DEPARTMENT OF ENERGY
ALBUQUERQUE OPERATIONS OFFICE
ENVIRONMENT AND HEALTH DIVISION
ENVIRONMENTAL PROGRAMS BRANCH

COMPREHENSIVE ENVIRONMENTAL ASSESSMENT AND RESPONSE PROGRAM

PHASE I:
INSTALLATION ASSESSMENT
LOS ALAMOS NATIONAL LABORATORY

Volume 1 of 2

October 1987

DRAFT

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EXECUTIVE SUMMARY

The U.S. Department of Energy (DOE), Los Alamos National Laboratory (LANL) site, has been evaluated under Phase I of the Comprehensive Environmental Assessment and Response Program (CEARP). The Phase I Installation Assessment examined inactive waste disposal sites, current waste management practices, and compliance with applicable federal, state, and local environmental regulations. A major thrust of CEARP is to determine whether waste disposal practices followed in the past, before recognition of potential environmental hazards and/or the passage of environmental legislation, have resulted in environmental problems that require remedial action today. The Phase I CEARP report provides documentation for Phase I of the DOE Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Order 5480.14 and the following U.S. Environmental Protection Agency (EPA) CERCLA pre-remedial activities: (1) Federal Facility Site Discovery and Identification Findings (FFSDIF) (notification of newly discovered sites, including negative findings notification), (2) Preliminary Assessment (PA), (3) Site Inspection (SI) (CEARP Preliminary SI [PSI]), and (4) Hazard Ranking System (HRS) evaluation.

The Phase I CEARP report findings are based on a records search, open literature survey, interviews with current and former LANL employees, preliminary assessments, and site inspections. Therefore, the report is unavoidably subject to some uncertainty. Situations in which uncertainty exists will be further studied through field studies and data collection during CEARP supplemental Phase I or CEARP Phase II (confirmation).

The CEARP Phase I investigation was conducted in two steps. The first step identified potential CEARP sites (i.e., CERCLA/Resource Conservation and Recovery Act [RCRA]) that may contain hazardous materials because of past operations. The second step evaluated current operations for compliance with applicable environmental regulations.

Potential CEARP sites identified during CEARP Phase I are presented in Tables EX.1 (potential CERCLA/RCRA sites) and EX.2 (Material Disposal Areas). Findings for potential sites are summarized according to a negative, positive, or uncertain finding for the following EPA CERCLA elements: (1) FFSDIF and (2) PA and SI

(CEARP PSI). Many sites are identified for further evaluation during CEARP supplemental Phase I or Phase II.

The HRS/DOE Modified HRS (MHRS) Migration Mode Scores for potential CERCLA sites are presented on the basis of individual technical areas (TAs) or groups of TAs (Table EX.3), or on the basis of material disposal areas (Table EX.2). Conservative assumptions have been made to allow calculation of these scores. Therefore, it is anticipated that as additional site characterization data are obtained, recalculation of the HRS/MHRS scores would result in lower scores. Even though the TA and material disposal area scores are conservatively high, none of the scores exceed the EPA criterion of 28.5 for listing on the National Priorities List (NPL).

The potential CERCLA/RCRA sites of most concern from an environmental perspective at the Laboratory are the material disposal areas, several canyon areas that have become contaminated as a result of past discharges, and the localized potential contamination associated with some of the older LANL facilities, including several decommissioned facilities.

The CEARP Phase I review identified several environmental regulatory compliance issues. The Laboratory is addressing these issues under routine LANL operations. LANL is also developing an environmental appraisal program to follow up on these compliance issues and to ensure compliance with applicable environmental regulations and statutes.

Under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), LANL has instituted a process for reporting accidental releases of hazardous substances and is developing/implementing a program to ensure that routine releases are also reported as required under CERCLA.

The status of LANL compliance under the federal Resource Conservation and Recovery Act (RCRA) is as follows.

- DOE has submitted both Parts A and B of the RCRA permit applications for LANL. The DOE is continuing to respond to requests for information on the Part B.
- Closure plans are being developed for several material disposal areas.

- Most underground storage tanks have been adequately addressed under RCRA.

- Some septic tank systems may receive hazardous waste and should be evaluated.

- Dry wells at LANL, which have received or might receive hazardous waste, should also be evaluated.

- Several outfall systems should be evaluated relative to RCRA.

- There may be additional satellite storage areas and less-than-90-day storage areas that require further evaluation.

- The Laboratory's firing sites require further evaluation.

- The management of mixed waste under RCRA requires further clarification between EPA and DOE.

