

TA-16



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Date: August 19, 2003
Refer to: ER2003-0521



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

SUBJECT: JULY 2003 CORRECTIVE MEASURES STUDY (CMS) PROGRESS REPORT FOR POTENTIAL RELEASE SITE (PRS) 16-021(C), THE 260 OUTFALL

Dear Mr. Young:

Enclosed are two copies of the July 2003 CMS Progress Report for PRS 16-021(c), the 260 Outfall. This report is being submitted as part of the reporting conditions outlined in Section R, scope of work for Resource Conservation and Recovery Act CMS at the Laboratory, Task IV, Reports, Part A, Progress Module VIII of the Laboratory's Hazardous Waste Facility Permit.

If you have any questions, please call Dave McInroy at (505) 667-0819 or Lance Woodworth at (505) 665-5820.

Sincerely,

David McInroy, Deputy Project Director
Remediation Services
Los Alamos National Laboratory

Sincerely,

David Gregory, Project Manager
Department of Energy
Los Alamos Site Operations

DM/DG/NR/dv



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Enclosure: July 2003 CMS Progress Report for PRS 16-021(c), the 260 Outfall

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Monthly Progress Report
Corrective Measures Study (CMS) for Potential Release Site (PRS) 16-021(c)
July 2003

This report summarizes Los Alamos National Laboratory (LANL) activities completed during July of fiscal year (FY) 2003 on the CMS for PRS 16-021(c), the 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 260 HPT met on July 28, 2003.

Agenda items included an update of ongoing 260 activities, a discussion of ecological risk assessment results, a review of the use of surrogate chemicals in screening and risk assessments, and a brief discussion of human health risk assessment calculations.

LANL representatives provided updates on the CMS sampling investigations, including a discussion of intermediate well drilling activities and an update on the status of the Canon de Valle hydrologic system. Additional details on these projects are provided below in this monthly progress report and in the June 2003 progress report.

LANL/DOE noted that the intermediate well drilling would likely begin during the early part of FY 2004. The large size of the pending RCRA Facilities Investigation (RFI) Report was noted. NMED representatives suggested that further discussions of ways to shorten the physical size of the report such as moving more tables and figures into appendices and providing all of the data on a CD were warranted. NMED will review sections of the draft report, with a goal of suggesting ways to shorten the document.

The results of the ecological risk assessment were presented. Most of these data had been presented previously in earlier HPT meetings; new results were for the December 2002 sediment/*chironomous tentans* resampling. These results did not confirm the results of the first round of *chironomous* testing. Toxicity was not seen in the sample from SWSC cut in this round. A review of studies by Ralph Ford Schmidt of invertebrate species diversity in Canon de Valle showed minimal ecological effects relative to reference streams. The conclusion of the aquatic ecosystem study is that isolated regions of invertebrate toxicity are present in Canon de Valle, possibly linked to high silver concentrations, but that overall the ecosystem is quite healthy.

LANL/DOE presented information on the use of surrogate chemicals in human health risk assessments. High explosives (HE) breakdown products present in Canon de Valle such as the amino-DNTs and MNX, DNX, and TNX do not have toxicological data in EPA's databases. LANL discussed the EPA philosophy (adopted by LANL/DOE) of using structurally similar compounds as surrogates for compounds without adequate toxicological information. NMED thought that this strategy would be acceptable, but

requested further information on the approach. LANL agreed to provide NMED with the internal guidance documents on this topic prior to the end of the fiscal year.

LANL presented preliminary results for the human health risk assessments for the TA-16-260 source region and for the alluvial system in Canon de Valle. The former showed residual risks slightly greater than NMED target levels; it is likely that a 'hot spot' cleanup to address these residual risks will be needed. Canon de Valle site-specific risks were slightly lower than NMED target risks using a trail user scenario. However, cleanup may still be driven by water quality standards (pending NMED Order negotiations).

The next HPT meeting was scheduled for August 25, 2003. Topics will include a 260 update, CMS decision strategies, and a discussion of other issues that have arisen during the writing of the RFI and CMS reports.

