

Los Alamos National Laboratory

ENVIRONMENTAL RESTORATION



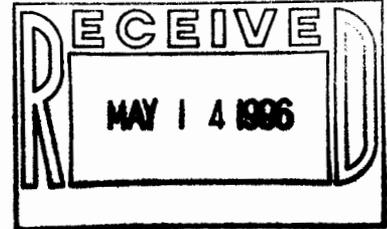
University of California
Environmental Restoration, MS M992
Los Alamos, New Mexico 87545
505-667-0808/FAX 505-665-4747



U. S. Department of Energy
Los Alamos Area Office, MS A316
Los Alamos, New Mexico 87544
505-665-7203
FAX 505-665-4504

Date: May 7, 1996
Refer to: EM/ER:96-247

6/n/r
Mr. Benito Garcia
NMED-HRMD
P.O. Box 16110
Santa Fe, NM 87502



SUBJECT: QUARTERLY TECHNICAL REPORT

Dear Mr. Garcia:

Enclosed are two copies of the Environmental Restoration Project's Quarterly Technical Report, January-March 1996. The Quarterly Technical Reports present no analytical data, according to guidance from the Environmental Protection Agency. Also enclosed is a certification statement signed by the designee owner and operator for the Los Alamos National Laboratory.

If you have questions regarding this report, please call Dave McInroy at (505) 667-0819 or Ted Taylor at (505) 665-7203.

Sincerely,

Jorg Vansen, Project Manager
Environmental Restoration

Sincerely,

Theodore J. Taylor, Program Manager
Los Alamos Area Office

JJ/TT/am



8123

TC

Enclosures: (1) Quarterly Technical Report (2 copies)
(2) Signed Certification Form

Cy (w/enc):

T. Baca, EM, MS J591
J. Brown, FSS-16, MS F674
T. Glatzmaier, DDEES/ER, MS M992
D. Griswold, ERD, AL, MS A906
D. McInroy, EM/ER, MS M992
E. Merrill, EM-453, DOE-HQ
D. Neleigh, EPA
L. Sohlt, EM/ER, MS M992
T. Taylor, LAAO, MS A316 (2 copies)
N. Weber, NMED-AIP, MS J993
J. White, ESH-19, MS K498
S. Yanicak, NMED-AIP, MS J993
EM/ER File, MS M992
RPF, MS M707

Cy (w/o enc):

V. George, LC-GL, MS A187
G. Rael, ERD, AL, MS A906
W. Spurgeon, EM-453, DOE-HQ
J. Vozella, LAAO, MS A316

CERTIFICATION

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Document Title: Quarterly Technical Report, January-March, 1996

Name:  Date: 5-8-96
Jorg Jansen, Program Manager
Environmental Restoration Project
Los Alamos National Laboratory

or

Tom Baca, Program Director
Environmental Management
Los Alamos National Laboratory

Name:  Date: 5/8/96
Joseph Vozella,
Acting Assistant Area Manager of
Environment Projects
Environment, Safety, and Health Branch
DOE-Los Alamos Area Office

or

Theodore J. Taylor
Program Manager
Environment Restoration Program
DOE-Los Alamos Area Office

LA-UR-96-1585

LIBRARY COPY

Los Alamos National Laboratory
Environmental Restoration
A Department of Energy Environmental Cleanup Program

**QUARTERLY TECHNICAL REPORT
JANUARY-MARCH 1996**

LANL 05 C

May 7, 1996

CONTENTS

| | |
|---|----|
| CONTENTS | i |
| ACRONYMS AND ABBREVIATIONS | ii |
| 1.0 INTRODUCTION | 1 |
| 2.0 FIELD UNITS | 1 |
| 2.1 Field Unit 1..... | 1 |
| 2.2 Field Unit 2..... | 6 |
| 2.3 Field Unit 3..... | 7 |
| 2.4 Field Unit 4..... | 8 |
| 2.5 Field Unit 5..... | 9 |
| 3.0 CLOSURES AND REGULATORY COMPLIANCE | 11 |
| 3.1 TA-35 TSL-85 Surface Impoundment..... | 11 |
| 3.2 TA-16 MDA P Landfill..... | 11 |
| 4.0 REFERENCE | 11 |

LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|--------|--|
| ADS | Activity data sheet |
| AOT | Accelerator Operations and Technology (Division) |
| AOT-2 | Accelerator Development Group |
| CST | Chemical Science and Technology (Division) |
| CST-5 | Chemical and Mixed Waste Management Group |
| DOE | US Department of Energy |
| DX | Dynamic Experimentation (Division) |
| EPA | US Environmental Protection Agency |
| ER | Environmental restoration |
| ESH | Environment, Safety, and Health (Division) |
| ESH-18 | Water Quality and Hydrology Group |
| ESH-19 | Hazardous and Solid Waste Group |
| FY | Fiscal year |
| HSWA | Hazardous and Solid Waste Amendments |
| LANL | Los Alamos National Laboratory |
| MDA | Material disposal area |
| NEPA | National Environmental Policy Act |
| NMED | New Mexico Environment Department |
| NOD | Notice of deficiency |
| NPDES | National pollutant discharge elimination system |
| OU | Operable unit |
| PCB | Polychlorinated biphenyl |
| PRS | Potential release site |
| RCRA | Resource Conservation and Recovery Act |
| RFI | RCRA facility investigation |
| TA | Technical area |
| UST | Underground storage tank |
| VCA | Voluntary corrective action |
| VOC | Volatile organic compound |

**QUARTERLY TECHNICAL REPORT
JANUARY-MARCH 1996
LOS ALAMOS NATIONAL LABORATORY
ENVIRONMENTAL RESTORATION PROJECT**

ALBUQUERQUE OPERATIONS OFFICE

CONTRACTOR: University of California

PROJECT MANAGER: Jorg Jansen

NUMBER OF POTENTIAL RELEASE SITES (sampling sites): Approximately 2,100

POTENTIAL WASTE: Radionuclides, High Explosives, Metals, Organics

1.0 INTRODUCTION

This quarterly report describes the technical status of activities in the Los Alamos National Laboratory (the Laboratory) Environmental Restoration (ER) Project. The activities are divided according to field units. Each activity is then identified by an activity data sheet (ADS) number and the technical area (TA) where the activity is located. The Hazardous and Solid Waste Amendments (HSWA) portion of the facility operating permit (Module VIII, Section P, Task V, C) requires the submission of a technical progress report on a quarterly basis. This report, submitted to fulfill the permit's requirement, summarizes much of the field work performed this quarter in the ER Project.

2.0 FIELD UNITS

2.1 Field Unit 1 — Technical Areas 0, 1, 3, 10, 19, 21, 26, 30, 31, 32, 43, 45, 59, 60, 61, 64, 73, and 74 (Field Project Leader: Garry Allen)

2.1.1 General Information for Field Unit 1

Field Unit 1 is preparing for the upcoming field season. Access agreements are in place for Townsite investigations. Obtaining access agreements and environment, safety, and health approval (under the National Environmental Policy Act [NEPA]) has been much slower than anticipated. Waste disposal is ongoing from previous voluntary corrective action (VCA) and Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) activities. The field unit continues to make progress on RFI field activities and reports.

Field unit personnel incorporated US Department of Energy (DOE) comments on all of the draft FY95 VCA reports, as appropriate, and submitted the final FY95 VCA reports this quarter.

RFI reports for the following areas were submitted to the US Environmental Protection Agency (EPA) this quarter:

- TA-0, Potential Release Site (PRS) 0-039, February 28, 1996
- TA-1, Aggregates A, B, H, I, J, March 15, 1996
- TA-1, Aggregates C, D, March 22, 1996
- TA-1, Aggregates E, G, March 26, 1996

- TA-3, 59, 60, 61, February 29, 1996
- DP Tank Farm (PRS 21-029), January 22, 1996

RFI reports for the following areas are in various stages of preparation:

- TA-0, Sixth Street Warehouse [PRSs 0-004, 0-010(b), and 0-030(b)], in the initial stage (other Sixth Street Warehouse PRSs are being addressed as VCAs)
- TA-1, Aggregates K, L, M, O, in final review
- TA-10, Central Area, in initial draft
- TA-21, Material Disposal Area (MDA) V, in initial draft

