



TA 16

Date: September 21, 2005  
Refer To: ER2005-0680

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



**SUBJECT: AUGUST 2005 MONTHLY PROGRESS REPORT FOR CORRECTIVE MEASURES STUDY FOR POTENTIAL RELEASE SITE 16-021(c)-99**

Dear Mr. Young:

Enclosed are two hard copies with electronic files of the August 2005 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 16-21(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  
Los Alamos Site Office

DH/jk

Enclosure: Two hard copies with electronic files – August 2005 Monthly Progress Report CMS for PRS 16-021(c)-99



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**Monthly Progress Report**  
**Corrective Measures Study (CMS) for Potential Release Site (PRS) 16-021(c)-99**  
**August 2005**

This report summarizes Los Alamos National Laboratory (LANL) activities completed during August of fiscal year (FY) 2005 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 August 25, 2005. Discussion topics included: 1) an update on TA-16-260 and TA-16-340 activities, 2) a discussion of the TA-16 intermediate-depth wells, and 3) a discussion of the TA-16-260 CMS Report.

LANL personnel provided an update on the status of the hydrologic system in Cañon de Valle, noting that the summer monsoons had yielded a wet hydrologic system. It was noted that quarterly sampling had been delayed until August, which would allow sampling of the monsoonal high-flow regime. Further details on the status of the hydrologic system are provided below.

LANL personnel updated NMED on the status of the TA-16-340 sampling efforts. LANL personnel stated that most of the sampling in the building areas and Fishladder drainage was complete. It was noted that it would be difficult to mobilize a drill rig into lower Fishladder canyon to install alluvial wells. LANL requested that either hand-dug or drive point pre-packed wells be allowed to be installed. NMED requested an e-mail on this topic.

LANL described the current status of the intermediate-well drilling. LANL personnel reviewed information on the ongoing well development, noting that the turbidity was quite variable and that the productivity of the screened zone was decreasing. NMED requested an e-mail updating them on the status of development within the next week or two.

NMED had several questions on the status of the permeable reactive barrier (PRB) in Mortandad Canyon. LANL personnel described the recent collapse of that barrier and described upcoming activities associated with the PRB. They also provided information on other PRBs across the country that had been successful. NMED requested a formal submittal of information on the PRB as soon as possible. LANL will provide this information.

NMED noted several likely recommendations associated with the upcoming statement of basis (SOB): 1) the trough for the 260 outfall would likely need to be removed; 2) if surge-bed grouting were selected as a remedy, more borings than those proposed by

LANL were likely to be needed; 3) authorization basis issues associated with blasting behind TA-16-260 were identified as problematic.

The next HPT meeting is tentatively scheduled for October. Topics will include a TA-16-260 update, a discussion of the intermediate-well drilling, and a discussion of the upcoming RFI Report for deep groundwater.

***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. BMP were inspected following precipitation events in August and repairs were not required.

***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 collecting stable isotope samples at Martin and Burning Ground Springs.

The hydrologic system in Cañon de Valle is wetting up, due to heavy monsoonal rains in August. Water continues to flow over the weir at SWSC spring (125 mL/sec). Martin Spring is flowing at 300 mL/sec and Burning Ground Spring is flowing at a rate of 800 mL/sec.

The 90s Line Pond, Fishladder Seep, and downgradient surface locations in Martin Spring Canyon and Cañon de Valle are wet. The alluvial wells in both Cañon de Valle and Martin Spring Canyon are wet. Water was also present at the Cañon de Valle headwaters, the Water Canyon confluence, and the Fishladder Canyon confluence.

The annual readiness review for TA-16 water sampling was completed. Quarterly sampling was completed at all of the locations (above) that contained water. Low flow sampling was completed in the alluvial wells in which there was enough water and an adequate recharge rate.

One precipitation sample was collected during this reporting period.

Redrilling of the CDV-16-2(i) well was completed in July. The borehole was drilled to a total depth of 872 ft with a static water level following drilling of ~ 837 ft. A single screen well was installed. As of August 30, the well still contained water, although pumping rates have decrease to 1 gal./min.. Development activities are ongoing. Development is quite difficult; turbidity values are low, but variable. Total organic carbon is low.

### ***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 Report*** –

The CMS Report was completed and submitted to NMED on November 26, 2003; the RFI Report was completed and submitted in October 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.

***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 September 2005**

### ***RFI Reports and CMS Report***

- Discussions regarding the CMS Report with NMED personnel.
- Completion of a letter on the Mortandad PRB

### ***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 and deep wells.
- Precipitation monitoring
- Data analysis
- Groundwater modeling
- Work on groundwater RFI report
- Development of the redrilled CdV-16-2(i)
- Completion of fifteen-day notification for October sampling.

### ***Ecological Risk Pilot***

- None

### ***CMS Bench and Pilot Studies***

- None

***Public and Stakeholder Involvement***

None planned.