Los Alamos National Laboratory

Environmental Restoration Project

EXPEDITED CLEANUP PLAN

for

SOLID WASTE MANAGEMENT UNIT 8-003(a)

April 1995
Revision 1

Environmental
Restora

3297

Approvals and Reviews

This document is based on the most current information available at the time of preparation. In the event changes or modifications are required from those proposed, modifications will be made to incorporate any and all revisions. Subsequent reviews and approvals, consistent with those provided for this revision, will be required. This document has been reviewed for content and approved as reflected by the signatures below:

Document Approved By:

Cheryl K. Rofer

Cheryl Rofer, Field Project Leader

4/24/95

Date

Los Alamos National Laboratory

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Refer to: EM/ER:95-160

Mr. William Honker
RCRA Permits Branch
Hazardous Waste Management Division
U.S. Environmental Protection Agency
1445Ross Avenue, Suite 1200
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APR 27 1995

Dear Mr. Honker:

SUBJECT: REQUEST FOR PERMIT MODIFICATION

Los Alamos National Laboratory (Laboratory) is requesting a Class III permit modification per 40 CFR 270.42 (c). This request, if approved, will allow the Laboratory to implement expedited cleanups (ECs) for four solid waste management units (SWMUs) that will constitute a final remedy for the SWMUs. This EC process was developed and discussed within the Accelerated Cleanup Process Policy Paper previously sent to your office.

The cleanup remedy identified for these SWMUs is apparent and readily implementable. Therefore, the Laboratory wishes to proceed with a proactive approach for the cleanup of the sites in the near future rather than delaying the cleanup due to the lengthy corrective action process. Upon completion of the expedited cleanup, the Laboratory will submit a summarization of data and verification statements assuring that the plan has been implemented and the SWMUs have been cleaned up. The SWMUs can then be removed from Module VIII.

Enclosed please find three EC plans addressing these four SWMUs. Barbara Driscoll, of your staff, has reviewed these EC plans in draft. Her comments have been addressed.

Public notice of this activity is anticipated to be published on April 24, 1995, and the public meeting is scheduled for May 9, 1995. Notices will be sent to all persons on the facility mailing list, which will contain at a minimum, all information as prescribed in 40 CFR 270.42. Comments received from the public meetings and other comments received as a result of public review of these plans will be forwarded to your office. When our public notices are published, copies of the articles will also be provided to your office. Upon addressing any potential concerns or problems received from public input, it is understood that your office will grant Temporary Authorization to proceed with the field work.

Should you have any questions pertaining to this request, please contact David McInroy or Court Fesmire of our staffs. They can be reached at 505-667-0819 and 505-665-4718, respectively.

Sincerely,

Jorg Jansen, Project Manager
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Sincerely,

Theodore J. Taylor, Program Manager
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JJ/TT/rfr

Enclosures: Three EC Plans

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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:

Class III Permit Modification for Expedited Cleanup Plans for SWMUs 8-003(a); 18-001(b); 48-002(a); 48-002(b)

Name: _____ Date: April 23, 1995

Dennis J. Erickson, Director
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Joseph Vozella,
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or

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ACRONYMS

AP	Administrative Procedure
COC	contaminant of concern
CST	Chemical Science and Technology
DOE	U. S. Department of Energy
EC	expedited cleanup
EPA	U. S. Environmental Protection Agency
ER	Environmental Restoration
FPL	Field Project Leader
FTL	Field Team Leader
HSWA	Hazardous and Solid Waste Amendments
LANL	Los Alamos National Laboratory
PCOC	potential contaminant of concern
PRS	potential release site
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SAL	screening action level
SOP	Standard Operating Procedure
SSHASP	Site-Specific Health and Safety Plan
SVOC	semivolatile organic compound
SWMU	solid waste management unit
TA	Technical Area
TCLP	Toxicity Characteristic Leaching Procedure
VOC	volatile organic compound

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1.0 INTRODUCTION

This Expedited Cleanup (EC) Plan addresses Solid Waste Management Unit (SWMU) 8-003(a), located within the western portion of the Los Alamos National Laboratory (the Laboratory), Los Alamos, New Mexico (Figure 1-1). This EC plan is being proposed as a part of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) process described in the Operable Unit 1157 RFI Work Plan (LANL 1993, 1230).

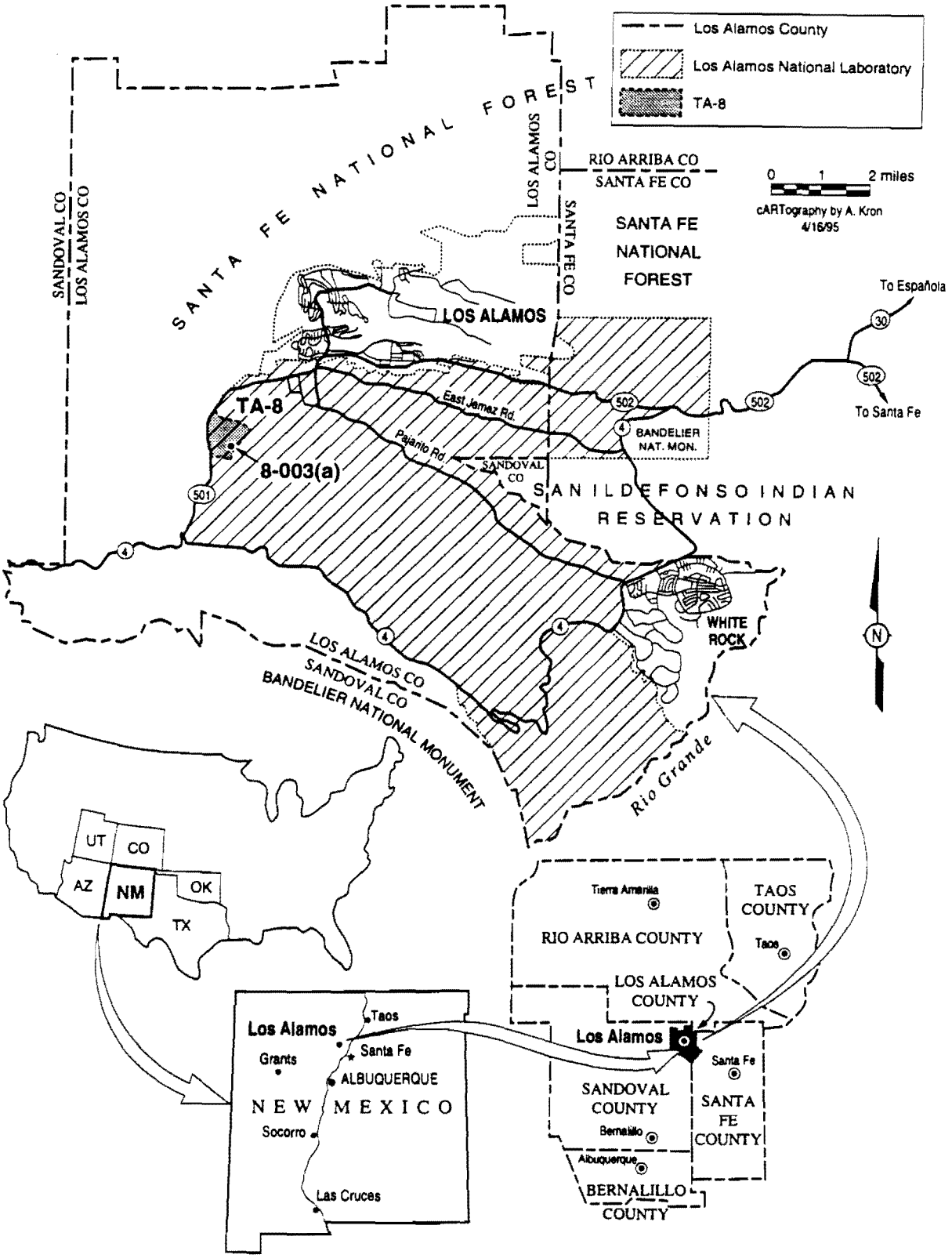
SWMU 8-003(a) is included in Table A of the Hazardous and Solid Waste Amendments (HSWA) permit.