VCA plans submitted this quarter include

- TA-0, Septic Systems [PRSs 0-030 (d, h, i, j, k, n, o, p)], March 26, 1996, approved
- TA-21, DP Tank Farm (PRS 21-029), March 13, 1996
- TA-32, PRSs 32-001 and 32-003, March 7, 1996

VCA plans for the following PRSs are in progress:

- TA-0, PRSs 0-030(a) and 32-002(a,b)
- TA-21, PRS 21-011(k)

VCA reports for the following PRSs are in progress:

- TA-0, PRSs 0-030(l, m) and 0-033, in development
- TA-0, C-0-042, in final review
- TA-1, Can Dump Site [PRS 1-003(d)], in final draft

Sampling and analysis plans submitted to EPA this quarter include

- TA-1, Aggregate P, submitted March 6, 1996
- TA-21, Phase II for PRSs 21-024(c), 21-024(i), and 21-027(a), Outfalls and Septic Systems, submitted January 30, 1996
- TA-21, PRS 21-018(b), submitted February 28, 1996
- TA-21, MDA T Subsurface, submitted March 1, 1996
- TA-21, PRSs 21-024(c), 21-024(i), and 21-027(a), submitted January 29, 1996

- TA-21, MDA T Subsurface, submitted March 1, 1996
- TA-21, PRSs 21-024(c), 21-024(i), and 21-027(a), submitted January 29, 1996

Other reports completed this quarter include

- Remedial Action Plan for Hillside 138 [(PRS 01-001(d)) mercury removal and storm water control, submitted to New Mexico Environment Department (NMED) Surface Water Quality Bureau February 9, 1996
- TA-45 Radiological Addendum to the RFI report, submitted March 11, 1996, as a deliverable to DOE and as a courtesy to EPA

Other reports in progress include

- Interim Action Report for shrapnel at TA-10, Bayo Canyon, in final review
- Radiological Addendum to the TA-10 Subsurface RFI Report, in initial draft

Responses to the following notices of deficiency (NODs) were submitted to EPA:

- Operable Unit 1114 Work Plan Addendum 1 NOD, and the PRS 3-010(a) RFI Report NOD, submitted February 7, 1996
- TA-1 Aggregate F RFI Report NOD, submitted February 23, 1996
- TA-10 Firing Sites RFI Report NOD, submitted February 16, 1996
- TA-32 RFI Report NOD and Phase 2 Sampling and Analysis Plan NOD, submitted February 29, 1996
- TA-45 RFI Report NOD, submitted March 1, 1996

2.1.2 Technical Area Activities

2.1.2.1 TA-0

Former Firing Range. The plan to move soil from PRS 0-016, the former firing range, to the active firing range at TA-72 is pending resolution of issues with the EPA and NMED.

We performed a soil-sieving pilot study to determine screen sizes for removing lead bullets using a shaker plant at PRS 0-016 and prepared a VCA plan for the shaker plant operation. Confirmation/verification samples were collected and analyzed for the utility easement on the southeast corner of the site, where clean soils had been beached for drying during soil-washing operations.

Los Alamos County Recreation Areas. All relevant parties have signed the access agreement for PRSs 0-028(a,b), the Los Alamos County Recreation Areas; the agreement is now in place, and the field investigation is scheduled for early April 1996. We began site surveys this quarter; by the end of March, the Hazardous and Solid Waste Group (ESH-19) survey crew had entered benchmark locations and finished surveying sampling locations.

Sixth Street Warehouse. Investigators located the sanitary inlet lines to PRS 0-030(b) septic tanks by trenching between Sixth Street and Warehouse 1. The trenching unearthed the original concrete and brick diversion boxes and some of the vitrified clay inlet and outlet pipelines. The investigators collected four soil samples for analysis from around the inlet. Radionuclides were present as well as solvents, but none exceeded screening action level. We backfilled the septic tanks, compacted the fill material, and will re-asphalt the PRS excavation. We also reviewed the analytical data from samples collected in and around the septic tanks, for future waste disposal.

