Steph

Environmental Restoration
University of California
Environmental Restoration Project, 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
Environmental Restoration Program
Los Alamos, New Mexico 87544
505-667-7203/FAX 505-665-4504

AUG 1998
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Date: August 14, 1998
Refer to: EM/ER:98-284

Mr. Benito Garcia
NMED-HRMB
P.O. Box 26110
Santa Fe, NM 87502

G/E/R

SUBJECT: QUARTERLY TECHNICAL REPORT FOR APRIL–JUNE 1998

Dear Mr. Garcia:

Enclosed are two copies of the Environmental Restoration Project's Quarterly Technical Report, April–June 1998. The Quarterly Technical Report presents information from each focus area on the quarter's activities, including sampling, cleanups, and report writing. 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 contact Tori George at (505) 665-6953 or Joe Mose at (505) 667-5808.

Sincerely,

B. Martin

Julie A. Canepa, Program Manager
LANL/ER Project

Sincerely,

Theodore J. Taylor, Program Manager
DOE/LAAO

JC/TT/MB/el

Enclosures: (1) Quarterly Technical Report, April–June 1998
(2) Certification

TC

Cy (w/ encs.):
M. Boettner, EM/ER, MS M992 (2 copies)
J. Brown, FSS-16, MS F674
A. Dorries, TSA-11, MS M992
D. Farley, EES-1, MS D462
T. George, EM/ER, MS M992
L. Maassen, EM/ER, MS M992
R. Michelotti, CST-7, MS E525
J. Mose, LAAO, MS A316
D. Neleigh, EPA, R.6, 6PD-N
J. Plum, LAAO, MS A316
A. Pratt, EES-13, MS M992
G. Rael, AL-ERD, MS A906
L. Soholt, EM/ER, MS M992
T. Taylor, LAAO, MS A316
T. Trujillo, AL-ERD, MS A906
S. Dinwiddie, NMED-HRMB
M. Leavitt, NMED-GWQB
J. Parker, NMED-HRMB
G. Saums, NMED-SWQB
S. Yanicak, NMED-AIP, MS J993
RPF, MS M707

Cy (w/o encs.):
T. Baca, EM, MS J591
R. Hutton, SAIC, MS J521
B. Martin, EM/ER, MS M992
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EM/ER File, MS M992

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Los Alamos National Laboratory

Environmental Restoration

A Department of Energy Environmental Cleanup Program

QUARTERLY TECHNICAL REPORT

APRIL–JUNE 1998

August 14, 1998

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LIST OF ACRONYMS AND ABBREVIATIONS

BMP	Best management practice
CMS	Corrective measures study
D&D	Decontamination and decommissioning
DOE	US Department of Energy
DOE/AL	US Department of Energy/Albuquerque Operations Office
EPA	US Environmental Protection Agency
ER	Environmental restoration
ESH	Environment, Safety, and Health (Division)
ESH-18	Water Quality and Hydrology Group
ESH-20	Environmental Assessments and Resource Evaluations Group
FIMAD	Facility for Information Management, Analysis, and Display
FY	Fiscal year
HE	High explosives
HRMB	Hazardous and Radioactive Materials Bureau
HSWA	Hazardous and Solid Waste Amendments
LANL	Los Alamos National Laboratory
LANSCE	Los Alamos Neutron Science Center
MDA	Material disposal area
NMED	New Mexico Environment Department
PCB	Polychlorinated biphenyl
PRS	Potential release site
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
RSI	Request for supplemental information
SOP	Standard operating procedure
SSHASP	Site-Specific Health and Safety Plan
SWMU	Solid waste management unit
SWQB	Surface Water Quality Bureau
TA	Technical area
VCA	Voluntary corrective action

QUARTERLY TECHNICAL REPORT
APRIL–JUNE 1998
LOS ALAMOS NATIONAL LABORATORY
ENVIRONMENTAL RESTORATION PROJECT

ALBUQUERQUE OPERATIONS OFFICE

CONTRACTOR: University of California

PROJECT MANAGER: Julie Canepa

NUMBER OF POTENTIAL RELEASE SITES: Approximately 2,000

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 the current focus area structure and then, when applicable, by the technical area (TA) or canyon where the specific activity is located. The Hazardous and Solid Waste Amendments (HSWA) portion of the Laboratory's Hazardous Waste Facility 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 FOCUS AREAS

2.1 Canyons — Focus Area Leader: Allyn Pratt

2.1.1 General Information for Canyons Focus Area

Canyons personnel began completion reports for nine alluvial wells. A single report is being prepared to document the drilling and completion activities for the following alluvial wells: PAO-5N and PAO-5S in Pueblo Canyon, BG-4 in Threemile Canyon, 16-2655, 16-2656, 16-2657, 16-2658, 16-2659, and 16-2660 in Cañon de Valle.