SWMU 8-003(a) consists of an inactive septic tank. The outfall is designated as another SWMU. The system was in use from 1943 to 1968. Photochemical wastes and other laboratory wastes (as well as sanitary wastes) were routinely discharged to the system. Preliminary results from the RFI sampling effort indicate the sludge in the septic tank contains elevated levels of volatile organic compounds (VOCs). These data indicate that the contents of the tank should be classified as RCRA hazardous waste and should be removed from the tank for proper disposal.

Activities comprising this EC Plan include verification sampling outside the tank to ensure contamination is confined to the interior of the septic tank. The contents of the septic tank will then be removed, the interior of the tank cleaned, the tank stabilized (by filling with sand and/or pea gravel and leaving it in place), the sludge disposed of at a permitted facility, and the site restored to its previous condition.

This EC Plan identifies the level of effort required from initial transmittal of the plan to EPA for review, through implementation, to the completion of the final project report. In the development of this EC Plan, the following assumptions were made:

- The levels of contaminants of concern (COC) and volumes of anticipated waste are consistent with preliminary RFI data;
- Future land use at the location of this SWMU will continue to be for industrial purposes;
- Minimal delays in EC operations will be experienced as a result of inclement weather, site access problems, and firing schedule delays. Delays that result from the acquisition and scheduling of heavy equipment and from the acceptance of waste at permitted disposal facilities cannot be anticipated and therefore are not considered within this plan;
- A Site-Specific Health and Safety Plan (SSHASP) and Waste Management Plan will be developed specifically to address COCs identified in this EC Plan. Deviations from the anticipated concentrations and locations of contaminants of concern may necessitate adjustments to both plans; and
- Any comments generated by agencies for public review may necessitate adjustments to the scope of this EC Plan.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TA-8
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To Santa Fe
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BANDELIER NATIONAL MONUMENT
Rio Grande
UT
CO
AZ
NM
OK
TX
Los Alamos
Taos
Santa Fe
Grants
ALBUQUERQUE
NEW MEXICO
Socorro
Las Cruces
Tierra Amarilla
RIO ARRIBA COUNTY
TAOS COUNTY
Taos
LOS ALAMOS COUNTY
Los Alamos
Santa Fe
SANDOVAL COUNTY
SANTA FE COUNTY
Bernalillo
Albuquerque
BERNALILLO COUNTY

2.0 SITE BACKGROUND AND ENVIRONMENTAL SETTING

2.1 Detailed Description of SWMU 8-003(a)

SWMU 8-003(a), an inactive septic tank, is located in Technical Area (TA)-8 in the western part of the Laboratory (Figure 2-1). The septic tank includes one manhole affiliated with the inlet line from TA-8-1 (Figure 2-2). The site is situated approximately 35 ft northeast of the northeast corner of TA-8-1. The septic tank, which is approximately 10 ft by 4 ft by 4 ft, with a 1,197-gal capacity is located in a small valley on the west side of Anchor Ranch Road.

The tank is constructed of precast reinforced concrete and is approximately 90% full of a liquid and sludge mixture. The liquid phase is approximately six inches thick and overlies a sludge phase described by samplers as having a "pudding-like" consistency. A steel plate covering an access hole to the tank is readily identifiable. The septic tank and associated line are buried approximately 1.5 ft below ground surface. Drainage from the valley has been impeded by fill material used in constructing Anchor Ranch Road, and the original storm drain serving the site has been partially blocked by sediment. Shallow sediment deposits over the steel plate suggests that water occasionally ponds over the tank and may drain into it.

2.1.1 Operational History

SWMU 8-003(a) was installed in 1943 and served Buildings TA-8-1 and -3. Both buildings were also constructed in 1943. Building TA-8-1 served as a control center for the adjacent gun firing site, and after World War II was used for explosives development and crystal growth experiments. Building TA-8-3 may have discharged explosives wastes and sanitary wastes to the tank; the system has been inactive since 1968.