Approximately 50 cubic yards of low-level radioactive waste was transported from the PRS 0-030(m) septic tanks to TA-54, Area G, this quarter.

We received a concurrence letter from the NMED Underground Storage Tank (UST) Bureau stating that no further remedial action is necessary for the diesel UST (PRS 0-033) that was removed during the Sixth Street Warehouse investigation. The letter followed NMED's review of sample data from the five boreholes drilled to define the extent of contamination around the tank.

Field Unit 1 personnel and Los Alamos County Utilities personnel participated in a lessons-learned meeting March 14, 1996, regarding the electric cable that was cut while removing the UST associated with Sixth Street Warehouse operations. We excavated a trench between the junction box and Warehouses 3 and 4 so Los Alamos County could replace the cut cable.

DP Road Storage Area and Wastewater Treatment Plants. We are finalizing readiness review documents for the DP Road Storage investigation and VCA, and the Wastewater Treatment Plants investigation. We submitted the access agreements to the appropriate parties for signature. DP Road Storage field investigations will begin in April 1996, but the field work at the Wastewater Treatment Plants will be delayed until July when field crews are available. We will submit a baseline change proposal to account for the schedule change.

Former Zia Motor Pool. We prepared waste disposal documentation for PRS 0-032, the Waste Oil UST and transported 30 cubic yards of hazardous waste from PRS 0-032 to TA-54 for future off-site disposal. The motor pool area has received a new PRS designation, C-0-042.

Community Center UST. We presented to the property owner the results of the Community Center UST investigation (PRS 0-039) and completed site restoration activities to the property owner's satisfaction.

2.1.2.2 TA-1

We are preparing an implementation plan and cost estimates for removal of the sanitary sewer line over a portion of PRS 1-001(s).

We completed the VCA field activities at the Can Dump Site (1-003 (d)) in January. We removed the waste from the site and conducted a tour of the site in February for NMED/Agreement in Principle and the Storm Water Team from the Water Quality and Hydrology Group (ESH-18) to check the erosion control/site stabilization efforts. Both parties approved the stabilization efforts with a minor request to hand-broadcast grass seed around the area. The seeding was completed in early March.

We prepared a sampling and analysis plan for Aggregate P [PRS 1-007(l)] because previously collected data were insufficient for a proposal for no further action. We submitted the plan to the EPA March 6, 1996.

2.1.2.3 TA-3

Field Unit 1 received an NOD on the status report regarding excavation completed at TA-3.

Field work continues at PRS 3-056(c). Investigators re-collected aliquots at this PRS for two quadrants of the west slope because the composite confirmatory sample results did not

statistically show that polychlorinated biphenyl (PCB) concentrations are less than 10 ppm (proposed cleanup level) within the quadrant(s). Results indicate that PCBs exceeded 10 ppm at three locations within these quadrants (13, 15, and 34 ppm).

Investigators also collected composite confirmatory samples from four quadrants on the north slope of PRS 3-056(c). Individual aliquots had to be re-collected from this slope for verification purposes. In addition, we collected 20 surface grab samples from 10 locations on the north slope in an attempt to bound areas of PCB contamination greater than 10 ppm. Ten samples each were submitted to the mobile chemical analysis laboratory and a fixed laboratory. Sample results from the mobile laboratory revealed one of the 10 samples contained PCBs at concentrations greater than 10 ppm. We met informally on January 31 with NMED/Agreement in Principle staff to present a detailed overview of how the ecological risk assessment model (ECOTRAN) supports the proposed cleanup level at PRS 3-056(c). Daily site inspections are ongoing to maintain the plastic cover, storm water run-on diversions, and silt and straw bale fences that are in place at the site.

2.1.2.4 TA-10

Waste materials (112 drums of personal protective equipment and drill cuttings) were removed from the site for disposal in accordance with appropriate regulations.

2.1.2.5 TA-21

The following waste was transported to TA-54, in accordance with appropriate regulations: 115 drums of nonhazardous, low-level radioactive waste from the DP Canyon investigation and 5 cubic yards of mixed waste from PRS 21-024(h).