Work began on reach reports for Los Alamos Canyon and Pueblo Canyon. The reports include information on the distribution of contaminants relative to various geomorphic units, the relationship between contaminant concentrations and particle size, temporal and spatial trends in contaminant concentrations, inventories of key contaminants, and a screening risk assessment using current land uses.

2.1.2 Canyon Activities

2.1.2.1 Cañon de Valle

Regional Well R-25 A site located on the mesa south of Cañon de Valle was selected for R-25; pre-drilling planning was completed. Planning was coordinated with the 260 Outfall investigation team and TA-16 facility management. The field implementation plan and detailed cost analysis were completed this quarter for R-25. The implementation plan describes the drilling and testing approach for R-25. It includes a detailed drilling schedule and describes the numbers and types of samples to be collected during drilling activities. It also provides information about predicted geologic and hydrologic conditions.

2.1.2.2 Los Alamos Canyon

Regional Well R-9 The draft R-9 completion report is in preparation. It summarizes drilling, testing, and temporary well completion activities for R-9.

Work began on two Los Alamos Canyon reach reports. The Upper Los Alamos Canyon Reach Report summarizes the results of an investigation to determine nature and extent of Laboratory-derived contaminants in sediments on the floor of upper Los Alamos Canyon, west of the confluence with Pueblo Canyon. The Lower Los Alamos Canyon Reach Report summarizes the results of an investigation to determine nature and extent of Laboratory-derived contaminants in sediments on the floor of lower Los Alamos Canyon, east of the confluence with Pueblo Canyon. This portion of Los Alamos Canyon is largely on San Ildefonso land.

2.1.2.3 Mortandad Canyon

Canyons Focus Area personnel completed the initial radiation screening survey for Mortandad Canyon Reach M-2 and Effluent Canyon Reach E-1. They also completed a preliminary geomorphic map of Mortandad Canyon Reach M-2.

2.1.2.4 Pajarito Canyon

Work continues on the Pajarito Canyon Work Plan, which describes the investigations that will determine the nature and extent of Laboratory-derived contaminants in Pajarito, Twomile, and Threemile Canyons. The final peer review was completed and the document has been submitted for DOE review.

2.1.2.5 Pueblo Canyon

The field team completed the installation of two alluvial groundwater wells in Pueblo Canyon (PAO-5N, PAO-5S).

The Pueblo Canyon Reach Report is in preparation. This report summarizes the results of an investigation to determine nature and extent of Laboratory-derived contaminants in sediments on the floor of Pueblo Canyon.

2.1.2.6 Sandia Canyon

Regional Well R-12 Personnel completed drilling regional well R-12. They installed a temporary 4-in.-polyvinyl chloride well with a 10-ft slotted screen and collected regional aquifer groundwater for full-suite analyses. A pressure transducer was installed to monitor water level fluctuations in R-12 due to pumping at nearby water supply well PM-1.

Work began on the R-12 interim completion report, which summarizes drilling, testing, and temporary well completion activities for R-12.

2.2 Material Disposal Areas — Acting Focus Area Leader: Allyn Pratt

2.2.1 General Information for Material Disposal Areas Focus Area

Focus area personnel continued work on the Material Disposal Area (MDA) Core Document, which will be used to provide programmatic guidance for a consistent and streamlined approach to MDA corrective actions.

MDA pilot studies continued at the Piñon-Juniper site and the Cover Technology Demonstration site at TA-51 and the Ponderosa site at MDA F near TA-16. The studies at the Piñon-Juniper and Ponderosa sites evaluate the potential for interflow and surface revegetation. The study at the Cover Technology Demonstration site evaluates water balance in efficient landfill cover designs at varying surface slopes.

2.2.2 Technical Area Activities

2.2.2.1 TA-21

The second phase of the DP Canyon Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) is ongoing and is expected to be completed in the fourth quarter of FY98. The responsibility for the remainder of the work to assess contamination in DP Canyon will be transferred to the Canyons Focus Area in the near future.

