOR POTENTIAL RELEASE SITE 16-021(c)-99

Dear Mr. Young:

Enclosed are two hard copies of the February 2006 Corrective Measures Study (CMS) Progress Report for Potential Release Site (PRS) 16-021(c)-99, the 260 Outfall. The report is submitted according to the approved CMS plan for PRS 16-021(c)-99.

If you have questions, please call Don Hickmott at (505) 667-8753 (dhickmott@lanl.gov) or Woody Woodworth at (505) 665-5820 (lwoodworth@doeal.gov).

Sincerely,

David McInroy, Deputy Program Director
Environmental Remediation & Surveillance
Los Alamos National Laboratory

Sincerely,

David Gregory, Federal Project Director
Department of Energy
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DH/jk

Enclosures: Two hard copies of the Monthly Progress Report Corrective Measures Study (CMS for Potential Release Site 16-021(c)-99, February 2006 (ER2006-0233)

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Monthly Progress Report
Corrective Measures Study (CMS) for Potential Release Site (PRS) 16-021(c)-99
February 2006

This report summarizes Los Alamos National Laboratory (LANL) activities completed during February of fiscal year (FY) 2006 on the CMS for PRS 16-021(c)-99, the TA-16-260 Outfall. Both the activities described in the CMS plan ([LA-UR-98-3918], approved by NMED-HWB on 9/8/99), and other related activities are described herein.

Description of Activities and Contacts

High Performing Team (HPT) Activities – The HPT met on February 27, 2006. Topics of discussion included: 1) an update on the TA-16-260 hydrologic system; 2) further characterization efforts for the contaminated surge bed that is located in the TA-16-260 pond area; 3) a review of a longitudinal cross-section down Cañon de Valle; 4) the Investigation Report (IR) for the TA-16-260 deep groundwater system; 5) the draft statement of basis (SOB) that was provided to LANL by NMED on February 23, 2006; 6) time series data associated with the TA-16-260; and 7) an upcoming no-longer contained in letter that LANL plans to send to NMED.

LANL personnel provided an update on the status of the hydrogeologic system in Cañon de Valle. It was noted that the system has dried out due to the lack of precipitation during the past four to five months. It was noted that quarterly sampling would be in late March or early April, with a goal of capturing any spring run-off that occurred. Further details on the status of the hydrogeologic system are provided below and in the January CMS monthly report.

Three cross sections and an associated basemap of the TA-16-260 outfall and pond area were reviewed. It was noted that several of the boreholes from that area had been re-examined and these new observations had been incorporated into the cross section. Interestingly, borehole 16-6370, which had been drilled in association with the 2000 interim measure and had never been geologically logged in detail, appeared to show a surge bed that could be correlated with the highly-contaminated surge bed located beneath the TA-16-260 outfall pond. Three boreholes were proposed southwest of the TA-16-260 outfall pond. NMED expressed interest in additional boreholes to the northeast of the pond. NMED had identified possible surge beds in logs of boreholes 16-2706 (17 to 21 ft depth), 16-2711 (15 ft depth) and 16-2709 (5-14 ft depth). LANL geologists will re-examine these logs and associated cores (if available) and discuss the results with NMED at the next HPT meeting. It was suggested that NMED might want to examine this core themselves. This will be considered for the next HPT meeting. A letter describing this proposed drilling will be completed following these activities.

A longitudinal cross-section down Cañon de Valle was reviewed. This depicts the HRR geophysics, locations of permeable reactive barriers, and alluvial well locations and depths to water. NMED thought that this figure would be useful for future public

meetings and requested that it be formally submitted for the administrative record as soon as possible. They also requested that a basemap showing this cross-section be provided.

A discussion of the IR for deep groundwater that is due to NMED in August 2006 was initiated. Points discussed included: 1) A modified outline for the IR was proposed. NMED will review this and provide any comments. LANL will formally submit this at least 60 days prior to submittal of the report; 2) LANL noted that the IR would present in detail only the data for the five wells drilled as part of the CMS. Data from other wells would be used and cited, but not presented. Data would be through December 2005, so there would not be four rounds of data for the intermediate wells. 3) LANL proposed including the five well completion reports on a CD as an Appendix and minimizing the amount of repetition from those well completion reports in the main text. NMED thought that this was reasonable. It was noted that a future HPT meeting would need to discuss groundwater modeling associated with this IR.

LANL and NMED reviewed the draft statement of basis that NMED provided to LANL on 2/23/06. LANL noted several locations where incorrect information may have been presented. LANL will provide this information in a markup of NMED's draft and include citations of where the correct information can be found in existing reports. LANL will also formally provide information for the administrative record that supports the contention that soil removal and a central pump and treatment plant would be more difficult to implement than would be permeable reactive barriers (PRBs) and information that potentially ties Martin spring to the 260 outfall source. NMED noted that they anticipated that the Corrective Measures Implementation (CMI) plan should propose gridded sampling in the SWSC cut region in which toxicological tests would be performed in order to define any soil removal in that region.