We are preparing for the readiness review for PRS 21-029, the DP Tank Farm.

2.1.2.6 TA-32

We began the Phase II sampling campaign at TA-32 during the first week of March. Investigators located all piping and determined the extent of PCB contamination for PRS 32-003.

Storm water controls were put into place for PRSs 32-001 and 32-004.

2.1.2.7 TA-73

We validated the analytical data from cone penetrometer testing at the Los Alamos County Airport, PRS Group 73-1.

Additional sampling conducted this quarter included 12 soil samples of channel sediments below the main landfill (PRS 73-001(a)), 51 soil gas samples from the gas ports, and 1 water sample from a lysimeter during the quarterly monitoring of the main landfill wells. We obtained additional measurements from the data loggers and neutron access ports.

Thirty-one drums of nonhazardous waste were removed from TA-73 and sent off-site for disposal, in accordance with appropriate regulations.

We conducted a site survey of PRS 73-005 to evaluate the tuff pits that appear to have been used as unlined septic tanks.

2.2 Field Unit 2 — Technical Areas 12, 14, 15, 18, 20, 27, 36, 39, 53, 65, 67, 68, 71, and 72 (Field Project Leader: Gene Gould)

2.2.1 General Information for Field Unit 2

DOE toured TAs-12, -14, and -15, in early January to see the sites designated for VCAs this fiscal year: PRSs 12-001(a), 14-001(f), 14-002(a), 14-003, 14-010, 15-004(b), 15-008(b), and 15-009(j).

Team members met with the Chemical and Mixed Waste Management Group (CST-5) to discuss waste that will be generated from the VCAs and to discuss disposal methods for mixed waste. Members of the team also met with personnel from the Dynamic Experimentation (DX) Division to discuss the hazards of high explosives at the VCAs.

The field team completed and submitted an RFI report for TAs-20, -53, and -72 to EPA on March 19, 1996.

2.2.2 Technical Area Activities

2.2.2.1 TAs-12 and -14

We submitted an RFI report for TAs-12 and -14 to EPA on February 16 and have completed a VCA plan for PRS 14-001(f), to be submitted to DOE in April 1996.

2.2.2.2 TA-15

The sampling team collected additional soil samples at PRSs 15-011(b) and 15-014(f) and a water sample at PRS 15-009(k).

We proposed the following PRSs for interim action: 15-004(f), 15-006(c), 15-007(c), 15-008(a), and 15-008(c).

Progress continues on another RFI report for TA-15, which is due at the end of May. A VCA plan for PRS 15-004(b) was written and will be submitted to DOE in April.

2.2.2.3 TAs-18, -27, and -65

We completed an addendum to the October 1995 RFI report for former OU 1093 (Environmental Restoration Project 1995, 1283) and incorporated the review comments, as appropriate. The October 1995 RFI report addressed chemical contamination in the PRSs; the addendum, which will be submitted to EPA and NMED in April, addresses radionuclide concentrations at the PRSs. The review of the radionuclide data did not change the preliminary conclusions presented in the original RFI report. We proposed five PRSs [18-003(a, b, c, d, and g)] for corrective action and 21 PRSs for no further action.

Planning is under way for interim actions at PRSs 18-003(a, b, c, d, and g). Investigators sampled the contents of five tanks to fully characterize the waste for disposal. We expect some portion of the waste to contain both radioactive and chemical contaminants (mixed waste). We prepared an initial draft of the interim action plan and have planned field work for May 1996.

In accordance with the New Mexico Water Quality Commission regulations, the field unit notified the NMED that a volatile organic compound (VOC) (1,2-dichloroethane) was detected in four shallow monitoring wells at TA-18. We are preparing a corrective action plan to be submitted to NMED in April.

2.2.2.4 TA-36

Investigators completed sampling at PRS 36-004(d), the North and South Burn Pits, and at PRS 36-001, MDA AA. A radiological control technician supervised the final release of equipment and supplies, following decontamination and screening for radioactivity. Solid waste generated during the 1995 field season (personal protective equipment, used sampling equipment, and supplies) has been labeled and stored in a transportainer pending submission of waste profile forms and subsequent acceptance by Chemical Science and Technology (CST) Division for disposal. We anticipate disposing of all of this solid waste as administrative waste at TA-54 (Area J). All decontamination water generated was disposed on-site during field activities in accordance with the approved OU 1130 notice of intent.

