Los Alamos National Laboratory

ENVIRONMENTAL RESTORATION

University of California
Environmental Restoration, MS M992
Los Alamos, New Mexico 87545
505-665-4557
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: AUG 14 1995
Refer to: EM/ER:95-400

Mr. William Honker
RCRA Permits Branch
Hazardous Waste Management Division
U.S. Environmental Protection Agency
1445 Ross Ave., Suite 1200
Dallas, TX 75202-2733

SUBJECT: QUARTERLY TECHNICAL REPORT

Dear Mr. Honker:

Enclosed are two copies of the Environmental Restoration Project's Quarterly Technical Report, April–June 1995. The Quarterly Technical Reports continue to 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 Court Fesmire at 505-665-4718 of our staffs.

Sincerely,

Jorg Jansen, Project Manager
Environmental Restoration

Sincerely,

for Theodore J. Taylor, Program Manager
Los Alamos Area Office

JJ/TT/bp

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

Environmental Restoration

8102

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, April–June 1995

Name: _____ Date: 8-9-95

Tom Baca, Program Director
Environmental Management
Los Alamos National Laboratory

or

Jorg Jansen, Project Manager
Environmental Restoration Project
Los Alamos National Laboratory

Name: _____ Date: 8/10/95

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

Cy (w/enc.):
J. Brown, FSS-16, MS F674
C. Fesmire, LAAO, MS A316
B. Garcia, NMED-HRMB
T. Glatzmaier, DDEES/ER, MS M992
D. Griswold, ERD, AL, MS A906
D. McInroy, EM/ER, MS M992
E. Merrill, EM-453, DOE-HQ
T. Norris, EM/ER, MS M992
T. Taylor, LAAO, MS A316 (2 copies)
N. Weber, Bureau Chief, 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.):
T. Baca, EM, MS J591
G. Rael, ERD, AL, MS A906
J. Rochelle, LC-GL, MS A187
W. Spurgeon, EM-453, DOE-HQ
J. Vozella, LAAO, MS A316

LA-UR-95-2784

Los Alamos National Laboratory

Environmental Restoration

A Department of Energy environmental cleanup program

QUARTERLY TECHNICAL REPORT

APRIL–JUNE 1995

August 11, 1995

CONTENTS

LIST OF TABLES

LIST OF ACRONYMS AND ABBREVIATIONS

AOC	Area of concern
DOE	US Department of Energy
EPA	US Environmental Protection Agency
ER	Environmental restoration
ESH	Environment, Safety, and Health (Division)
ESH-5	Industrial Hygiene and Safety Group
ESH-7	Occurrence Investigation Group
FY	Fiscal year
HE	High explosives
HSWA	Hazardous and Solid Waste Amendments
LANL	Los Alamos National Laboratory
MDA	Material disposal area
NMED	New Mexico Environment Department
OU	Operable unit
PCB	Polychlorinated biphenyl
PRS	Potential release site
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
SVOC	Semivolatile organic compound
TA	Technical area
TOC	Total organic carbon
UST	Underground storage tank
VCA	Voluntary corrective action
VOC	Volatile organic compound

QUARTERLY TECHNICAL REPORT
APRIL–JUNE 1995
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 2,000

POTENTIAL WASTE: Radionuclides, High Explosives, Metals, Solvents, 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 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 fieldwork 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

The comments are being incorporated from the US Department of Energy (DOE) and Laboratory reviews of the Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) work plan for Operable Unit (OU) 1114, Addendum 1. This addendum addresses 186 potential release sites (PRSs) associated with TAs 3, 59, 60, and 61; the plan is due to the Environmental Protection Agency (EPA) July 24, 1995.

During the second quarter of FY95, 26 sites were identified for possible voluntary corrective action (VCA); plans for those sites were submitted to the EPA. Some of the sites have since been removed from the list, based on preliminary sampling results, and new sites have been added. PRS 3-056(c), the Former Polychlorinated Biphenyl (PCB) Storage Area, has been changed from a VCA to an expedited cleanup (EC). Table 2-1 provides a list of the sites at which VCA actions are planned or are in progress.