2.1.2 Physical Setting

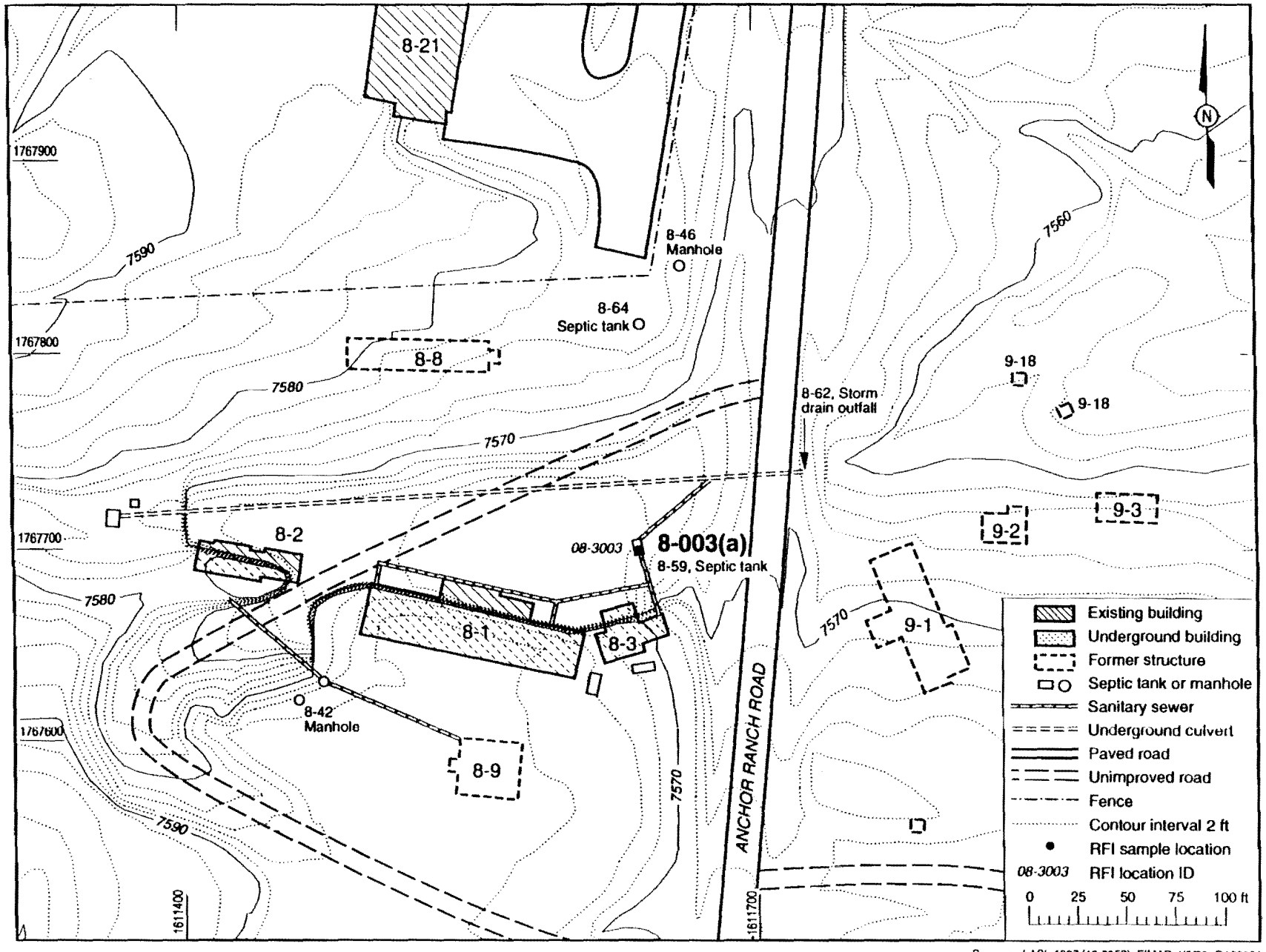
SWMU 8-003(a) lies entirely on US Department of Energy (DOE)-owned land on a mesa top south of Two Mile Mesa. The area is removed from any public access roads. In the foreseeable future, the land is anticipated to be used exclusively for Laboratory operations.

The prevalent soil type on the mesa top is the moderately deep (20 to 40 in.) and well-drained Nyjack Loam. Pleistocene ash flows of the Bandelier Tuff directly underlie the soil. The tuff is moderately welded to nonwelded in the area of the septic system. Because the site is situated on a mesa, the existence of shallow aquifers in the area is unlikely. The depth to the main aquifer is estimated at 875 to 1,100 ft below ground surface.

2.2 Summary of Investigations

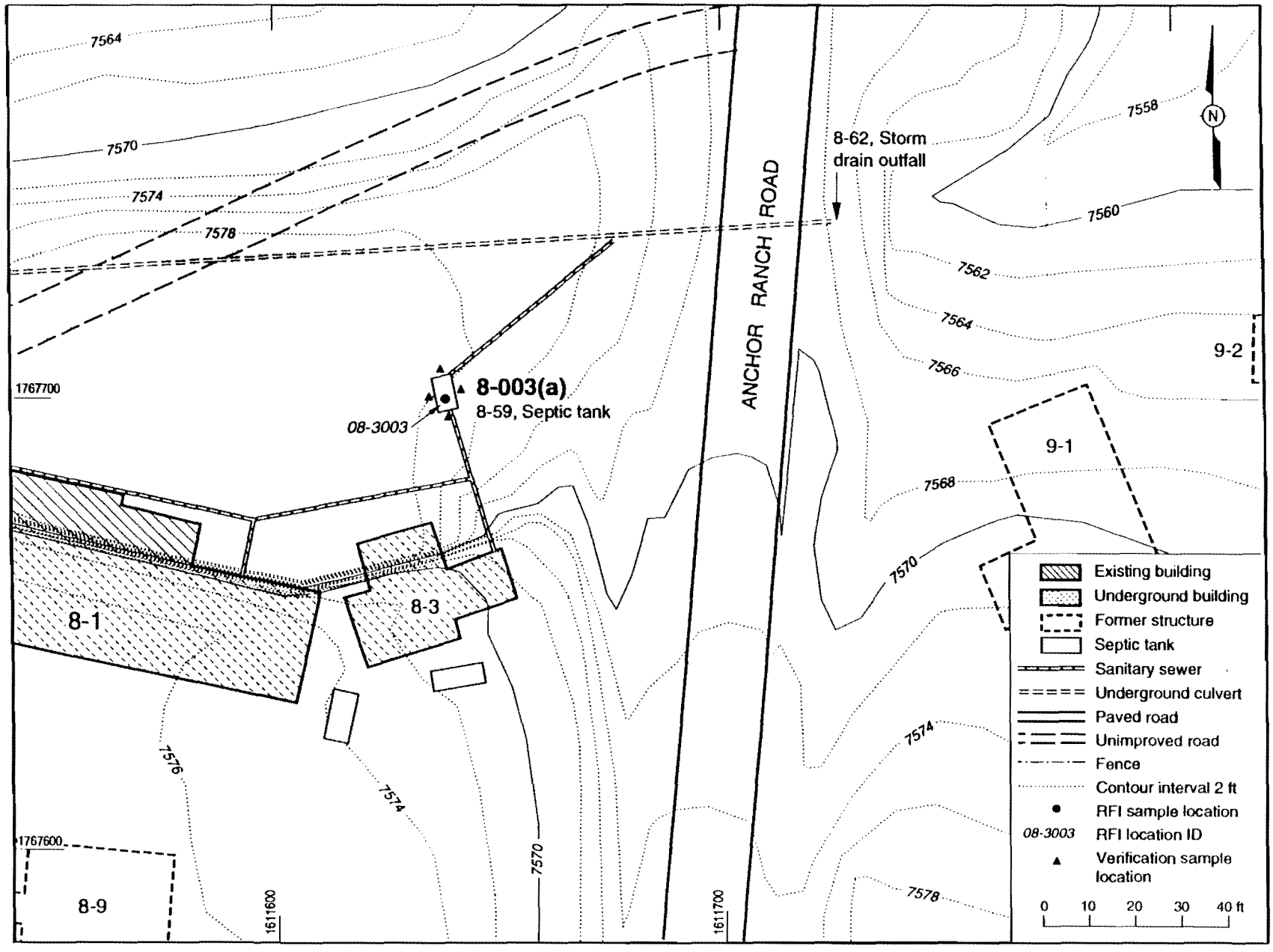
2.2.1 Investigations Prior to the RFI

In 1971, liquid samples were collected from SWMU 8-003(a) and, although background counts of gross alpha and gross beta indicated that the tank contents were free of radioactive contamination, the contents were found to contain volatile hydrocarbons and oil and the tank contents were considered to have probable explosives and chemical contamination.