LANL has no major compliance problems under the federal Clean Air Act (CAA).

- DOE is in the process of permitting or registering existing and planned sources of hazardous air pollutants under the National Emission Standards for Hazardous Air Pollutants (NESHAPS).

- The NESHAPS regulations for radionuclides specify dose limits, and the Laboratory operates within these limits.

- The DOE has instituted appropriate procedures for notifying the EID and for properly managing friable asbestos during demolition and renovation.

Under the federal Clean Water Act (CWA), the DOE has the appropriate National Pollutant Discharge Elimination System (NPDES) permits for the Laboratory (NM0028355 and NM0028576), has satisfactorily responded to an Administrative Order regarding NPDES permit NM0028355, and is in the process of implementing a Federal Facility Compliance Agreement.

- Although most outfalls have been identified and appropriately reported, several outfalls are identified as requiring evaluation under the NPDES by LANL.

- Minor NPDES noncompliance discharge incidents continue to occur.

- The Laboratory is implementing a Sanitary Wastewater Systems Consolidation project, which will enhance NPDES permit compliance.

The status of the Laboratory under the Toxic Substances Control Act (TSCA) is as follows.

- TSCA-regulated polychlorinated biphenyls (PCBs) are used at LANL.
- Oils containing PCBs are found in many electrical transformers and capacitors.
- The Laboratory instituted a major program during FY 1986, which is continuing, to remove excess capacitors and transformers.
- A program is in place to comply with TSCA for containment upgrading or replacement of in-service transformers and other electrical equipment containing PCBs.

Table EX.1. Potential CERCLA Sites Identified During CEARP Phase I--Technical Areas

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-1:			
TA1-1-CA-I-HW/RW:[b]	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA1-2-CA-I-HW/RW:	Positive	SI	Phase II
TA1-3-OL-I-RW/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA1-4-CA-I-HW/RW:	NA	None	Phase V
TA1-5-ST-I-HW/RW:	NA	None	Phase V
TA1-6-IN-I-SW:	Negative	None	None
TA1-7-UST-I-PP:	Negative	None	None
TA1-8-L-I-HW/RW:	Negative	None	None
TA-2:			
TA2-1-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA2-2-CA/S/UST-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA2-3-CA/O-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA2-4-CA/ST-I-HW/RW:	NA	None	Phase V
TA2-5-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA2-6-UST-A/I-PP:	Negative	None	None
TA2-7-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA2-8-CA-I-HW	NA	None	Phase V
TA-3:			
TA3-1-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-2-CA/ST-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-3-CA/UST/SST-A/I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA3-4-S-A/I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-5-CA/S/UST/SST-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-6-CA/O-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-7-CA-I-HW:	Negative	None	None
TA3-8-SI-A/I-HW/RW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-9-W-A/I-HW:	Negative	None	None
TA3-10-OL/L-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-11-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-12-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-4:			
TA4-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action	
		EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA4-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA4-3-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-5:			
TA5-1-CA/L-I-HW/RW	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA5-2-CA-I-HW/RW:	NA	None	Phase V
TA5-3-CA/O-I-HW/RW:	Positive	SI	Phase V
TA5-4-CA-I-HW/RW	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-6:			
TA6-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA6-2-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA6-3-S-I-HW:	Uncertain	FFSDIF	Installation Assessment (Supplemental Phase I)
TA6-4-ST/CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA6-5-ST/CA-A/I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA6-6-UST-I-HW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA6-7-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA6-8-CA-A-HW/PP:	Negative	None	None
TA6-9-L-I-HW/RW:	Positive	SI	Phase II
TA6-10-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-7:			
TA7-1-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA7-2-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA7-3-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA7-4-CA-I-HW:	Negative	None	None

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-8:			
TA8-1-CA-I-HW/RW:	Negative	None	None
TA8-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment) (Supplemental Phase I)
TA8-3-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA8-4-CA-A/I-HW:	Negative	None	None
TA8-5-CA/ST/O-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment) (Supplemental Phase I)
TA8-6-UST-I-PP:	Negative	None	None
TA8-7-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment) (Supplemental Phase I)
TA-9:			
TA9-1-CA-A/I-HW/RW:	Negative	None	None
TA9-2-CA/ST/S/O/SI-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA9-3-CA-A-HW	Negative	None	None

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-9(AE):			
TA9(AE)-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA9(AE)-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA9(AE)-3-CA/ST/S-I/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA9(AE)-4-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-10:			
TA10-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA10-2-S/ST/CA/O-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA10-3-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA10-4-CA-I-RW:	Negative	None	None
TA10-5-CA-I-HW/RW:	Negative	None	None