SAPs for the following potential release sites (PRSs) are in preparation: PRS 21-003, for the continuation of the RFI at the TA-21 polychlorinated biphenyl (PCB) storage area; PRS 21-015, for the subsurface RFI at MDA B; and PRS 21-017(a–c), for the subsurface RFI at MDA U.

PRS 21-024(i) The peer review of the voluntary corrective action (VCA) plan for the PRS 21-024(i) outfall and septic system resulted in a recommendation of changing the action at this site to an interim action. The interim action plan was completed and submitted to the New Mexico Environment Department (NMED) this quarter.

2.2.2.2 TA-49 MDA AB (Areas 2, 2A, and 2B)

PRSs 49-001 (b, c, d, and g) The best management plan (BMP) work plan for PRSs 49-001(b, c, d, and g), experimental shafts and soil contamination, was completed and submitted to NMED May 28, 1998. BMPs to control surface water runoff were installed in drainage areas downgradient from the site, and the Phase I BMP (the surface water diversion channel) was completed upgradient from the site on June 15. On June 26, 1998, focus area personnel met with NMED personnel to discuss the implementation of Phase II of the work plan, which calls for removal and disposal of the asphalt pad, the addition of cover material, and regrading the site. They also discussed methods for streamlining the corrective measures study (CMS) process for *in situ* stabilization.

2.2.2.3 TA-54

PRS 54-006 Quarterly pore-gas sampling was completed at MDA L (PRS 54-006). Results from that sampling indicate that the volatile organic vapor plume is retracting.

The passive vapor extraction pilot study continued at MDA L.

2.3 Remedial Actions — Focus Area Leader: Roy Michelotti

General activities for the Remedial Actions Focus Area included preparing for fieldwork for five of the performance measure PRSs that will be in RFI reports this year and performing ecological screening for the "work-off sites," those sites that have been proposed for no further action based on human health risk but require assessments regarding ecological and surface water concerns.

2.3.1 HE Production Sites Team

The High-Explosives (HE) Production Sites field team maintained several BMPs at TA-9 and TA-16. The water quality Surface Water Assessment Team made additional recommendations and the field team is in the process of implementing the recommendations.

2.3.1.1 TA-6

The ecological risk team toured building footprint sites at TA-6 in May. Peer reviewers for the TA-6 RFI report recommended additional sampling for PRSs 6-002 and C-6-001, -003, -005–018, and -021. Sampling began in June and was completed by the end of the month.

2.3.1.2 TA-9

The team completed a draft of the TA-9 RFI report and scheduled it for peer review in July. The field team performed maintenance activities on BMPs at MDA M.

2.3.1.3 TA-16

Hydrogeology All boreholes for the hydrogeology study have been drilled and water levels are being monitored. Moisture profiles have been completed on all boreholes, but the data are not yet available. Borehole 16-2712 produced water and was sampled; results are pending. All alluvial wells contain water, but the four deep (200 ft) boreholes do not.

Springs were sampled daily for bromide tracer to determine if the bromide is above the background level. Quarterly sampling at the springs was completed in June; results are pending.

PRS 16-021(c) The decision peer review for the Phase II RFI report was conducted and revisions were made to the conceptual model. Sections of the draft RFI report were completed and edited. In May, the field team conducted the ecological risk screening for the CMS plan. The peer review for the plan was completed in June and had no unresolved issues. Work continues on CMS process logic and the CMS report outline. The Phase III sampling design went through peer review in June.

V-Site All structures at V-Site were determined by the US Department of Energy (DOE) to be historically significant and will therefore not be decommissioned. V-site consists of six buildings that were involved in HE machining, casting, and assembly of the Fat Man device in the 1940s. This determination affected implementation of the V-Site Voluntary Corrective Measures Plan,

and as a result, team members prepared an addendum to reflect these changes. The addendum went through peer review.

Demolition of building TA-16-27, former HE casting building, was completed in April. All sampling for PRS 16-017, the TA-16-27 building footprint, and PRS 16-026(h2), a drainline from HE machining buildings, was completed in May. The remaining drainline at the latter site was removed along with soil contaminated with HE. Overburden soil associated with trenching activities at V-Site septic tanks and HE drainlines was sampled. Soil from areas around building TA-16-27 that was found to be contaminated with HE was placed in roll-off containers pending waste characterization analysis. The remaining clean soil was returned to the site.

2.3.2 Firing Sites Team

The team leader continues to work with facility management units of active firing sites to develop approaches that will not interrupt operations. Members of the Water Quality and Hydrology Group (ESH-18), the Regulatory Compliance Focus Area, and the team leader are working toward transferring the monitoring activities of the active firing sites to the facility management units.