Sources: LASL 1967 (12-0052); FIMAD 4/6/95, G103281
Modified by: cARTography by A. Kron 4/19/95

Figure 2-1. SWMU 8-003(a) location map.



Sources: LASL 1967 (12-0052); FIMAD 4/6/95, G103281
Modified by: cARTography by A. Kron 4/19/95

Figure 2-2. Septic system SWMU 8-003(a) site sketch.

2.2.2 RCRA Facility Investigation

During August 1994, multimedia samples were collected from the septic tank to ascertain the potential effect of the inactive septic system on public health and the environment. During the tank sampling activities, a clear liquid phase was observed, approximately six inches thick, overlying a sludge phase. Based on a review of the data contained in Annex 6.9, the effort is summarized below.

Four samples of the tank's contents were obtained and analyzed for volatile organic compounds (VOC), semivolatile organic compounds (SVOC), RCRA metals, and high explosives (HE). A gross alpha/beta/gamma screening was also performed. Of the four samples collected, two samples were from the clear liquid phase (AAB0762 and duplicate AAB0763) and the other two samples were from the sludge phase (AAB0759 and duplicate AAB0760). Results indicate the following:

Liquid Phase

- The tank liquid contained no elevated concentrations of RCRA metals, however, the SAL for manganese was exceeded with a maximum value of 3680 ug/L.
- Liquid in the tank contained levels of dichloroethane(1,2-), dichloroethene(1,1-), and bis(2-ethylhexyl)phthalate exceeding LANL SALs. The maximum values detected were: dichloroethane(1,2-) at 34 ug/L, dichloroethene(1,1-) at 17 ug/L, and bis(2-ethylhexyl)phthalate at 43 ug/L.
- No identifiable compounds were detected in the SVOC analyses.
- No identifiable compounds were detected in the HE analyses.

Sludge Phase

- The tank sludge contained no elevated concentrations of RCRA metals. SALs have not been determined for sludge and so are not reported on the sludge analytical tables. However, when the analytical results were compared to SALs for soil, no SALs were exceeded.
- VOC analyses of the sludge revealed maximum detection's of the following constituents: chloroform at 69 mg/kg, dichloroethene(1,2-) at 180mg/kg, trichloroethane(1,1,1-) at 26000 mg/kg, and tricholoroethene at 47000 mg/kg. SALs have not been determined for sludge, but when analytical results were compared to SALs for soil, the values for chloroform, trichloroethane(1,1,1-), and trichloroethene exceeded the SALs.
- No identifiable compounds were detected in the SVOC analyses.
- No identifiable compounds were detected in the HE analyses.

2.2.3 Evaluation of the Results

Based on preliminary review of analytical data (see Annex 6.9), the contents of the septic tank are considered RCRA hazardous waste due to the presence of multiple VOC constituents.

2.3 Types and Volumes of Waste

The nature of the wastes expected to be generated by the proposed cleanup is presented in Table 2-1.

The tank liquid and sludge samples revealed elevated levels of VOCs. As described in Section 3.3, the contents of the tank will be pumped directly into a tanker truck for transport and disposal by an approved waste facility. Treatment or stabilization of the residuals by the waste facility may be necessary before its disposal. The specific nature of this stabilization will be determined by the disposal facility.

In addition to the existing material in the tank, potentially contaminated water will be generated during the washing of the interior of the tank following the removal of the existing sludge. The wastewater will be disposed along with the tank contents as hazardous waste.

Verification sampling will be performed as described in Section 3.5. A small volume of solid and liquid wastes will be generated by this activity. Waste associated with this effort may include disposable sampling equipment, personal protective equipment, and decontamination water. These materials will be handled in accordance with the site-specific Waste Management Plan and treated as potentially hazardous waste pending characterization.

TABLE 2-1
ANTICIPATED WASTE VOLUMES

Item	Type	Anticipated Volume
Sampling waste/PPE	solid - potential hazardous	1 cu. ft.
Decontamination waste	water- potential hazardous	300 gal.
Tank contents	sludge/liquid - hazardous	1100 gal.

2.4 Potential Impacts on Public Health and the Environment

Receptors of possible contaminants include animals and humans. Potential exposure routes of receptors, if a release from the tank were to occur, include the following:

- Inhalation (especially if the SWMU is disturbed);
- Ingestion; and
- Skin contact with contaminated soils or sediments.

2.4.1 Potential Pathways

2.4.1.1 SWMU - In Place

The only source from which potential contaminants may migrate is the septic tank. Available analytical results from the outfall indicate that soils from this area do not serve as a potential source area for contaminant migration. Therefore, the primary source area for PCOC migration is via residuals within the septic tank. Although a significant release of contaminants from the septic system was not detected during the RFI effort, possible future releases of the PCOCs to the environment via septic tank leaks or movement of residuals through the outfall may occur if the contents remain in place.

Should releases occur, the primary mode for PCOC migration is via subsurface soils. Because the tuff is less permeable than the overlying soil, the interface serves as a preferential subsurface pathway. Thus, the most likely subsurface migration scenario has PCOCs moving along the soil/tuff interface toward the Canyon de Valle floor. Release to the surface could also occur along this pathway where the Bandelier Tuff is exposed along the steep canyon walls. Minor migration pathways through surface-water runoff and wind mechanisms could then develop.

2.4.1.2 SWMU - Remediation

EC activities to be performed at 8-003(a) include removing the septic tank contents and washing the interior, filling the excavated tank with sand and/or pea gravel, and subsurface augering associated with the verification sampling. These tasks may present additional temporary potential pathways for contaminant migration as a result of the increased surface exposure of contaminated soil, sludges, and liquids.

The primary pathways associated with these activities are wind dispersion and surface-water runoff. To minimize the potential for surface-water runoff, tank residuals will be pumped directly into a tanker truck, thus reducing the risk of spills to surrounding soils. The interior of the tank will be pressure washed and the spray will be directed downward into the tank. The liquid generated from the wash will be pumped directly into the tanker truck. Soil cuttings generated during the verification sampling will be field monitored for organic vapors and radiological constituents. These cuttings will be returned to their respective boreholes. Should field screenings indicate potential contamination, the soil will be placed in containers and disposed in accordance with the site-specific Waste Management Plan.

