

TA-16



Los Alamos National Laboratory/University of California
Risk Reduction & Environmental Stewardship (RRES)
Remediation (R) Program, MS M992
Los Alamos, New Mexico 87545
(505) 667-0808/FAX (505) 665-4747



National Nuclear Security Administration
Los Alamos Site Operations, MS A316
Environmental Restoration Program
Los Alamos, New Mexico 87544
(505) 667-7203/FAX (505) 665-4504

Date: February 18, 2003
Refer to: ER2003-0155

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: JANUARY 2003 CORRECTIVE MEASURES STUDY (CMS) PROGRESS
REPORT FOR POTENTIAL RELEASE SITE (PRS) 16-021(c)**

Dear Mr. Young:

Enclosed are two copies of the January 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, Acting Program Manager
Remediation Program
Los Alamos National Laboratory

Sincerely,

Everett Trollinger, Project Manager
Department of Energy
Los Alamos Site Operations

DM/ET/NR/am



Enclosure: January 2003 CMS Progress Report (ER2003-0154)

Cy:(w/enc)

A. Dorries, RRES-R, MS M992
T. Grieggs, RRES-SWRC, MS K490
D. Hickmott, EES-6, MS M992
N. Quintana, RRES-R, MS M992
N. Riebe, RRES-R, MS M992
C. Rodriguez, RRES-R, MS M992
D. Stavert, RRES-EP, MS J591
L. Soholt, RRES-ECO, MS M887
E. Trollinger, LASO, MS A316
L. Woodworth, LASO, MS A316
J. Kieling, NMED-HWB
V. Maranville, NMED-HWB
J. Davis, NMED-SWB
M. Leavitt, NMED-GWQB
S. Yanicak, NMED-OB
L. King, EPA Region 6
RRES-R File, MS M992
IM-5, MS A150
RPF MS M707

Cy:(w/o enclosure)

J. Johnson, ADO, MS A104
D. McInroy, RRES-R, MS M992
B. Ramsey, RRES-DO, MS J591
J. Bearzi, NMED-HWB
J. Parker, NMED-OB

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

This report summarizes Los Alamos National Laboratory (LANL) activities completed during January 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 did not meet in January 2003 and no subsequent meetings have been scheduled pending resolution of corrective action order issues.

RCRA Facility Investigation (RFI) Report and CMS Plan– The revision to the CMS addendum was completed, except for finalizing the well locations with NMED.

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

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 every other day for stable isotopes. SWSC spring remains dry.

The alluvial and deep wells were checked for presence and level of water. All five alluvial wells in Canon de Valle contained water. No water was present in the three alluvial wells in Martin Spring Canyon. All of the intermediate depth boreholes were dry.

Quarterly sampling was completed at CdV-R-15-3 and CdV-R-37-2. High pH levels were observed at one screen of CdV-R-15-3. Other field parameters were similar to those observed in previous rounds of quarterly sampling.

No samples from precipitation events were collected during this reporting period due to the low levels of January precipitation.

Further results from the controlled source auto-magneto telluric investigation (CSAMT) were received. Comments on the draft report were provided to the subcontractor. The major feature of interest in these results is finger-like zones of high conductivity that extend from the surface to the deep groundwater.

Ecological Risk Pilot–

Data analysis to support the combined MDA-P and TA-16-260 ecorisk evaluations continued. Paragon analytical laboratory is working with the ecological risk team to ensure that the analytical protocols for rodent sampling will provide data adequate for decision making.

CMS Bench and Pilot Studies–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 include:

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 further investigations 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.

Barium stabilization/immobilization studies were continued in January.

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. LANL is proceeding with work on sections that require minimal HPT involvement.

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

Percentage of CMS Completed

LANL estimates 92 % of the CMS has been completed to date. Note that this percentage does not reflect the deep and potential intermediate wells 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 during the past few months, as a results of the Corrective Action Order, continues to slow progress on the CMS.

CMS Hydrogeologic Investigations

None.

CMS Bench and Pilot Studies

None.

IM

None.

Key Personnel Issues

None

Projected Work for February 2003

RFI Report and CMS Plan

- A site visit will be completed to help site intermediate depth boreholes.
- Revision to the CMS Addendum for intermediate depth boreholes will be submitted.

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 and sampling for stable isotopes.
- Data analysis.
- Completion of fourth quarter FY02 field summary report.
- Writing of RFI and CMS reports.

Ecological Risk Pilot

- Working with analytical laboratories on rodent analysis protocols. Continued evaluation of data from macroinvertebrate studies. Write-up of ecological risk assessment results.

CMS Bench and Pilot Studies

- Stabilization studies

IM

- Task complete.

Public and Stakeholder Involvement

None anticipated.

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

This report summarizes Los Alamos National Laboratory (LANL) activities completed during January 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 did not meet in January 2003 and no subsequent meetings have been scheduled pending resolution of corrective action order issues.

RCRA Facility Investigation (RFI) Report and CMS Plan– The revision to the CMS addendum was completed, except for finalizing the well locations with NMED.

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

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 every other day for stable isotopes. SWSC spring remains dry.

The alluvial and deep wells were checked for presence and level of water. All five alluvial wells in Canon de Valle contained water. No water was present in the three alluvial wells in Martin Spring Canyon. All of the intermediate depth boreholes were dry.

Quarterly sampling was completed at CdV-R-15-3 and CdV-R-37-2. High pH levels were observed at one screen of CdV-R-15-3. Other field parameters were similar to those observed in previous rounds of quarterly sampling.

No samples from precipitation events were collected during this reporting period due to the low levels of January precipitation.

Further results from the controlled source auto-magneto telluric investigation (CSAMT) were received. Comments on the draft report were provided to the subcontractor. The major feature of interest in these results is finger-like zones of high conductivity that extend from the surface to the deep groundwater.

Ecological Risk Pilot–

Data analysis to support the combined MDA-P and TA-16-260 ecorisk evaluations continued. Paragon analytical laboratory is working with the ecological risk team to ensure that the analytical protocols for rodent sampling will provide data adequate for decision making.

CMS Bench and Pilot Studies–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 include:

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 further investigations 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.

Barium stabilization/immobilization studies were continued in January.

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. LANL is proceeding with work on sections that require minimal HPT involvement.

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

Percentage of CMS Completed

LANL estimates 92 % of the CMS has been completed to date. Note that this percentage does not reflect the deep and potential intermediate wells 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 during the past few months, as a results of the Corrective Action Order, continues to slow progress on the CMS.

CMS Hydrogeologic Investigations

None.

CMS Bench and Pilot Studies

None.

IM

None.

Key Personnel Issues

None

Projected Work for February 2003

RFI Report and CMS Plan

- A site visit will be completed to help site intermediate depth boreholes.
- Revision to the CMS Addendum for intermediate depth boreholes will be submitted.

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 and sampling for stable isotopes.
- Data analysis.
- Completion of fourth quarter FY02 field summary report.
- Writing of RFI and CMS reports.

Ecological Risk Pilot

- Working with analytical laboratories on rodent analysis protocols. Continued evaluation of data from macroinvertebrate studies. Write-up of ecological risk assessment results.

CMS Bench and Pilot Studies

- Stabilization studies

IM

- Task complete.

Public and Stakeholder Involvement

None anticipated.