Investigators completed delineation drilling at PRS 36-001 and found no additional trenches; however, they found ash at one eastern borehole located within 3.5 ft of an erosion channel. As a result of these findings, we have drafted a plan for an interim action.

The team is training personnel, ordering supplies, and preparing for the readiness review for an interim action at PRS 36-001, a VCA at PRS 36-003(b), and other 1996 field sampling.

The excavation permit for TA-36 has been amended and is being reviewed.

2.2.2.5 TA-39

In January personnel began to excavate and sample 20 test pits in the landfills [PRSs 39-001(a and b)]; they completed the work by mid-March, even though the effort was slowed by a series of events, including excavating a compressed gas cylinder with unknown contents and uncovering some material that was suspected of being a high explosive. Investigators collected 63 samples from the landfills and submitted them for laboratory analysis. They also collected samples from septic tanks associated with PRS 39-006(a) and submitted those samples for analysis.

We prepared a response, due April 9, to EPA's NOD for the RFI report for former OU 1132.

As data from the 1995 field activities became available, the team began drafting the RFI report for TA-39 PRSs; the report is due September 30.

2.3 Field Unit 3 — Technical Area 11, 13, 16, 24, 25, 28, 33, 37, 46, and 70 (Field Project Leader: Brad Martin)

2.3.1 Technical Area Activities

2.3.1.1 TA-16

We prepared two accelerated cleanup plans for TA-16 and submitted them to DOE on schedule. The accelerated cleanup of the 90s Line is proceeding in conjunction with decontamination and decommissioning activities. The analytical laboratory has returned some of the data from the 1995 sampling campaign.

2.3.1.2 TA-33

A draft interim action plan for shrapnel pickup in the Bandelier National Monument and Chaquehui Canyon has been completed. Personnel completed site preparation and began mobilizing for the heap-leaching pilot study at TA-33. This activity features a Los Alamos National Laboratory (LANL) technology in conjunction with an industrial soil separation process. Field Unit 3 received an NOD for the TA-33 RFI report for MDA K and has completed a draft response.

2.3.1.3 TA-46

We have assessed the data for the TA-46 RFI report for the FY94-95 sampling campaign and have completed the first draft of that report.

2.4 Field Unit 4 — Technical Areas 2, 4, 5, 35, 41, 42, 48, 52, 55, 63, and 66 and Canyons (Field Project Leader: Allyn Pratt)

2.4.1 General Information for Field Unit 4

Field Unit 4 personnel prepared a best management practice policy for the disposition of borehole cuttings associated with ER activities in the field unit. Other waste management activities included completing the paperwork for, and disposing of, 57 containers of waste previously stored at the TA-41 waste management area and 18 containers previously stored at the TA-35 waste management area.

The field unit continued working on the watershed and drainage project (an NMED initiative). The purpose of this project is to create a database linked to the Geographical Information System to allow regulators and laboratory personnel to position each PRS in a specific watershed and establish the possibility for contamination in each watershed. The field unit prepared a spreadsheet with all PRSs in Field Unit 4 that may present a surface-watershed concern to NMED and presented the watershed project map to NMED for comments.

2.4.2 Technical Area Activities

2.4.2.1 Canyons

Work continues on a draft of the core work plan for the Canyons investigation.

We assisted the Accelerator Development Group (AOT-2) in their effort to modify their permit to increase the flow of national pollutant discharge elimination system (NPDES) Outfall 03A-113 in Sandia Canyon; the modification is needed for the Low Energy Demonstration Accelerator Project. We designed and prepared a sampling and analysis plan for that outfall, collected samples, and coordinated a one-day-tumaround analysis of those samples.

Waste management activities in the Canyons area included completing a Waste Characterization Strategy Form for the Canyons pilot study waste (issues are currently being resolved) and completing a core curation plan for the Canyons pilot study.