A National Environmental Policy Act categorical exclusion was granted, under a waste removal umbrella, for VCA/EC sites associated with all field units.

TABLE 2-1

LIST OF VOLUNTARY CORRECTIVE ACTIONS FOR FY95, FIELD UNIT 1

PRS	PRS Description
0-032	Drain line, Former Zia Motorpool
0-016	Former Firing Range (Guaje Pines Soil Washing)
1-001(d)	Hillside 138 Outfall
1-001(f)	Hillside 140
1-003(d)	Can Dump Site
3-003(p)	Former Equipment Storage Area
3-022	Dielectric Oil Sump
3-047(d)	Former Product Storage Area
3-051(c)	Vacuum Pump Exhaust Stains
21-002(b)	Container Storage
21-013(c)	Surface Disposal Area
21-013(e)	Surface Disposal Area
21-022(j)	Sump
21-024(b)	Septic System and Outfall
21-024(d)	Septic System and Outfall
21-024(h)	Septic System and Outfall
31-001	Former Sanitary Septic System
AOC* C-0-036(a)	Bandelier Borrow Pits
AOC C-0-036(b)	Bandelier Borrow Pits
AOC C-0-036(c)	Bandelier Borrow Pits
AOC C-0-036(d)	Bandelier Borrow Pits
AOC C-0-041	Tar Disposal Site
AOC C-10-001	Rad Soil
AOC C-21-027	Cooling Tower

*AOC = area of concern.

2.1.2 Technical Area Activities

2.1.2.1 TA-0

All fieldwork has been completed at PRS C-0-041, the site of the Former Asphalt Batch Plant. No hazardous materials were found. All tar deposits in the stream bed and on the stream banks, all concrete machine bases, and other debris have been removed and taken to the Los Alamos County Landfill. Erosion control and revegetation measures have been implemented on all disturbed soil.

An RFI Report for Septic Tanks 0-030(c) and 0-030(q) was submitted to the EPA on June 12, 1995.

An addendum to the 45-Day Report for the underground storage tank (UST) at PRS 0-031(b) was submitted to the New Mexico Environment Department (NMED) UST Bureau on June 28, 1995. This addendum contains final data for the site.

A storm drain line from sumps at PRS 0-032, the Former Zia Motorpool, was uncovered by an excavation contractor on the site. This line contains a significant quantity of residue. Plans are in progress for sampling and removing the line .

At PRS 0-039, the site of former USTs for dry-cleaning solvents, field equipment was mobilized, and all intrusive drilling activities have been completed. A plume of Stoddard solvent, an early blend of dry-cleaning fluids, was located and bounded.

The site-specific health and safety plan for operations at the 6th St. Warehouse was approved, and final changes are being incorporated into the waste management plan. The field implementation plan for the project was written and submitted to DOE as an informational copy because there are a few changes from the approved work plan for this site, the RFI work plan for OU 1071 (LANL 1992, 0781). The major change is that the septic tanks and lines will not be excavated if they are not contaminated; they will be backfilled with approved material and left in place. Access agreements were sent, for signatures, to landowners of adjacent properties. Survey points were marked by the site surveyors, using old maps; a geophysical survey was initiated to help locate the old septic tanks and lines.

All data from PRSs 0-030(e)North, 0-030(e)South, and 0-030(f) have been reviewed. Summary reports of the data and field activities are being written.

Negotiations with NMED have allowed the remaining unwashed soil from the backstop berms at PRS 0-016, the Former Small-Arms Range, to be moved to the active small-arms range at TA-72; the soil will be used to build backstop berms there, as part of a planned expansion. Soil-washing activities at PRS 0-016 have ended.

2.1.2.2 TA-1

Activities at TA-1 for this quarter included the continuation of characterization activities, VCAs, report writing, and waste disposal. The primary focus has been toward identifying potential VCA sites, developing field implementation plans, and delivering reports.

Aggregates A-J were originally slated for inclusion into a single RFI report; however, an agreement was reached allowing the reporting of the various TA-1 aggregates in subsets. Following this approach, an RFI report was prepared and is in final review for Aggregates A, B, H, I, and J. The RFI report for Aggregate F is also in final review; submission to EPA is planned in late July. RFI reports for Aggregates C and D are also in production and should be complete by early September. Reports for Aggregates E and G should be completed later in September. The report for Aggregates K–P has been drafted and is being revised for formal review.