2.4.2 Future Land Use

SWMU 8-003(a) lies entirely on U. S. Department of Energy (DOE)-owned land on a mesa top north of Canyon de Valle. The area is removed from any public access roads. In the foreseeable future, the land is anticipated to be used exclusively for Laboratory (industrial) operations.

2.4.3 Cleanup Levels

Analytical results from the RFI sampling indicate that concentrations of PCOCs for the SWMU were generally below SALs, with the exception of VOCs contained in the septic tank sludge and liquid, and manganese contained in the liquid phase. The entire contents of the tank will be removed; therefore cleanup levels are not required for this effort.

If analytical results from the verification samples indicate that soil concentrations adjacent to the tank are above SALs, the septic tank will be removed and the nature and extent of any residual contamination determined. A site-specific risk assessment will be performed to establish appropriate remediation goals. These cleanup levels will be calculated for the "Occupational Scenario" under standard EPA default exposure factor for a worker as presented in RAGS Part B, Development of Risk-Based Preliminary Remediation Goals (USEPA, 1991).

3.0 EXPEDITED CLEANUP

3.1 Overview And Rationale

Preliminary RFI analytical results indicate that the septic tank contents are classified as hazardous waste. Any fractures in the tank or inadequate joints between the tank and the inflow and outflow lines may result in contamination to the surrounding soils. Should the contents of the tank remain in place, the potential remains for contaminant release to the environment. Therefore, the proposed EC Plan (described in Section 3.3) will be implemented to remove the potential risk of the remaining contents of the tank. Verification sampling will be performed to confirm that the site has been remediated in accordance with this plan.

3.2 Permitting, Approval, and Notification Requirements

An excavation permit will be prepared and submitted for approval before execution of this plan.

Documentation will be prepared in accordance with Laboratory Environmental Restoration (ER) Administrative Procedure (AP) LANL-ER-AP-05.1, Rev. 0, Readiness Review for Environmental Restoration Program Field Activities. Key documents to be prepared include a Site-Specific Health and Safety Plan (SSHASP) and a site-specific Waste Management Plan. Personnel training requirements will be specified and will require completion prior to implementation of this EC Plan. Site workers must have received all training for this project as specified in the SSHASP.

3.2.1 DOE Approval

Implementation of this EC will proceed only after DOE approval is documented through receipt of the signed Field Work Approval Form (Annex 6.7).

3.2.2 Regulatory Notification/Permit Modifications

SWMU 8-003(a) is included in Table A of the Hazardous and Solid Waste Amendments (HSWA) permit. Implementation of this EC will require a Class III modification to the Laboratory's RCRA Permit. EPA and the New Mexico Environment Department will be notified of this project, and a request for a permit modification will be submitted.

3.3 Cleanup Activities

SWMU 8-003(a) is located within a secured area of TA-8; therefore, site preparation activities will include scheduling site access and establishing work zones. Initially, the overburden from the tank will be removed to expose the tank's lid and central portal. Once the tank walls are delineated, four boreholes will be installed around the periphery of the tank using hand-operated augers (Figure 2-2). Installation of the boreholes will provide information regarding the integrity of the septic tank prior to its decommissioning. The verification sampling (Table 3-1) is being performed first to ensure the receipt of analytical results to allow for a timely remediation decision. Should field screening and/or analytical results from the verification sampling indicate elevated contaminant levels in the soils surrounding the tank, a separate sampling plan will be submitted. During the verification sampling effort, a sample of the sludge may be collected and analyzed to confirm the current waste characterization profile.

EC activities entail decommissioning the tank in place. The tank will be vacuum-pumped from the central portal, if possible, otherwise the activities will proceed to the removal of the tank's concrete lid and subsequent removal of the sludge. Once the tank contents have been removed and pumped directly to the bulk tanker, the interior of the tank will be washed using a pressure wash. The wash

liquid will then be pumped from the tank into the bulk tanker, and disposed with the sludge as hazardous waste. Air exhausted from the vacuum unit will be filtered in a manner consistent with health and safety requirements. Both the solid waste and the wash liquid will be disposed in accordance with the Waste Management Plan. The septic tank will then be filled with sand and/or pea gravel. The lid of the tank will be replaced and overburden reapplied to its original location.

3.4 Waste Management Issues

As indicated in Section 2.3, wastes in the septic tank are classified as RCRA hazardous wastes. Any wastes generated by this EC that are temporarily stored on-site will be placed in a designated less-than-90-day storage facility.

3.4.1 Characterization of Materials for Disposal

Field screening of samples for radioactivity and organic vapors will be conducted to identify gross contamination. Previous analyses of the tank contents will be used to characterize the contents and associated wastewater, personnel protective equipment, and associated sampling wastes.

3.4.2 Treatment, Storage, and Disposal Plans for Waste

Wastes generated during the EC will generally be limited to liquids and sludge (i.e., decontamination water, residual sludges within the tank and liquid waste from the tank cleaning). Because these wastes are from a single source; the liquids will be consolidated into one waste stream. Characterization of the waste stream prior to its consolidation may be necessary to ensure timely and economical disposal. Therefore, as concentrations of COCs are likely highest in the sludge, a sample of these residuals may be obtained during the initial field activities. This sample will be analyzed for constituents as requested by the permitted treatment and disposal facility.

Based on the 1994 RFI sample results, the consolidated waste stream will be designated as a RCRA hazardous waste. Contractors, such as the vacuum truck operators, and permitted disposal facilities can be readily obtained to handle RCRA hazardous waste. Transportation of the wastes to the permitted disposal facility by the selected subcontractor will be handled under appropriate manifests. Once at the disposal facility the liquid waste may require additional treatment, such as stabilization.

3.5 Verification Plan

Preliminary review of validated RFI sample results indicate the tank contents are hazardous waste. As excavation of the septic tank is not anticipated, verification sampling will be restricted to the sampling of soils adjacent to and below the bottom of the tank. As stated above, EC activities will begin with the augering and sampling of four boreholes on each side of the septic tank to verify the integrity of the unit prior to its decommissioning (Table 3-1). The four boreholes will be installed in accordance with LANL-ER-SOP-06.10,R0, Hand Augering and Thin Wall Tube Sampler. Boreholes will be located at the western wall, adjacent to the inlet port, at the eastern wall, adjacent to the outlet port, and at midpoints of the north and south walls (Figure 2-2). The boreholes will be augured to an approximate depth of 12 feet and samples collected from the 11 to 12-ft interval, or approximately 1 to 2-ft below the tank bottom. The entire core will be field screened for radiological and VOC contaminants.

Each location will be sampled and analyzed for VOCs. Subsurface soil samples will be collected following LANL-ER-SOP-06.24,R0, Sample Collection From Split-Spoon Samplers and Shelby Tube Samplers. A total of one duplicate soil sample and one rinsate blank of any reusable sampling equipment will be collected in accordance with LANL-ER-SOP-01.05,R0, Field Quality Control Samples.