2.3.2.1 TA-15

The response to NMED's conditional approval upon modification for the November 1995 RFI report was completed and went through the peer review process in May. The response was submitted to the regulators in June.

PRS 15-009(c) The septic tank was sampled in June as a result of recommendations from the Surface Water Assessment Team, and an interim action report is being developed for the site.

PRS 15-012(b) and PRS 15-009(j) The VCAs conducted at these two PRSs are performance measures for FY98. The peer review addressing ecological concerns was conducted in April for the PRS 15-012(b) VCA completion report; work continues on this report. The VCA completion report for PRS 15-009(j) is being revised in the new format.

2.3.2.2 TA-33

A SAP is being written for the septic tank and drain field associated with an inactive tritium processing facility, TA-33-86, scheduled for decontamination and decommissioning in 1999.

Area 6, which was used during the containerized vat leaching process conducted at the site in 1996, was cleaned up in June.

PRS 33-004(a) Low-level radioactive waste, mixed waste, and radioactive de minimis waste has been staged at TA-54 for disposal; options for treatment, storage, and disposal facilities are being investigated.

2.3.2.3 TA-39

The focus area received a request for supplemental information on the TA-39 RFI report, which addresses six active firing sites. Personnel are collecting the information needed to respond to this request.

2.3.3 Industrial Sites Team

2.3.3.1 TA-3

PRS 3-014(m) A PCB notification letter was prepared in April for PRS 3-014(m), the TA-3 decommissioned sludge-drying bed at the wastewater treatment plant, for submittal to the US Environmental Protection Agency (EPA) Region 6.

Upper Sandia Canyon The geomorphic map for Upper Sandia Canyon has been completed. Recently NMED and LANL ER Project personnel discussed adjustments to the sampling plan for Upper Sandia Canyon. Conversations with the DOE Oversight Bureau and NMED Hazardous and Radioactive Materials Bureau (HRMB) personnel indicated that a more diverse suite of analyses (not just PCB analyses) should be run for the first round of sediment/soil samples. The augmentation of analytes will be added for the sampling campaign due to start the first week of July. Auto-water samplers were installed in June at the head of Sandia Canyon tributaries at three locations in preparation for storm water sample collection during the rainy season. Water samples will be collected quarterly for one year as outlined in the sampling and analysis (SAP) plan.

2.3.3.2 TA-4/5

The TA-4/5 RFI report is being prepared. Data summaries were prepared and a decision peer review was completed for PRSs 4-003(a), 4-004, and 5-004. The field team conducted geomorphic screening at PRSs 4-003(a) and 5-004 to identify optimum sediment sample locations of historical relevance to the PRS for additional sampling activities. Personnel completed internal SAPs for additional sampling for PRSs 4-003(a), 4-004, and 5-004 and began review of validated data and collection of supporting documents for SAPs and the RFI report for PRSs C-5-001, 5-001(a,b,c), 5-002, 5-005(a,b), and 5-006(b,c,e,h). The site-specific health and safety plan (SSHASP), Waste Characterization Strategy Form, excavation permits, and the readiness review for field investigation were prepared.

2.3.3.3 TA-35

Work is in progress on the TA-35 RFI report. Data summaries were prepared and a decision peer review was completed for PRSs 35-003(a,b,c,n), 35-014(g1), 35-016(n), and C-35-007. Field geomorphic screening was conducted, internal SAPs for additional sampling were completed, and sample collection began at PRSs 35-016(n) and C-35-007. The SSHASP, Waste Characterization Strategy Form, excavation permits, and readiness review for field investigations were prepared. Data assessment and evaluation of the existing data for PRSs 35-003(a,b,c,n), 35-014(g1), 35-016(n), and C-35-007 were completed. Additional sampling data are pending.

2.3.3.4 TA-53

PRS 53-002(a and b) The RFI work plan/SAP for PRSs 53-002(a and b), two northern surface impoundments and one southern surface impoundment serving the Los Alamos Neutron Science Center (LANSCE), was completed and submitted to NMED in June.

PRS 53-006(b,c,d,e) Personnel from the ER Project and from TA-53 LANSCE Facility Management are working together to develop the SAP for PRSs 53-006(b,c,d,e) in order to coordinate ER sampling efforts with future excavation work for upgrading the radioactive liquid waste treatment system at TA-53.