VCA plans for Hillsides 138 and 140 have been prepared and are in review; execution of the plans is expected in July for Hillside 140 and in September for Hillside 138. Plans for the Can Dump Site are complete, and fieldwork has begun.

Waste management issues continue to be addressed with progress being made in the effort to reduce the number and size of the storage areas currently in use. Processes are being closely evaluated in an effort to minimize the generation of waste and its subsequent handling.

2.1.2.3 TA-3

The RFI Report for PRS 3-010(a) was submitted to the EPA on April 28, 1995.

2.1.2.4 TA-10

Data are still being received from the subsurface sampling campaign completed in December of 1994. Waste management and borehole backfilling operations at TA-10 continue as analytical data arrive to support these actions.

Three new PRSs have been identified in Bayo Canyon. One of them, an Area of Concern, is located where radioactive material was found to have been dispersed in the soil; a VCA will be conducted to clean up the contaminated soil. The other two new PRSs include a previously unidentified firing site, and an area that appears to have been a surface disposal area. The area containing the landfill and the rad-contaminated soil has been fenced, and the access corridor in Bayo Canyon, which had been temporarily closed, has been opened to the public.

2.1.2.5 TA-21

TA-21 fieldwork completed during this quarter included drilling and sampling operations at DP Tank Farm (PRS 21-029) and extending the vadose zone borehole Material Disposal Area (MDA) V-P, which is adjacent to MDA V (PRS 21-018); these activities defined the northern extent of the perched zone in Los Alamos Canyon. In addition, a 75-ft open borehole from a previous sampling campaign in the third absorption bed at MDA V (PRS 21-018) was grouted. The team determined there were adequate hydrologic and geologic data for TA-21 and that a 300-ft borehole was not required at MDA T (vadose zone borehole MDA T-DP).

Characterization and immobilization of cesium at PRS 21-011(k). Five samples were obtained from PRS 21-011(k) (a soil sample from the hottest area, a soil sample from a more representative area, a subsurface soil sample, water from runoff after a storm, and pine bark). The cesium was measured in all samples, and the soil was divided into fractions. Most of the cesium is associated with the clay fraction and was found not to be removed by natural (acid rain and ground water) and simple leaching agents. Personnel are continuing to investigate ways of containing cesium as well as studying barriers for preventing soil erosion and adsorbing cesium.

Heap leach studies for the removal of americium, plutonium, and uranium. Soil samples taken from PRS 21-027(a) are known to be contaminated with americium, plutonium, and uranium. The contaminants were leached using the procedures developed for uranium removal from Fernald soils. Results show that uranium can be removed (about 75-85%) using sodium bicarbonate. Alpha emitters (americium and plutonium) are removed using a mixture of sodium citrate and sodium dithionite. Sodium citrate and dithionite have previously been tested for americium and plutonium removal on Rocky Flats soil.

Overall distribution of surface contamination at TA-21. Personnel have mapped the sitewide contamination at TA-21, using the capabilities of the Facility for Information Management, Analysis, and Display, and using all the ER sample data available so far. These maps show a low level of background radionuclide contamination sitewide and at six major outfalls.

2.1.2.6 TA-31

The final draft of the RFI Report for TA-31 was submitted to the EPA on May 5, 1995, for review .

2.1.2.7 TA-32

The final draft of the RFI Report for TA-32, which included a Phase II Sampling Plan, was submitted to the EPA on June 30, 1995, for review. Two new PRSs have been identified at TA-32: PRS 32-003, the former transformer site; and PRS 32-004, a new drainline and outfall. These new PRSs will be investigated during the TA-32 Phase II RFI.

2.1.2.8 TA-45

The final draft of the RFI Report for TA-45 was submitted to the EPA on June 12, 1995, for review. Work is progressing on the Radiological Addendum.