We accomplished the following characterization activities:

- prepared a task hazard analysis for NPDES Outfall 03A-113 in Sandia Canyon;
- completed plans and questionnaires and received approval and access agreements needed for the Canyons pilot study readiness review;
- collected background sediment samples to compare with reach sediment samples in the Canyons pilot study;
- completed radiation background surveys at well locations PO-4, LAO-1.6, and LAOI-7;
- mobilized the drilling crew at well location PO-4, drilled to a total depth of 73.5 ft, and completed the well to a depth of 60 ft;
- mobilized the drilling crew at well location LAO-1.6, drilled to a depth of 36 ft, and completed the well to a depth of 31 ft;

- mobilized and began drilling at well location LAOI-7;
- completed gamma survey and fixed point alpha, beta, and gamma analysis of Reach P-4;
- completed geomorphic mapping for Reaches P-4 and LA-5;
- surveyed in geodetic controls for Canyons pilot study reaches; and
- engineered and installed four air-monitoring stations for the Canyons pilot study.

2.4.2.2 TAs-2 and -41

We completed the appropriate paperwork for the new PRS at TA-2, which was identified by EPA during a site tour.

Personnel accomplished the following tasks in support of the RFI report for TA-2 and TA-41:

- began verifying sampling data using the Facility for Information Management, Analysis, and Display database, and began creating a map of sample locations and designations;
- screened the data using specific PRSs for the preliminary screening; and
- completed the text for Chapter 2 of the report.

2.4.2.3 TA-35

Document preparation continues for TA-35. We are preparing the RFI report for PRSs 5-003(h, j, and k); 35-004(b); 35-009(a through d); 35-014(a, b, d, and e₂); 35-015(b); and 35-016(e through i). We have completed the VCA plans for PRSs 35-003(a, b, c and n) and 35-009(a) and submitted them to DOE for review. DOE approved the VCA plan for 35-009(a);

Field work at TA-35 included the following:

- collected a verification soil sample from the excavated main waste line at TA-35-2 to support decontamination and decommissioning activities;
- completed the appropriate paperwork for the disposal of waste from septic tanks at PRSs 35-009(a, b, c, and n) and disposed of that waste in accordance with regulations; and
- completed VCA field activities for PRSs 35-009(b, c, and d), which included pumping septic tanks and filling them in place.

2.4.2.4 TA-48

Personnel disposed of the waste generated from an expedited cleanup at PRSs 48-002(a and b) in accordance with appropriate regulations and prepared a completion report for that cleanup.

2.5 Field Unit 5 — Technical Areas 6, 7, 8, 9, 22, 23, 40, 49, 54, 57, 58, 62, and 69 (Field Project Leader: Cheryl Rofer)

2.5.1 General Information for Field Unit 5

Field Unit 5 is preparing RFI reports for PRSs that were sampled during the summer of 1994 at TAs-6, -22, and -40. Pilot studies on engineered covers for landfills continue at TAs-6, -50, and -54.

We submitted an RFI report to the regulators for TAs-8 and -9. The report contained recommendations for no further action for each of the following PRSs: PRSs 8-004(d), 8-009(d and e), C-8-010, 9-001(a, b, and d), 9-003(g, h, and l), 9-005(a and d), and 9-009.

2.5.2 Technical Area Activities

2.5.2.1 TA-6

We submitted a VCA report for PRS 6-007(f) to the DOE Los Alamos Area Office.

2.5.2.2 TA-9

Personnel completed the removal of all waste from the surface of all MDA M (PRS 9-013). Verification sampling began on March 6 and, geophysical measurements on March 11. If the verification sampling shows that contaminants have been removed and the geophysical measurements show that no buried material is present, the site will be recontoured and reseeded. Wastes disposed included asbestos, chemical waste, and low-level radioactive waste. Approximately 160 cubic yards of scrap metal and 85 cubic yards of concrete were recycled. All work was accomplished with no lost-time incidents.