2.3.3.5 TA-61

PRS 61-002 The field summary report was completed for PRS 61-002, an outdoor storage area at building 61-023.

2.3.4 Town Sites Team

2.3.4.1 TA-0

PRS 0-017 Archival research indicates that segments of abandoned acid waste lines may still be present underneath the Los Alamos Medical Center and other various sites in town. Options are being considered for dealing with this issue in concert with the planned construction.

PRS 0-030(g) A SAP is being developed in response to an NMED request for supplemental information (RSI). PRS 0-030(g) will be revisited to take additional confirmatory samples at the location of the removed septic tank and outfall line and to address contaminant extent farther from the original PRS boundary.

2.3.4.2 TA-1

A response to the RSI for the Aggregate N & P RFI report is being prepared.

2.3.4.3 TA-45

Work has been delayed at this sight pending an evaluation regarding the possible impact fieldwork might have on peregrine falcon nesting areas.

2.3.4.4 TA-73

A decision peer review was conducted on the SAP for Aggregate 73-2 (the PRSs west and south of the Los Alamos Airport terminal). Personnel completed the ecological scoping for the PRSs in the aggregate, completed review and assessment of existing data, and began preparation of the SAP.

PRS 73-001(a) Work progressed on the RFI report for the TA-73 Landfill. Data assessment for the report has been completed, as well as risk assessment calculations and text. The ecological scoping process is also complete.

2.3.5 MDA P Closure

The team researched available technology and techniques for managing detonable HE found in the MDA P landfill.

The revised Closure Implementation Plan describing the preferred alternative was developed, reviewed, and approved by the LANL Explosives Safety Committee, Engineering Sciences and Applications Division, and others. The SSHASP was modified to accommodate the changes in work procedures.

2.4 Analysis and Assessments — Focus Area Leader: Alison Dorries

2.4.1 General Information for Analysis and Assessments Focus Area

The Analysis and Assessments Focus Area was reorganized: the Deliverables Tracking and Consistency Team, which is shared with the Regulatory Compliance Focus Area, was identified, and the Strategic Interface Team was disbanded and the tasks of that team were assumed by the Data Analysis and Assessment, Deliverables Tracking and Consistency, Physical Modeling and Characterization, and Risk Assessment Teams.

The four teams worked together with HRMB personnel on the RFI Report Annotated Outline, the annotated SAP outline, and the incorporation of the Risk-Based Corrective Action Process document into Chapter 3 of the LANL ER Project's Installation Work Plan (LANL 1996, 57479). The teams assisted in the development of performance measures for FY99, the development of the TA-53 RFI SAP, the PRS 55-009 RFI report, and the peer review process for ER Project documents.

The Analysis and Assessments Focus Area worked with the Regulatory Compliance Focus Area to coordinate discussions with HRMB regarding use of the most current toxicity data, standard default values, algorithms, and equations available to calculate SALs for human health. The ER Project and HRMB mutually agreed that until the ER Installation Work Plan is revised in 1998 and includes an HRMB-approved methodology for deriving SALs, personnel will use current EPA Region 9 toxicity data, standard default values, and equations (LANL 1998, 58711). ER Project reports that reference SALs will state that SAL values were calculated using the most current guidance and assumptions available and will cite *Region 9 Preliminary Remediation Goals 1998.*

2.4.2 Team Activities

2.4.2.1 Data Analysis and Assessments Team

This quarter the Data Analysis and Assessments Team provided support for the responses to the RSIs on the ER Installation Work Plan and the Risk-Based Corrective Action Process. The team continued defining and documenting work processes such as interaction between the Central Data Management organization and focus area technical personnel, steps for preparing data sets before analysis, exploratory data analysis, and statistical analysis.

Members of the team continued to review and revise existing LANL-ER standard operating procedures (SOPs); conducted programmatic review of procedures to identify global changes to SOPs to meet new format requirements; and drafted five data validation SOPs for volatile organic compounds, semi-volatile organic compounds, organochlorine pesticides, PCBs, HE, and inorganics. Team members continued the revision of SOP-1.05, Field QC Samples, and completed the review and revision of fourteen other field SOPs.

Additional work included the following:

- Developed the conceptual framework document that will include the plan for future quality control oversight activities.
- Compiled field screening data for correlation analyses.
- Prepared a draft plan for the performance evaluation sample study for tritium analysis.
- Analyzed organic surrogate recovery data to assess method bias for Laboratory soil samples.