2.1.2.9 TA-61

A new PRS was discovered on June 16 at TA-61 while drilling test holes with an experimental robotic drill rig prior to its use in the field. The crew testing the drill rig detected a diesel-type odor when the core was extracted from the experimental drill hole. This site was reported to the State and DOE by the Occurrence Investigation Group (ESH-7), although the site poses no health or safety risks.

2.1.2.10 TA-73

Data were collected in April from the instrumentation installed at PRS 73-001(a), the landfill at the Los Alamos County airport. The borehole sampling interval has been changed from monthly to quarterly, based on a review of all borehole data collected to date. Soil gas surveys have been made at the landfill and at the waste oil pit, PRS 73-001(b). All data from all sources are being reviewed to help refine the overall investigation strategy.

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 Technical Area Activities

2.2.1.1 TAs 12, 14, and 15

A readiness review for fieldwork at TAs 12, 14, and 15 was held on May 4, and the team entered the field on June 19. Briefings were conducted for all Laboratory groups that could be affected by the fieldwork. Geophysical field surveys were conducted to locate trenches and pipes. Seventy-two surface and subsurface samples were taken: 2 at TA-12, 37 at TA-14, and 33 at TA-15, which completed 25% of the sampling planned for these TAs this field season. A sampling plan for R-44 and R-45 firing sites at TA-15 was submitted to EPA on May 31.

2.2.1.2 TAs 18, 27, and 65

Most of the analytical data from the sampling conducted at TAs 18, 27, and 65 during FY93 and FY94 have been evaluated. Although some quality assurance/quality control problems were identified, none will have a major impact on data usability. The field team concentrated on writing the RFI report for the second group of PRSs in TAs 18, 27, and 65; the report is due October 1995. Progress was made on Chapter 1 (PRS description and field investigations) and on Chapters 3 and 4 (assessment and conclusions). The report is scheduled for Laboratory internal review by early September.

EC plans for PRSs 18-001(b) (sanitary sewer line) and 18-003(e) (septic tank) were written and submitted to EPA in April and June 1995, respectively. Both plans were presented at public meetings and are currently undergoing public and EPA review. If approved, the plans are scheduled for implementation in August.

2.2.1.3 TAs 20, 53, and 72

A readiness review for fieldwork at TAs 20, 53, and 72 was held on April 24, and briefings were conducted with Laboratory groups that could be affected by the fieldwork. The team entered the field on May 9. More than 200 surface and subsurface samples were taken: 167 at TA-20, 39 at TA-53, and 9 at TA-72. Geophysical surveys were conducted to locate trenches and pipes. The

team completed the fieldwork on June 9, two years ahead of the schedule proposed in the RFI work plan.

2.2.1.4 TA-36

The RFI Report for PRS 36-002, due to EPA on July 16, 1995, was drafted and is in the review process. PRS 36-003(b) (septic tank) was identified for no further action. PRS 36-003(a) (septic tank) was identified for EC. The EC plan was written and submitted to EPA for approval.

The field team completed the following documents in preparation for field activities: the sampling and analysis plan, field implementation plan, site-specific health and safety plan, quality assurance/quality control plan, and waste management plan. A readiness review was conducted on May 23, and the team entered the field on June 21.

The following field activities were completed:

- The team completed the work at PRS 36-002 (sump) by backfilling the former excavation.
- A geophysical survey was conducted at PRS 36-001 (MDA AA) at Lower Slobbovia. Drilling is being conducted at this PRS to delineate the trenches before sampling.
- The team met with a former Laboratory employee regarding the location of PRS 36-004(d) (former burn pits). The location was determined to be at PRS C-36-002.

2.2.1.5 TA-39

An RFI report summarizing the 1993–1994 fieldwork and an EC plan for PRS 39-002(a) were submitted to EPA in April and May, respectively.

Preparations continued for the 1995 field season: equipment and supplies were ordered; survey stakes were re-established on the sampling grids; a sampling quality assurance/quality control plan and a field implementation plan were written; an environment, safety, and health questionnaire was prepared; and the first draft of a site-specific health and safety plan was written.

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 General Information for Field Unit 3

Work continued on Volume III of the RFI Work Plan for Operable Unit 1082, which will be delivered on schedule in July of 1995. Work on the second RFI report for TA-33 continued, and planning began for four VCAs to be conducted at TA-16 and TA-33.