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

Best Management Practices (BMPs)– BMPs are inspected quarterly and following significant precipitation events. No BMP repairs were required in July.

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

The ongoing Phase II RFI sampling program includes collecting samples at Martin and Burning Ground spring for stable isotopes. This sampling is now focused on capturing high-flow events. SWSC spring remains dry. Autosamplers were damaged by elk during July. Martin spring is dry for the first time since the initiation of the CMS in 1998.

The alluvial and deep wells were checked for presence and level of water. All five alluvial wells in Canon de Valle contained water. Water was present in the lower two of the three alluvial wells in Martin Spring Canyon. All of the intermediate depth boreholes were dry.

The headwaters of Canon de Valle contained water. The new seep in the headwaters of Canon de Valle (see September 2002 CMS Monthly) continues to flow. Canon de Valle was wet from Burning Ground spring to MDA-P then dry down the rest of the canyon. Water Canyon remains wet.

One sample from one precipitation event was collected and archived for analysis during this reporting period.

Data analysis for the RFI Report has been proceeding at a high level of effort. The peer review of the RFI Report was completed.

Ecological Risk Pilot–

Analysis of ecological data in the RFI Report suggests that no cleanup will be required to protect ecological receptors.

CMS Bench and Pilot Studies– Write-up of bench and pilot studies continued (formerly in collaboration with the Innovative Treatment Remediation Demonstration (ITRD) Program. The ITRD HE program is focused on two DOE sites: LANL and Pantex. Studies have included:

1. A study of the passive barrier technology of Stormwater Management, Inc., which is potentially useful for removing HE and barium from waters.
2. A study of chemical treatment of HE-contaminated soil using zero-valent iron (ZVI). The LANL portion of this study has been completed.
3. At Pantex, a study of in situ anaerobic bioremediation of HE using gas-phase carbon additions.
4. A study of ex situ anaerobic bioremediation of HE-contaminated soils using the W. R. Grace process, which combines anaerobic bioremediation with a ZVI treatment. The LANL portion of this study has been completed.
5. A study of HE composting. Amendments appropriate to northern New Mexico were tested on both clean and contaminated soils. The LANL portion of this study has been completed. The internal report was completed on these studies.
6. A study of immobilization of barium-contaminated sediments from Cañon de Valle. A preliminary study has been completed and study write-ups are ongoing.
7. Phytoremediation studies in Cañon de Valle. Native plants were being evaluated for their ability to remove HE from surface waters. Results suggest that low levels of phytoremediation are occurring in the Burning Ground spring area.
8. Oxidation, reduction, and in-situ bioremediation studies of groundwater contamination at Pantex.

Write-up of the stabilization studies was continued.

Interim Measure (IM) –

No activities. The IM Report was approved by NMED in a letter dated January 13, 2003.

RFI and CMS Report –

Work continued on sections of these reports. The peer review of the RFI Report was completed.

Public and Stakeholder Involvement– There was no public or stakeholder involvement during this reporting period.

Percentage of CMS Completed

LANL estimates 96 % of the CMS has been completed to date. Note that this percentage does not reflect the deep and potential intermediate boreholes that will be drilled per the CMS plan addendum.

Problems Encountered/Actions to Rectify Problems

General Problem: The inability of the HPT to meet regularly earlier in the year had a detrimental impact on the activities associated with generation of the CMS Report.

Key Personnel Issues

None.

Projected Work for August 2003

RFI Report and CMS Plan

- None.

BMPs

- Inspection of existing BMPs following significant precipitation events will continue.

CMS Hydrogeologic Investigations

- Site maintenance at the TA-16 trailers.
- Maintenance of autosamplers
- Checking for levels and presence of water in alluvial and deep wells.
- Continued precipitation monitoring.
- Quarterly sampling
- Data analysis.
- Writing of RFI and CMS reports. Incorporation of peer review comments on RFI Report.

Ecological Risk Pilot

- Incorporation of peer review comments on RFI Report

CMS Bench and Pilot Studies

- Stabilization studies write-up.

Public and Stakeholder Involvement

None anticipated.

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