- Prepared a draft report on the evaluation of uranium analyzed by the kinetic phosphorescence analysis data set.

- Continued work on a background summary paper and prepared a draft technical position paper on the use of background values and screening action levels for radionuclide isotope pairs.

- Supported the Sample Management Office and the Facility for Information Management and Display (FIMAD); assisted FIMAD in ongoing effort to improve database tables; provided support for design of database tables for field screening measurements; and provided chemistry and statistical support to the Data Advisory Team.

- Drafted an Implementation Guide for Reporting Analytical Data that will detail the requirements for the LANL-ER electronic data deliverable and coordinated efforts with other national sites.

- Drafted an approach for the integration of surface water concerns between the Remedial Actions and Canyons Focus Areas and the Watershed Management Program Plan. Personnel worked with the core team for the Watershed Management Program Plan to develop data quality objectives and SAPs for Mortandad Canyon and Los Alamos Canyon.

- Provided assistance to Remedial Actions Focus Area personnel in reformatting the V-Site SAP to the new outline; to the Canyons Focus Area in developing decision rules for the Pajarito Canyon Work Plan; and to the operational focus areas in identifying priorities and resources for ER Project deliverables.

2.4.2.2 Deliverables Tracking and Consistency Team

Team members worked with the Project Management Team to refine the peer review process, using lessons learned from peer reviews already conducted. The team examined peer review processes used in organizations nationally and revised the draft quality procedure for the peer review process. The team conducted 20 peer reviews, including document reviews of the TA-53 and Pajarito Canyon work plans, Quality Procedure (QP) 5.7 (Notebook Documentation for Environmental Restoration Scientific Investigations), SAPs, and decision review of the CMS plan for the 260 Outfall.

The team prepared responses to the RSI on Chapter 3 of the ER Installation Work Plan. They began discussions on appropriate responses to the RSI for the Risk-Based Corrective Action Process and how to incorporate that process into the next revision of the Installation Work Plan.

Other activities included

- working with the Business Operations Division to expedite ER contracts;

- assisting in integration of policy aspects of the Canyons, MDAs, and Remedial Actions Focus Areas; and

- participating on the surface water decision logic team and MDA decision analysis framework team.

2.4.2.3 Physical Modeling and Characterization Team

The team continued work on the 3-D stratigraphic model and chloride/stable isotope profile special studies effort. In conjunction with the Data Analysis and Assessment and Risk Assessment Teams, eight more modeling studies were selected to receive funding for this fiscal year. Six are directly related to modeling needs; the remaining two will assist in developing a better understanding of contaminant distributions in sediments. In June, work began on the new modeling studies, including the surface water, ponded conditions, landfill cover, and canyons modeling.

Other activities include the following:

- assisted the TA-21 team in developing a sampling and modeling effort for MDAs B and U and in developing the MDA Core Document;
- met with representatives of the Deliverables Tracking and Consistency Team and the Surface Water Team to begin developing assessment criteria for addressing interflow in ER Project RFI reports;
- continued the modeling effort for the regional aquifer; the initial hydrogeologic framework is nearly complete;
- participated in peer reviews for the 260 Outfall report, the V-site (TA-16) SAP, the MDA L (TA-54) pilot extraction plan, the TA-49 BMP plan, and the Pajarito Canyon work plan;
- continued development of the ER Integrated Modeling Strategy and determining how Physical Modeling and Characterization special projects will support this integrated effort;
- reviewed the TA-53 lagoons SAP; and
- assisted in developing sampling needs for Borehole R-25 in Cañon de Valle.

2.4.2.4 Risk Assessment Team

The Risk Assessment Team Leader provided support for the technical evaluation of Analysis and Assessment subcontractor proposals. Team members continued to support programmatic tasks identified by the Project Management Team, while also supporting operational Focus Area Managers in meeting FY98 performance measures.

Ecological Risk Subteam The subteam submitted the final draft of the ER Project's Ecological Risk Assessment Methodology to NMED and continued working with HRMB on the development of general assessment endpoints, definitions of key terms, a draft ecological attribute table, and food web functional groups with species examples.

Progress was made toward finalizing methodologies for implementing ecological risk screening assessments, including scoping evaluations, screening calculations, and uncertainty analyses and interpretation. The subteam continued to develop ecological screening levels and updated the Ecological Scoping Checklist and the calculation spreadsheets for radionuclide and inorganic/organic ecological screening levels to reflect changes in input parameters.