3.6 Site Restoration Plan

3.6.1 Return of Materials to Site

Every attempt will be made to return the excavation and its adjacent area to the pre-investigation condition. If verification sample results confirm that the tank has not been breached, the lid and overburden will be replaced and the area reseeded with native grasses.

3.7 Acceptance Inspection

The Laboratory proposes an Acceptance Inspection as the mechanism for DOE and EPA to assess that the Laboratory has implemented this EC Plan effectively. A minimum of 14 days' notification will be provided to the agencies before the start of field activities. At this time, a tentative date for the inspection will be agreed upon.

An inspection checklist will be used to document the scope of the inspection and will become part of the EC Final Report. The checklist and the timing of the inspection will be developed by the Laboratory and agreed to by the other agencies. This inspection checklist will contain specific items, criteria, and requirements agreed upon by all parties to be inspected that will constitute acceptance of remediation activities. Possible checkpoints at which the inspection is conducted are: at completion of verification sampling, after removal of waste and rinsing of the tank, or after final site restoration. The inspection could address items such as compliance with proposed verification sampling, conduct of the EC, waste removal, waste management, and site restoration.

The acceptance inspection will be conducted by an independent professional skilled in the appropriate technical discipline. During the final inspection, written resolution and anticipated schedule for completion will be identified for any outstanding items and documented on the inspection checklist. The Laboratory Field Project Leader (FPL) or designee will be responsible for addressing outstanding inspection items and documenting their resolution in the EC Final Report.

Upon completion of remediation activities, the Laboratory will submit a written certification to EPA Region VI, stating that the remedy has been completed in accordance with the EC Plan and Acceptance Inspection checklist. The certification will be signed by the permitee (LANL) and the independent professional conducting the inspection. The certification will accompany the final EC Report.

3.8 Final Report

Following the return of analytical data from the verification sampling and completion of all field activities, a final report will be prepared. A proposed outline for this report is presented as Annex 6.8.

Table 3-1
SUMMARY OF VERIFICATION SAMPLES AND ANALYSES
FOR SWMU 8-003(e)

	Samples						Field Screening				Laboratory Analyses					
	Structure		Surface		Subsurface											
Description	Primary	duplicate	primary	duplicate	primary	duplicate	Beta-gamma	Alpha	Organic Vapor	Radiological Smear and Swipe Techniques	Total Uranium	Isotopic plutonium	Metals (SW 6010/7000)*	Mercury	VOCs (SW 8260)*	SVOCs (SW8270)*
Borehole Soil Samples					4	1	x	x	x						x	
Equipment Rinsate	1						x	x	x						x	

x: All samples
Note: Additional samples may be taken based on field surveys and observations.
*: Applicable EPA SW 846 methods.

4.0 PROJECT MANAGEMENT

Overall implementation of this expedited cleanup will be managed by Cheryl Rofer, the Field Project Leader (FPL). Luan Walker will serve as Field Team Leader (FTL) for the EC activities.

4.1 Staff and Resource Requirements

Total anticipated costs for the EC is $40,095, as detailed below.

Prefield Activities	
Preparation of Waste Management Plan	$1,000
Preparation of Site Health and Safety Plan	2,500
Field Work Preparation	3,000
Subtotal	$6,500
Field Activities	
Tank lid excavation @ $175/day	$175
Hand Auger samples (4)	500
Subcontractor (removal, transportation, and disposal of waste)	20,000
Filling of tank with sand	1,000
Site restoration/reseeding	2,000
Subtotal	$23,675
Personnel Costs	
FTL: $70/hr x 5 days	$2,800
Site Health and Safety Officer: $70/hr x 3 days	1,680
Sample Technician: $60/hr x 1 days	480
Backhoe Operator: $60/hr x 2 days	960
Subtotal	$5,920
Analytical Costs	
6 samples x $500	$3,000
Waste disposal characterization (1 sample)	500
Subtotal	$3,500
Post-Field Activities	
Acceptance Inspection (including preparation of checklist)	$2,500
Final report	5,000
Subtotal	$7,500
TOTAL ESTIMATED COST	**$40,095**

4.2 Schedule

The proposed EC schedule is shown in Table 4-1. The submittal of this EC Plan to EPA in April 1995 will initiate the 60-day public review/comment period. No sooner than 15 days after the start of this period, a public meeting will be held. Preparation for field work will be conducted concurrent to the public review period. Field work will be initiated within 10 days of agency and public approval or receipt of EPA temporary authorization to proceed. The final report will be submitted to EPA within 14 days of receipt of verification sample results.