Fieldwork (assessment) began at TA-16 based on Volume I of the RFI work plan for OU 1082 (LANL 1993, 1094).

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

Preliminary and final analytical data have been reviewed to identify candidates for expedited cleanup and voluntary corrective action activities.

Activities in support of Phase I field sampling activities at TAs 4, 5, 52, and 63 included

- preparing a waste management plan for those TAs;
- sending to NMED for approval a notice of intent to discharge investigation-derived decontamination water;
- assisting in locating former structures and features (for the purpose of finalizing sampling plans) and preparing documentation of proposed activities for Aggregates A, B, C, O, P, Q, and R; and
- conducting inventories of investigation-derived waste.

Table 2-2 provides a list of the PRSs where environmental and engineering surveys were conducted and documented and where sampling took place. It includes the dates of the activities, the number and type of samples collected, and the analyses requested.

2.4.2 Technical Area Activities

2.4.2.1 Canyons

Work continued on the RFI work plans for the canyons. This work included summarizing source contamination leading into the Canyons systems, compiling background data summarizing historical releases to Mortandad Canyon and Ten Site Canyon, and detailing the Mortandad Canyon waste stream.

2.4.2.2 TA-2

The field team completed the Phase I characterization, including sampling five stream transects and seven monitoring wells located in Los Alamos Canyon. All sampling locations were surveyed.

2.4.2.3 TA-5

The field team established a history of operation and confirmed the location and function of "Far Point" firing site. Aerial photographs were inspected to locate PRSs at this TA.

2.4.2.4 TA-35

An initial screening assessment of available analytical data was performed for PRS 35-015(a). The presence of heavy metal and petroleum hydrocarbon contaminants indicates that remedial action probably will be required at that PRS. Data for PRS 35-018(a) have been reviewed, and the VCA plan is being developed for that location.

2.4.2.5 TA-48

EC activities at TA-48 are in progress.

- A draft EC plan for PRS 48-002(a and b) was submitted to the EPA for review,
- The draft Waste Characterization Strategy form was verbally approved by the ER Project office on June 22, 1995.
- The draft Site-Specific Health and Safety Plan was approved by the Industrial Hygiene and Safety Group (ESH-5).
- National Environmental Policy Act documentation for the EC has been completed.

TABLE 2-2

SAMPLING ACTIVITIES IN FIELD UNIT 4

Aggregate	PRS Number	Activity Dates	Total Number of Samples Collected	Analyses Requested
V	35-004(m) 35-014(g1, g2, g3) 35-016(b, j, n) 35-018(a)	4/12/95–4/19/95	43	Gross-alpha, -beta, and -gamma; gamma spectroscopy; alpha spectrometry; metals; VOCs; SVOCs; and PCBs
W	35-010(d, e) 35-007	4/24/95	28	Gross-alpha, -beta, and -gamma; gamma spectroscopy; alpha spectrometry; metals; VOCs; SVOCs; and PCBs
X	48-007 48-010	5/15/95	4	Gross-alpha, -beta, and -gamma; gamma spectroscopy; alpha spectrometry; mercury
A	4-001 4-002	6/1/95–6/16/95	33	Gross-alpha, -beta, and -gamma; gamma spectroscopy; alpha spectrometry; metals; HE
P	63-001(a, b)	6/5/95	62	Gross-alpha, -beta, and -gamma; gamma spectroscopy; alpha spectrometry; metals; VOCs; SVOCs; NO_2; NO_3; TOC
O	52-002(a) 52-003(a)	6/13/95–6/15/95	32	Gross-alpha, -beta, and -gamma; gamma spectroscopy; alpha spectrometry; metals; VOCs; SVOCs; NO_2; NO_3; TOC
C	5-004 5-005(a)	6/16/95–6/23/95	32	Gross-alpha, -beta, and -gamma; gamma spectroscopy; alpha spectrometry; metals; VOCs; SVOCs; HE
B	5-001(a, b) 5-002	6/20/95–6/22/95	47	Gross-alpha, -beta, and -gamma; gamma spectroscopy; alpha spectrometry; metals; HE
Q	4-003(a, b) 4-004	6/26/95–6/27/95	42	Gross-alpha, -beta, and -gamma; gamma spectroscopy; alpha spectrometry; metals; VOCs; SVOCs
R	5-001(c) 5-005(b) 5-006(b, c, e, h) C-5-001	6/27/95–6/29/95	54	Gross-alpha, -beta, and -gamma; gamma spectroscopy; alpha spectrometry; metals; VOCs; SVOCs