2.5.2.3 TA-49

We are developing a plan to replace the asphalt pad at Area 2 with an engineered cover. The asphalt pad covers an area of underground hydronuclear tests where plutonium contamination was brought to the surface in 1960. The pad has accumulated moisture beneath it, and the soil and tuff under the pad are saturated to a depth of about 25 ft. This water could be a mobilizing force for contaminants; therefore planning is under way for an interim action to begin drying out this area. We will use information about subsurface moisture flow from the pilot extraction studies at MDA L (TA-54) and the design of engineered covers from pilot studies at TA-6 and other areas of the Laboratory to provide an environment that will encourage drying of Area 2. This activity will remediate the water accumulation and provide the largest-scale demonstration of engineered covers for arid sites to date.

Information on water movement through soil on the Pajarito Plateau developed in the pilot studies on engineered covers for landfills is proving extremely useful in analyzing the moisture situation at the asphalt pad. In addition to the moisture trapped by the asphalt, moisture may be collecting in this area as a result of interflow. We are evaluating this possibility as part of the development of the interim action plan.

2.5.2.4 TA-50

Investigators are testing pore gas for the presence of VOCs in the boreholes emplaced in MDA C, and after pore gas sampling, they are backfilling the boreholes with cuttings. They collected additional samples from the archived core from these holes to provide the analyses required by the EPA.

We received an NOD for the RFI report for TA-50 soil sampling. A response is required by May 11.

We submitted to the regulators an RFI report on shallow boring in the areas of decommissioned liquid radioactive waste lines. This report contains a recommendation for no further action for PRSs 50-004(a), 50-004(c), and 50-011(a).

2.5.2.5 TA-54

Investigators are testing pore gas for the presence of VOCs in the boreholes emplaced at MDAs J and H and in the area of the closed pits at MDA G. Several of the boreholes are being completed as monitoring wells in cooperation with waste management operations.

Pilot studies on organic vapor extraction at MDA L continue. The extraction test continues in a recovery phase, which involves monitoring various points in the subsurface to see how quickly the VOC levels return to what they were before we began extraction. We are analyzing data on movement of the VOCs through the several strata of Bandelier Tuff that the wells penetrate.

We believe that existing surveillance data can be used in place of soil gas monitoring and soil sampling for tritium and other radionuclides at the MDAs in TA-54. EPA and NMED generally concur with this approach. A detailed letter proposing our strategy is being reviewed.

Work continues on document preparation:

- The RFI report for channel sediment sampling at TA-54 was submitted to the regulators. We recommended no further evaluation of the channel pathways.
- The following documents are in progress: the RFI report for passive venting of soil gases at the MDAs in TA-54 and the RFI report for Phase I coring and sampling at MDA L.

2.5.2.6 TA-57

The RFI report for Phase I sampling is being reviewed. We will recommend no further action for most PRSs, a VCA for the sludge pit (PRS 57-002), and additional sampling and evaluation for Burns Swale [PRS 57-001(b)].

3.0 CLOSURES AND REGULATORY COMPLIANCE — (Project Leader: David McInroy)

3.1 TA-35 TSL-85 Surface Impoundment

The NMED issued an approved closure plan for the TA-35 TSL-85 Surface Impoundment on January 19, 1996. The closure plan contained sample analytical requirements that could not be performed by LANL's contract analytical laboratories who perform EPA contract laboratory program analyses. LANL and NMED personnel are in the process of resolving the problem. LANL will request that the closure plan be amended to include sample analyses that can be performed.

3.2 TA-16 MDA P Landfill

Preclosure mobilization activities continue at the site. These activities include relocation of the powerline, fencing the area, the construction of waste segregation and treatment pads, design of a new burn pad, and removal of vegetation (trees and shrubs) from the site.

4.0 REFERENCE

Environmental Restoration Project, October 1995. "RFI Report for Potential Release Sites 18-002(a-c), 18-003(a-h), 18-004(a,b), 18-005(a), 18-008, 18-010(b-f), 18-011, 18-012(a-c), 18-013, 27-002 (located in former Operable Unit 1093), Field Unit 2," Los Alamos National Laboratory Report LA-UR-95-3833, ER ID No. 52183, Los Alamos, New Mexico. (Environmental Restoration Project 1995, 1283)