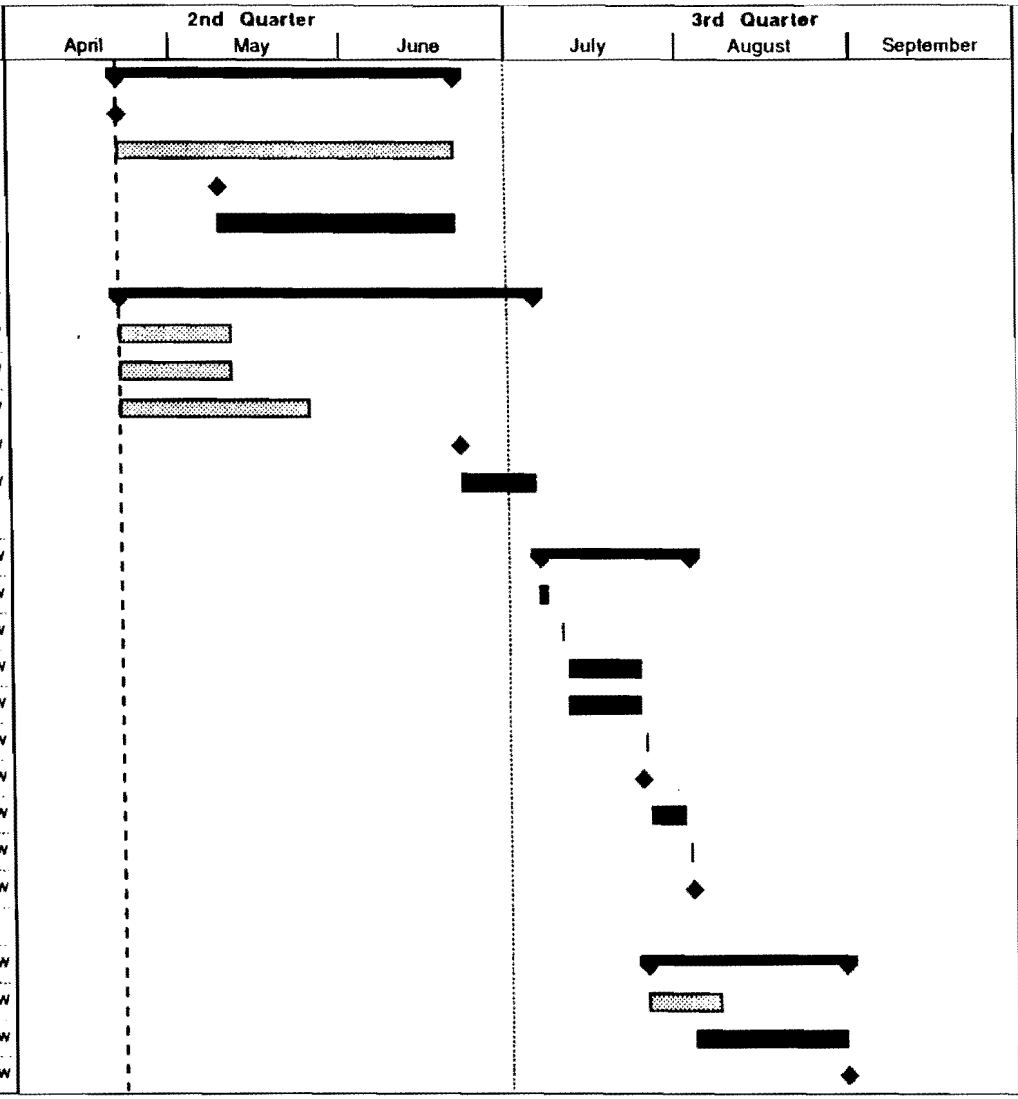
4.3 Stakeholder Notifications

Stakeholder notifications are an integral part of the procedure for conducting ECs. The ER Project will notify state and local governments, external and internal stakeholders and individuals on the ER Project mailing list of the availability of the EC plan. The EC plan will be available to the stakeholders at the LANL Community Reading Room in Los Alamos, at the document repositories at the in Los Alamos, Espanola, and Santa Fe public libraries and at the Governor's Office at San Ildefonso Pueblo.

The submission of this EC plan to EPA will trigger publication of a public notice indicating the start of the 60-day public comment period.

TABLE 4-1 PROPOSED SCHEDULE - SWMU 8-003(a)

ID	Name	Duration
1	1.0 PUBLIC ACCEPTANCE	8.77ew
2	1.1 SUBMIT EC PLAN TO EPA	0w
3	1.2 PUBLIC COMMENTS	44d
4	1.3 PUBLIC MEETING	0ew
5	1.4 RESPOND TO PUBLIC COMMENT	6.4w
6		
7	2.0 PLANNING	10.77ew
8	2.1 PREPARE/REVISE HEALTH AND SAFETY PLAN	3w
9	2.2 PREPARE/REVISE WASTE MANAGEMENT PLAN	3w
10	2.3 FIELD WORK PLANNING	5w
11	2.4 FIELD WORK APPROVAL FORM SIGNED	0w
12	2.5 14-DAY NOTIFICAITON OF FIELD WORK	2w
13		
14	3.0 IMPLEMENT EXPEDITED CLEANUP	3.91ew
15	3.1 MOBILIZATION	0.4w
16	3.2 VERIFICATION SAMPLING	0.2w
17	3.3 VERFICATION ANALYSIS	2w
18	3.4 PERFORM CLEANUP	2w
19	3.5 ACCEPTANCE INSPECTION	0.2w
20	3.6 ANALYSIS COMPLETE	0w
21	3.7 SITE RESTORATION	1w
22	3.8 DEMOBILIZATION	0.2w
23	3.9 COMPLETE EC	0w
24		
25	4.0 REPORT PREPARATION	5.2ew
26	4.1 VALIDATE SAMPLE DATA	2w
27	4.2 PREPARE FINAL REPORT	4w
28	4.3 SUBMIT REPORT	0w



Project: EXPEDITED CLEANUP
Date: 4/21/95

Critical
Noncritical
Progress
Milestone
Summary

Los Alamos National Laboratory

5.0 REFERENCES

DOE (US Department of Energy), October 1987. "Phase I: Installation Assessment, Los Alamos National Laboratory," Volumes 1 and 2, (draft), Comprehensive Environmental Assessment and Response Program, Albuquerque Operations Office, Albuquerque, New Mexico. (DOE 1987, 0264) (Title for Volume 2 not included)

EPA (US Environmental Protection Agency), July 27, 1990. "Corrective Action for Solid Waste Management Units (SWMUs) at Hazardous Waste Management Facilities," proposed rule, Title 40 Parts 264, 265, 270, and 271, Federal Register, Vol. 55., pp. 30798-30884 (EPA 1990, 0432)

LANL (Los Alamos National Laboratory) April 1993. "Administrative and Quality Procedures for Environmental Restoration," Los Alamos National Laboratory report, Los Alamos, New Mexico. (LANL 1993, 0951)

LANL (Los Alamos National Laboratory), January 1993. "Los Alamos National Laboratory Environmental Restoration Program Standard Operating Procedures," Los Alamos National Laboratory report, Los Alamos, New Mexico. (LANL 1993, 0875)

LANL (Los Alamos National Laboratory), June 1993. "RFI Work Plan for Operable Unit 1157," Los Alamos National Laboratory Report LA-UR-93-1230, Los Alamos, New Mexico. (LANL 1993, 1088)

LANL (Los Alamos National Laboratory), November 1990. "Solid Waste Management Units Report," Volumes I through IV, Los Alamos National Laboratory Report No. LA-UR-90-3400, prepared by International Technology Corporation under Contract 9-XS8-0062R-1, Los Alamos, New Mexico (LANL 1990, 0145)

LANL (Los Alamos National Laboratory), November 1993. "Installation Work Plan for Environmental Restoration," Revision 3, Los Alamos National Laboratory Report LA-UR-93-3987, Los Alamos, New Mexico. (LANL 1993, 1017)

6.0 ANNEXES

6.1 Implementation SOPs

See Environmental Restoration Standard Operating Procedures, Volumes I and II, November 17, 1993, Los Alamos National Laboratory.

6.2 Quality Assurance Plan

See Quality Program Plan And Quality Assurance Project Plan For Environmental Restoration, February 1995 revision, Los Alamos National Laboratory, Los Alamos, New Mexico.

6.3 Site-Specific Health and Safety Plan

See Los Alamos National Laboratory (LANL) Environmental Restoration (ER) Project Health and Safety Plan (HASP) (LANL, February 11,1995).

6.4 Records Management Plan

See Installation Work Plan for Environmental Restoration, Revision 4, Chapter IV, Records Management Program Plan.

6.5 Public Involvement Plan

See Installation Work Plan for Environmental Restoration, Revision 4, Chapter V, Public Involvement Program Plan.

6.6 Waste Management Plan

6.7 Field Work Approval Form

6.8 Proposed Outline for Expedited Cleanup Final Report

6.9 RFI Analytical Results

ANNEX 6.7

FIELD WORK APPROVAL FORM

ATTACHMENT 3
FIELD WORK APPROVAL FORM

This form must be completed prior to starting remediation field work in accordance with Voluntary Corrective Action Plans.