LANL presented time-series data for TA-16 springs, alluvial wells, and deep wells. It was suggested that these data were comprehensive enough that sampling frequencies for these locations could be reduced to twice yearly. This would be proposed within the context of the sitewide groundwater monitoring plan. NMED personnel noted that this suggestion should be implemented in the re-write of the document that LANL will provide within the next three months.

It was noted that LANL will soon submit a 'no-longer-contained-in' determination request for purge waters from Fishladder Canyon, Martin Canyon. and Cañon de Valle. These waters contain low levels of organic constituents that potentially originated from F-listed solvents; thus, the purge waters are currently stored in satellite accumulation areas (SAAs). If a 'no longer contained in' determination is granted, these waters can be processed at the TA-16 high explosives wastewater treatment plant.

The next HPT meeting is tentatively scheduled for late March. Topics will include a TA-16-260 update, a discussion of groundwater modeling, a discussion of the cross-sections of the TA-16-260 outfall pond, and further discussion of the upcoming Investigation Report for deep groundwater. This meeting may be held at LANL so that core from the 260 outfall area could be examined.

RCRA Facility Investigation (RFI) Phase II Report and CMS Plan– No activities this month.

Best Management Practices (BMPs) – BMPs are inspected quarterly and following significant precipitation events. There were no significant precipitation events in February.

CMS Hydrogeologic Investigations– Investigations include ongoing Phase II RFI sampling as well as continuing investigations outlined in the CMS plan.

The ongoing Phase II RFI sampling program, currently focused on capturing high-flow events, includes quarterly stable isotope samples at Martin and Burning Ground Springs.

The hydrologic system in Cañon de Valle has begun to dry out due to no significant precipitation in December, January, and February. Martin Spring is flowing at ~50 mL/min. and Burning Ground Spring is flowing at a rate of ~200 mL/ sec. SWSC spring is dry.

The 90s Line Pond and downgradient surface locations in Martin Spring Canyon and Cañon de Valle are wet, but frozen. The alluvial wells in Cañon de Valle and lower Martin Spring Canyon are wet. Surface water in Cañon de Valle was present from Burning Ground spring to just east of MDA P; however most of this reach was frozen and beginning to melt. Water was likely present at the Cañon de Valle headwaters. Three alluvial wells have been installed in Fishladder Canyon as part of the TA-16-340 Complex investigations; these are all dry.

No well sampling occurred during February.

Ecological Risk Pilot–

The ecological risk pilot is complete; results are presented in the Phase III RFI Report.

CMS Bench and Pilot Studies– Write-up of bench and pilot studies, many of which were completed under the auspices of the Innovative Technology Remediation Demonstration (ITRD) program, have been completed. The ITRD HE program is focused on two DOE sites: LANL and Pantex. Ongoing studies include:

1. A study of the passive barrier technology of Stormwater Management, Inc., potentially useful for removing HE and barium from waters (LANL). Monitoring of barrier effectiveness has recommenced after several quarters of drought conditions during which Martin spring was dry.
2. A study of in situ anaerobic bioremediation of HE using gas-phase carbon additions (Pantex).
3. Oxidation, reduction, and in-situ bioremediation studies of groundwater contamination (Pantex).

Interim Measure (IM) –

The IM Report was approved by NMED in a letter dated January 13, 2003. No new activities occurred during this reporting period.

RFI and CMS Reports –

The CMS Report was completed and submitted to NMED on November 26, 2003; the RFI Report was completed and submitted in September of 2003. A response to the NOD on the RFI Report was submitted on January 28, 2004 and an addendum to that NOD response was submitted on February 25, 2004. An approval with modifications for the RFI was received on June 23, 2004, and a response to the approval was submitted to NMED on July 23, 2004. The RFI text modifications were completed during December 2004 and submitted to NMED. An NOD on the CMS Report was received on May 16, 2005. A response to that NOD was submitted on June 15, 2005. LANL has responded to several recent NMED queries concerning the CMS Report.

Cross-sections associated with the contaminated surge bed in the TA-16-260 Pond area are being developed. These will be used to propose locations for additional boreholes to better define the location of that surge bed.

Initial sections for the RFI Report for TA-16 groundwater due in August 2006 were continued. Modeling was continued.

Public and Stakeholder Involvement – None

Percentage of CMS Completed

LANL estimates 100% of the surface CMS has been completed (please note this percentage does not reflect either the deep or intermediate boreholes being drilled per the CMS plan addendum).

Problems Encountered/Actions to Rectify Problems

None.

Key Personnel Issues

None.

Projected Work for March 2006

RFI Reports and CMS Report

- Discussions regarding the CMS Report with NMED personnel.

BMPs

- Continued inspection of existing BMPs following significant precipitation events.

CMS Hydrogeologic Investigations

- Site maintenance at the TA-16 trailers.
- Checking for levels and presence of water in alluvial wells.
- Precipitation monitoring.
- Data analysis.
- Groundwater modeling.
- Work on groundwater RFI report.
- Submittal of a letter responding to NMED questions associated with the TA-16-260 CMS
- Quarterly sampling

Ecological Risk Pilot

- None

CMS Bench and Pilot Studies

- None

Public and Stakeholder Involvement

None planned.