VOC = volatile organic compound
SVOC = semivolatile organic compound
PCB = polychlorinated biphenyl
HE = high explosives
TOC = total organic carbon

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

Analytical results have been received for soil samples collected at TAs 6, 8, 9, 22, and 40 during the summer of 1994; the results are being reviewed. Preparations have begun for VCAs at TAs 6 and 9, and for ECs at TAs 8 and 22. RFI reports are being prepared for PRSs sampled at TAs 6, 8, 9, 40, 50, and 54.

2.5.2 Technical Area Activities

2.5.2.1 TA-6

Soil sampling for this field season began on May 22 at the sites of several buildings that were destroyed by burning in the 1960s. Ninety-four samples have been collected.

Pilot studies continue regarding engineered covers for landfills.

2.5.2.2 TA-8

A draft notice of deficiency has been received from EPA concerning the EC plan for PRS 8-003(a), an inactive septic system, and a response is being prepared. Cleanup activities for PRS 8-003(a) are tentatively scheduled to begin the week of July 24. The field team has received the National Environmental Policy Act categorical exclusion and other approvals, and the contractors have visited the site. A readiness review is scheduled for July 12.

Soil sampling was completed at TA-8 on May 12.

2.5.2.3 TA-9

An EC plan for PRS 9-013 (MDA M) was submitted to the EPA on May 31. MDA M (approximately 3 acres) is a site where trash has been deposited since the early 1950s. The road to MDA M was improved for the anticipated truck traffic, and a turnaround area for trucks and a parking area for the management trailer were added. A radiation survey of the area is in progress. Contractors are being contacted.

Soil sampling was completed at TA 9 on May 12.

Additional PRSs have been proposed for VCAs.

2.5.2.4 TA-22

An EC plan for PRS 22-015(c) (plating bath outfall area) was submitted to the EPA on May 31. The pilot studies on this site were integrated into the plan. RCRA metals are the primary contaminants at this site. The material to be removed was analyzed using the toxicity characteristic leaching procedure and was found to be nonhazardous.

2.5.2.5 TA-40

Surface soil sampling and shallow boring began on May 22 at PRS 40-006(a) (an active firing site); 89 samples have been collected.

2.5.2.6 TA-49

A readiness review was held on June 19 in preparation for soil sampling at TA-49. Boreholes are being monitored on a regular basis. for what?

2.5.2.7 TA-50

Samples are being analyzed from shallow boring in the areas of decommissioned liquid radioactive waste lines. Results are being reviewed.

A readiness review was held on May 10 for drilling at MDA C. Ground-penetrating radar was used to determine disposal trench locations and placement of drilling locations. Drilling is planned to start the week of July 10. A modification to the drilling plan in the RFI work plan for OU 1147 (LANL 1992, 0787) was submitted to EPA. This modification would significantly decrease the cost of drilling and increase the probability of recovering usable samples. EPA has proposed that some features of the older plan be retained. Drilling will start on vertical and near-vertical holes that are not affected by the requested modification.

The RFI Report for TA-50 soil sampling is nearly complete. The report will contain recommendations for no further action, for some Phase II characterization, and for a small interim action. This report has been delayed because effort has been directed toward development of ECs in Field Unit 5. We now expect the RFI report to be submitted to EPA in mid-July.

Pilot studies continue regarding engineered covers for landfills.

2.5.2.8 TA-54

The field team continued regular pore-gas monitoring for the MDA L plume.

Readiness reviews were held for drilling at MDAs H and J.

Soil-gas samples are being reviewed.

Analysis activities for this quarter are progressing for samples from drilling in the areas of the pits at MDA L and from drilling the monitoring wells under MDA L. Results are being reviewed.