I, _____, DOE-LAAO, **Approve** the field work as proposed in the accompanying Voluntary Corrective Action Plan for Potential Release Site _____, TA-___.

I, _____, DOE-LAAO, DO NOT APPROVE the field work as proposed in the accompanying voluntary correction plan for Potential Release Site _____, TA-___.

The following reasons reflect the decision for disapproval:

Signed:_____ Date:_____

ANNEX 6.8

PROPOSED OUTLINE FOR EXPEDITED CLEANUP REPORT

1.0 **SUMMARY OF EXPEDITED CLEANUP**

- 1.1 Overview
- 1.2 Expedited Cleanup

2.0 **DISCUSSION OF SAMPLING AND ANALYSIS**

- 2.1 Verification Sampling and Analysis
  - 2.1.1 Sampling Objectives
  - 2.1.2 QA/QC
  - 2.1.3 Sampling Activities
- 2.2 Site Restoration

3.0 **MODIFICATIONS TO THE EC PLAN**

4.0 **QUANTITIES AND TYPES OF WASTES GENERATED**

5.0 **OUTSTANDING ITEMS FROM THE ACCEPTANCE INSPECTION**

6.0 **PROBLEMS ENCOUNTERED AND LESSONS LEARNED**

APPENDICES

A ANALYTICAL DATA
B ACCEPTANCE INSPECTION CHECKLIST
C WASTE STREAM INVENTORY
D PHOTOGRAPHS
E CERTIFICATION OF COMPLETION

ANNEX 6.9

RFI ANALYTICAL RESULTS

8-003(a) Detects
Sludge samples

Location ID	Depth of sample	Sample ID	Analyte	Results	Units
08-3003	3.67 - 7.00 ft.	AAB0759	Aluminium	16300	MG/KG
			Barium	198	MG/KG
			Barium	1230	UG/L
			Bis(2-ethylhexyl)phthalate	5.2	MG/KG
			Cadmium	2.1	MG/KG
			Cadmium	6.7	UG/L
			Calcium	3140	MG/KG
			Chloroform	69	MG/KG
			Chromium	12.9	MG/KG
			Copper	32.5	MG/KG
			Di-n-butyl phthalate	2.5	MG/KG
			Dichlorobenzene (1,4) [p-]	3	MG/KG
			Dichloroethene [1,2-]	180	MG/KG
			Iron	15100	MG/KG
			Lead	72.7	MG/KG
			Lead	57.8	UG/L
			Magnesium	2850	MG/KG
			Manganese	314	MG/KG
			Mercury	1.2	MG/KG
			Methylnaphthalene [2-]	2.3 (J)	MG/KG
			Methylphenol [4-]	5	MG/KG
			Naphthalene	1.1	MG/KG
			Potassium	2340	MG/KG
			Total Suspended Solids	517000000	UG/L
			Total Suspended Solids	517000000	UG/L
			Total Suspended Solids	549000000	UG/L
			Total Suspended Solids	549000000	UG/L
			Trichloroethane [1,1,1-]	26000	MG/KG
			Trichloroethene	47000 (J)	MG/KG
			Vanadium	27.8	MG/KG
			Zinc	87.7	MG/KG
08-3003	3.67 - 7.00 ft.	AAB0760	Aluminium	16400	MG/KG
			Barium	212	MG/KG
			Barium	1750	UG/L
			Bis(2-ethylhexyl)phthalate	3.4	MG/KG
			Calcium	3190	MG/KG
			Chromium	11.5	MG/KG
			Copper	19.6	MG/KG
			Dichloroethene [1,2-]	6.1	MG/KG
			Iron	14500	MG/KG
			Lead	38.1	MG/KG
			Lead	30.2	UG/L
			Magnesium	2740	MG/KG
			Manganese	338	MG/KG
			Methylphenol [4-]	1.7	MG/KG
			Potassium	2190	MG/KG
			Trichloroethane [1,1,1-]	100	MG/KG
			Trichloroethene	200	MG/KG
			Vanadium	26.8	MG/KG
			Zinc	71.1	MG/KG

8-003(a) Detects
Water samples

Location ID	Depth of sample	Sample ID	Analyte	Results	Units	SAL
08-3003	3.17 - 3.70 ft.	AAB0762	Alpha	2.25	PCI/L	n/a
			Aluminium	403	UG/L	n/a
			Barium	337	UG/L	2000
			Beta	9.34 (J)	PCI/L	n/a
			Calcium	98200	UG/L	n/a
			Chloroform	7	UG/L	100
			Dichloroethane [1,1-]	140	UG/L	3500
			Dichloroethane [1,2-]	33	UG/L	5
			Dichloroethene [1,1-]	17	UG/L	7
			Dichloroethene [1,2-]	3200	UG/L	n/a
			Iron	6480	UG/L	n/a
			Magnesium	12500	UG/L	n/a
			Manganese	3680	UG/L	180
			Potassium	6200	UG/L	n/a
			Sodium	16000	UG/L	n/a
			Trichloroethane [1,1,1-]	29	UG/L	200
08-3003	3.17 - 3.70 ft.	AAB0763	Alpha	2.93	PCI/L	n/a
			Aluminium	225	UG/L	n/a
			Barium	343	UG/L	2000
			Beta	9.6 (J)	PCI/L	n/a
			Bis(2-ethylhexyl)phthalate	43 (J)	UG/L	6
			Calcium	99500	UG/L	n/a
			Chloroform	7 (J)	UG/L	100
			Dichloroethane [1,1-]	150	UG/L	3500
			Dichloroethane [1,2-]	34 (J)	UG/L	5
			Dichloroethene [1,1-]	17 (J)	UG/L	7
			Dichloroethene [1,2-]	3600	UG/L	n/a
			Iron	6210	UG/L	n/a
			Magnesium	12500	UG/L	n/a
			Manganese	3860	UG/L	180
			Potassium	6050	UG/L	n/a
			Sodium	16200	UG/L	n/a
			Trichloroethane [1,1,1-]	30 (J)	UG/L	200

8-003(a) Detects above SAL and/or UTL
Water samples

Location ID	Depth of sample	Sample ID	Analyte	Results	Units	SAL
08-3003	3.17 - 3.70 ft.	AAB0762	Dichloroethane [1,2-]	33	UG/L	5
			Dichloroethene [1,1-]	17	UG/L	7
			Manganese	3680	UG/L	180
08-3003	3.17 - 3.70 ft.	AAB0763	Bis(2-ethylhexyl)phthalate	43 (J)	UG/L	6
			Dichloroethane [1,2-]	34 (J)	UG/L	5
			Dichloroethene [1,1-]	17 (J)	UG/L	7
			Manganese	3860	UG/L	180