Other activities included taking NMED representatives on tour of Cañon de Valle to discuss baseline ecological risk assessment issues for that site and assisting on the response to the RSI on the Risk-Based Corrective Action Process. This quarter the team drafted ecological portions of

the TA-53 SAP, performed ecological screening for 25 PRSs, and made site visits and prepared ecological scoping checklists for 5 PRSs.

Human Health Risk Subteam This quarter the subteam assisted in the identification of programmatic needs for FY99 and worked in conjunction with the Data Analysis and Assessment Team to develop and present two training workshops on the RFI Report Annotated Outline (LANL 1998, 58605).

The subteam requested confirmation from HRMB that work be suspended on the RSI for the Risk-Based Corrective Action Process document and met with HRMB personnel to discuss the incorporation of the Risk-Based Corrective Action Process document into Chapter 3 of the Installation Work Plan and to discuss SAL methodology.

The group continued to support development of the CMS plan for the 260 Outfall and performed the human-health risk assessment for the Canyons reach report. They assisted in developing SAPs for TA-21, TA-73, and TA-53 and on the RFI report for TA-35, and responded RSIs for TA-15. The subteam reviewed the radiological data from deep-well R-9 core and provided ongoing support to the Canyons and MDA decision framework task teams.

Cumulative Risk Subteam Began discussions regarding a conceptual model for incorporating MDAs, Canyons, and RCRA Corrective Action sites. This integrated conceptual model will include an all-sources, all-pathways approach that will support an integrated final action plan.

MDA Consistency Subteam The subteam continued work on the MDA Core Document.

2.5 Regulatory Compliance — Focus Area Leader: Tori George

2.5.1 Team Activities

2.5.1.1 Communication and Outreach Team

The Communication and Outreach Team participated in the following meetings this quarter:

- NM Air and Waste Management Association meeting on April 7,
- DOE Paths to Closure public meetings on April 13–14,
- Land Transfer public meetings on May 19–21,
- Laboratory/Four Accord Pueblo Quarterly meeting on May 5,
- New Mexico First Town Hall meeting on Tribal Relations on June 4–7,
- Citizens Advisory Board meeting on June 8,
- Site-Wide Environmental Impact Statement public meetings June 9–10, and
- Tribal/DOE mid-year review on June 11.

In addition, the team participated in several workshops/environmental events: the Los Alamos Earth Day celebration; the NM Hazardous Waste Society Conference; and the DOE/AL Native American Cultural Awareness Workshop.

The team provided tours of several Los Alamos fire stations to Los Alamos County officials and contractors for land transfer purposes; and they participated in a tour of the Anniversary and Camp Hamilton Trails conducted by the Los Alamos Trails and Pathways Subcommittee. The team negotiated two access agreements and addressed approximately eight public inquiries.

Other tasks in progress include the following: preparing the ER Communication and Outreach Plan; developing the ER Website Program Plan; preparing for LANL Green Day scheduled for August 1998; negotiating ongoing land transfer issues; photo-documenting work-off sites at TA-5 and TA-35 being proposed for no further action; implementing the ER Project Regional Sustainability Plan; and developing a tracking database for the Environmental Management Division's Regional Sustainability Plan.

2.5.1.2 Deliverables Tracking and Consistency Team

The Deliverables Tracking and Consistency Team, a team shared with the Analysis and Assessments Focus Area, was formed in May of this year. During this quarter the team began integrating ER Project information management systems and worked with representatives from Harding Lawson and Associates to evaluate current information tracking systems in use at the ER Project and to assess and define needs for future information tracking. The goal of this effort is to create a system that allows ER Project personnel, DOE, regulatory agencies, and the public to easily access information regarding the status of work at PRSs and to determine the status and completion dates of regulatory and performance measure deliverables.

The team established a temporary tracking system for regulatory deliverables, performance measures, and other document deliverables for use by the Project Management Team, DOE, and the Administrative Authority until the integrated system is established. The team worked with the operational focus areas to determine the status of FY98 deliverables, including RSIs.

Team members also assisted other ER Project teams to ensure documents were delivered on schedule.

Other activities included

- working with the Regulatory Integration and Operations Team to complete and deliver to NMED the ER Work Schedule for FY 1998 through FY 2002,
- participating in peer reviews, and
- providing data as requested concerning PRS information and kept the PRS database current.

2.5.1.3 ER Policy and Guidance Team

The team began preparing a response to a compliance order the Laboratory received from NMED June 9, 1998. The order alleges the following.