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-11:			
TA11-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA11-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessmenr (Supplemental Phase I)
TA11-3-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA11-4-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA11-5-CA-A-HW/RW:	Negative	None	None
TA11-6-ST-A-HW:	Negative	None	None
TA11-7-O/S/CA-A-HW:	Negative	None	None
TA11-8-O-A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA11-9-OL-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA11-10-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA11-11-CA-A-HW:	Negative	None	None

Table EX.1. (continued)

	DOE CEARP Phase I (FFSDIF/PA/PSI[a])	Planned Future Action	
Site	Finding	EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA-12:			
TA12-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA12-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA12-3-CA-I-HW:	Negative	None	None
TA12-4-CA-I-HW:	Negative	None	None
TA12-5-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-13:			
TA13-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA13-2-CA/L/OL-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA13-3-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA13-4-ST-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-14:			
TA14-1-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA14-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA14-3-IN-A-HW/RW:	Negative	None	None
TA14-4-OL-A-HW/RW:	Negative	None	None
TA14-5-CA/ST-A-HW/RW:	Negative	None	None
TA14-6-CA-I-HW:	Negative	None	None
TA14-7-CA-A-HW:	Negative	None	None
TA14-8-L-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-15:			
TA15-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-2-CA-A-HW/RW:	Negative	None	None

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA15-3-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-4-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-5-CA/OL-I-HW/RW:	Positive	SI	Phase II
TA15-6-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-7-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-8-S/ST/O-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-9-S/ST/O-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-10-UST-A-PP:	Negative	None	None
TA15-11-CA-A-HW:	Negative	None	None
TA15-12-CA-A-HW:	Negative	None	None
TA15-13-CA-A-HW:	Negative	None	None

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action	
		EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA16:			
TA16-1-CA-I-HW:	Positive	SI	Phase II
TA16-2-S-A/I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA16-3-SI-A/I-HW:	Positive	SI	Phase II
TA16-4-CA-A/I-HW:	Positive	SI	Phase II
TA16-5-O/CA-A/I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA16-6-IN-A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA16-7-CA-I-HW:	Positive	SI	Phase II
TA16-8-ST/UST-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA16-9-UST/SST-A/I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA16-10-L-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action	
		EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA16-11-CA-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA16-12-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Plan I)
TA18:			
TA18-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-3-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-4-CA/ST/O-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-5-CA/UST-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-6-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-7-UST-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-8-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA18-9-UST-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-10-CA-I-PP:	Negative	None	None
TA18-11-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA19:			
TA19-1-ST-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA19-2-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA20:			
TA20-1-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA20-2-CA-I-HW/RW:	Positive	SI	Installation Assessment (Supplemental Phase I)
TA21:			
TA21-1-CA-I/A-RW/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-2-SI-I-HW/RW:	Positive	SI	Phase II

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA21-3-CA/O-I/A-HW/RW:	Positive	SI	Phase II
TA21-4-IN-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-5-S-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-6-ST-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-7-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-8-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-9-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-10-UST-A/I-RW/HW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-11-L-I-RW/HW/SW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-12-OL-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA21-13-CA-A-HW:	Negative	None	None
TA21-14-CA-A-HW:	Negative	None	None
TA21-15-CA-A-HW:	Negative	None	None
TA-22:			
TA22-1-CA-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA22-2-CA/O-I/A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA22-3-S/O-I/A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA22-4-ST/CA-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	InstallationAssessment (Supplemental Phase I)
TA22-5-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA22-6-L-I--HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA22-7-UST-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA22-8-CA-A-HW:	Negative	None	None

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-23:			
TA23-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA23-2-CA/ST/S-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-24			
TA24-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA24-2-S/UST-I-HW/RW	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-25			
TA25-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA25-2-CA/ST-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-26:			
TA26-1-L-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA26-2-O/CA-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA26-3-ST-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-27:			
TA27-1-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA27-2-CA-I-HW/RW:	Positive	SI	Phase II
TA27-3-L-I-RW	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-28:			
TA28-1-CA-A-HW:	Negative	None	None
TA28-2-CA-I-HW:	Negative	None	None
TA-29			
TA29-1-CA-I-HW:	NA	None	Phase V
TA-31:			
TA31-1-ST-I-HW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-32:			
TA32-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA32-2-ST/O/CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA32-3-IN-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-33:			
TA33-1-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA33-2-O/S-A/I-RW/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA33-3-L-I-HW/RW:	Positive	SI	Phase II
TA33-4-CA-I-HW/RW:	Positive	SI	Phase II
TA33-5-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA33-6-CA-I-HW/RW:	Positive	SI	Phase II
TA33-7-ST-A/I-HW/RW:	Positive	SI	Phase II