The emplacement of two monitoring wells under MDA L was completed in April. Both wells were completed with seven ports for vapor monitoring and three ports for monitoring any water that might accumulate.

Pilot studies continue for organic vapor extraction at MDA L. An extraction well and a monitoring well for the MDA L pilot extraction study were started. The extraction well was drilled to a vertical depth of 152 ft, with a 75-foot-long casing just below the surface. The monitoring well was drilled to 122 ft during April, with a planned depth of 300 ft and a 10-foot-long casing at the surface. The monitoring well is being instrumented for measuring pressure and vapor concentrations from about 12 ft below ground surface to total depth, at as many as 12 stations. A thin-walled drive sampler was used to obtain core from the nonwelded, soft Bandelier Tuff Unit 2a. This technique also will be utilized in the underlying Unit 1a, which has been difficult to core for petrographic studies. Analysis of existing data has begun in preparation for the initial extraction tests.

Modifications to the drill rig to be used at the MDAs slightly delayed its arrival at Los Alamos; however, drilling was completed at MDA J and started at MDA H. The modified rig minimizes cuttings and has a filtration system that eliminates dust from drilling in a way that is equivalent to high-efficiency particulate air filtration. Both of these characteristics are extremely important for drilling in areas that may be significantly contaminated, such as the MDAs. At MDA J, samples were taken for the following analyses: VOCs, SVOCs, pesticides/PCBs, radionuclides, metals, and cyanide. At MDA H, the analysis suite is the same, except that the only radionuclide being investigated is tritium.

Four boreholes were completed at MDA J. These boreholes complete the Phase I drilling for MDA J. Drilling of four boreholes started at MDA H on June 19 and is expected to be completed the first week in July. Some difficulties were encountered with binding of the drill string, but modifications were made to eliminate these problems. MDAs H and J were judged unlikely to

present significant contamination during drilling; therefore, these areas are being used to test the modified drill rig before it is used for drilling at MDA C, which appears to be much more likely to provide contaminated samples. Field screening at MDA J was within background levels. One borehole at MDA H, where a tritium plume was found in 1969, again showed evidence of the tritium plume to a depth of about 37 ft. All boreholes are being temporarily capped with a one-way valve that allows gases out of the boreholes but not in. They will be tested for permeability profiles after drilling is completed at MDA H. The holes at MDAs H and J will be backfilled with the cuttings removed from them.

Existing surveillance data are being analyzed to determine whether those data can be used instead of performing further soil gas monitoring for tritium at the MDAs in TA-54. A large amount of the data that have been obtained appears to be suitable to substitute for further sampling.

RFI report work is in progress. The first draft of the RFI report for channel sediment sampling at TA-54 is almost complete. The only analyte found to be above the screening action level in these samples is thorium-228, probably from the natural background of the Pajarito Plateau. This report is the first in a series of reports documenting exposure pathways at TA-54. An RFI report on passive venting of soil gases at the MDAs in TA-54 is in progress.

Pilot studies continue regarding engineered covers for landfills.

2.5.2.9 TA-57

Soil samples are currently being analyzed, and results are being reviewed.

The RFI work plan for OU 1154 (LANL 1994, 1158) was approved by the EPA in May.

REFERENCES

LANL (Los Alamos National Laboratory), May 1992. "RFI Work Plan for Operable Unit 1071," Los Alamos National Laboratory Report LA-UR-92-810, Los Alamos, New Mexico. (LANL 1992, 0781).

LANL (Los Alamos National Laboratory), May 1992. "RFI Work Plan for Operable Unit 1147," Los Alamos National Laboratory Report LA-UR-92-969, Los Alamos, New Mexico. (LANL 1992, 0787)

LANL (Los Alamos National Laboratory), July 1993. "RFI Work Plan for Operable Unit 1082," Los Alamos National Laboratory Report LA-UR-93-1196, Los Alamos, New Mexico. (LANL 1993, 1094)

LANL (Los Alamos National Laboratory), May 1994. "RFI Work Plan for Operable Unit 1154," Los Alamos National Laboratory Report LA-UR-94-1096, Los Alamos, New Mexico. (LANL 1994, 1158)