- LANL did not determine and verify nature and extent of releases of hazardous waste or hazardous constituents from Solid Waste Management Unit (SWMU) 21-029, a former Fill-Station used to store petroleum substances.
- LANL did not fully evaluate potential contaminant migration pathways at and from the SWMU.
- LANL did not describe actual or potential receptors.

The compliance order proposes a $67,000 fine for these alleged violations. The response is expected to be completed within the required 30 days and is anticipated to assert that actions involving the Underground Storage Tank Bureau and the Surface Water Quality Bureau (SWQB), with respect to the PRS, were ongoing and the compliance order was premature.

The team participated in peer reviews for TA-53 and MDA B and completed a regulatory analysis for the proposed *in situ* vitrification project at TA-21. Work continues on the annotated outlines for RFI and VCA reports.

2.5.1.4 Regulatory Integration and Operations Team

The Regulatory Integration and Operations Team interacted with NMED, including the HRMB, SWQB, Ground Water Quality Bureau, and Oversight Bureau. Topics of discussion included BMP implementation, annual work schedule, PRS budgets, water issues, and deviations from the closure plan for MDA P. The team also met with Sandia National Laboratories concerning waste minimization integration and with Los Alamos Neutron Science Center (LANSCE) and the Dynamic Experimentation Division to discuss ER integration issues on those sites. A team representative met regularly with the watershed planning group and with the MDA P project team.

Tours of PRSs were conducted with NMED at TAs 3, 49, 53, and MDA AB; Regulatory Integration and Operations personnel toured the corrective action management unit at Sandia National Laboratories in June.

Team members participated in the following peer reviews:

- MDA B,
- TA-53 Surface Impoundment,
- TA-54 Area L,
- TA-16-260 Outfall,
- TA-49,
- TA-15 RSI Response,
- Sandia and Pajarito Canyon Work Plans,
- Ecological Risk Methodology,
- SAP for TA-73-2, and
- QP 5.7, Notebook Documentation for Environmental Restoration Scientific Investigations.

The Regulatory Integration and Operations staff addressed a number of issues involving working with Laboratory facilities to remove debris from watercourses, locating sites for BMPs, and compiling an up-to-date list of all BMPs in place at PRSs.

Team members developed a strategy for A.2 Performance Measures and completed 83 of the work-off sites proposed for no further action.

The Surface Water Assessment Team continued evaluating surface water concerns and made stabilization recommendations for 36 PRSs.

Other actions included working with ER waste generators and treatment, storage, and disposal facilities to establish and coordinate authorized limits for the release of hazardous waste containing residual radioactive material and working with property owners, developers, and relevant county and state authorities to ensure resolution of issues pertaining to the former location of septic tank PRS 0-003(g) on property slated for future development of student housing.

The team provided ER Waste Management Coordinators with a synopsis of Phase IV of the Land Disposal Restrictions, Final Rule; the synopsis was also provided to NMED. The team worked on the Environment, Safety, and Health (ESH) Division Business Realignment Plan and provided regulatory assistance during drilling activities at R9 and R12 wells.

The waste management staff completed the self-inspection of the waste storage area, shipped 14 waste streams, identified and profiled 2 low-level waste streams in TA-49, and submitted an implementation plan to the Environmental Management-Solid Waste Operations Group for waste certification.

The ER Project continued its involvement with the Natural Resource Trustee Council and worked toward finalizing the draft Memorandum of Agreement with the Trustees. The members of the council initiated a legal review of the document. During the quarter, the trustee council members met at the invitation of Cochiti Pueblo and the Laboratory. The DOE trustee representative met with ER Ecological Risk Assessment Team members and the Environmental Assessments and Resource Evaluations Group (ESH-20) to discuss releases, contaminants, and potential injury to natural resources at the Laboratory, and the data available and/or needed to address Natural Resource Damages Assessment (NRDA) issues. Other members of the Trustee Council are currently reviewing their responsibilities for natural resources under their jurisdiction on DOE property and identifying any potential natural resource injuries and services lost. The draft ER/NRDA Integration Plan to achieve an efficient and cost-effective resolution of natural resource liability related to contaminant releases at the Laboratory is in review.

3.0 REFERENCES

LANL (Los Alamos National Laboratory), December 1996. "Installation Work Plan for Environmental Restoration Program," Revision 6, Los Alamos National Laboratory Report LA-UR-96-4629, Los Alamos, New Mexico. (LANL 1996, ER ID 57479)

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