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-35:			
TA35-1-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA35-2-CA-I/A-HW/RW:	Negative	None	None
TA35-3-S/UST/CA-A/I-HW/RW:	NA	None	Phase V
TA35-4-O/CA-I-HW/RW:	Positive	SI	Phase II
TA35-5-O-A-HW:	Negative	None	None
TA35-6-ST-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA35-7-UST/SST-A/I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA35-8-CA/SI-A-PP:	Negative	None	None
TA35-9-SI/O-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA35-10-SI-A-HW:	Negative	None	None

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA35-11-CA-A-HW/PP:	Negative	None	None
TA35-12-OL-I-SW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-36:			
TA36-1-CA-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA36-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA36-3-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA36-4-S/ST/O-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA36-5-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA36-6-L-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA36-7-CA-A-HW/RW:	Negative	None	None
TA36-8-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA36-9-CA-A-HW:	Negative	None	None
TA36-10-CA-A-HW:	Negative	None	None
TA37:			
TA37-1-CA-A-HW:	Negative	None	None
TA37-2-ST-A-SW:	Negative	None	None
TA-39:			
TA39-1-CA-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA39-2-L-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA39-3-CA/ST-I/A-RW/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA39-4-CA-A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA39-5-IN-I-SW:	Negative	None	None
TA39-6-CA-A-HW:	Negative	None	None
TA39-7-CA-A-HW:	Negative	None	None

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-40:			
TA40-1-CA-I-HW:	Negative	None	None
TA40-2-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA40-3-CA-A-HW:	Negative	None	None
TA40-4-OL-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA40-5-S-A-HW:	Negative	None	None
TA40-6-CA/ST/O-A/I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA40-7-CA-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA40-8-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA40-9-CA-A-HW:	Negative	None	None
TA-41:			
TA41-1-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA41-2-ST-I-RW:	Positive	SI	Phase II
TA41-3-CA/O-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA41-4-UST/S-A-RW:	Negative	None	None
TA41-5-UST-A-PP:	Negative	None	None
TA-42:			
TA42-1-CA-I-RW/HW:	NA	None	Phase V
TA42-2-ST/O/CA-I-RW:	NA	None	Phase V
TA42-3-OL-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-43:			
TA43-1-CA-A-HW/RW:	Negative	None	None
TA43-2-CA/O-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

		Planned Future Action	
Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA-45:			
TA45-1-O/CA-I-HW/RW:	NA	None	Phase V
TA45-2-OL-I-HW/RW/SW:	Negative	None	None
TA-46:			
TA46-1-CA/O-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA46-2-O/CA-A-HW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA46-3-SI/CA-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA46-4-ST-A/I-HW/RW:	Positive	SI	Phase II
TA46-5-CA-A/I-HW/RW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA46-6-CA-A/I-HW/PP:	Positive	SI	Phase II
TA46-7-S-I-HW/RW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA46-8-SI-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA46-9-SI-I-HW:	Negative	None	None
			(Supplemental Phase I)
TA46-10-L-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-47:			
TA47-1-CA-I-RW:	Negative	None	None
TA-48:			
TA48-1-CA-A-HW/RW:	Negative	None	None
TA48-2-CA/SST/S-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA48-3-O/CA-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA48-4-CA-A-HW:	Negative	None	None
TA48-5-CA-A/I-HW/RW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA48-6-CA/ST-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA48-7-CA-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-49:			
TA49-1-CA-I-HW/RW:	Positive	SI	Phase II
TA49-2-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA49-3-CA-I-HW/RW:	Positive	SI	Phase II
TA49-4-SST-I-PP:	Negative	None	None
TA49-5-ST-A-HW:	Negative	None	None
TA-50:			
TA50-1-UST-A-HW/RW:	Negative	None	None
TA50-2-UST-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA50-3-CA-A-RW:	Negative	None	None

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action	
		EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA50-4-O/CA-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA50-5-CA-I-HW/RW:	Positive	SI	Phase II
TA50-6-CA-A-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA50-7-CA-I/A-HW:	Negative	None	None
TA50-8-CA-A-RW:	Negative	None	None
TA50-9-IN-A-HW/RW:	Negative	None	None
TA50-10-CA-A-RW:	Negative	None	None
TA50-11-CA-A-HW/RW:	Negative	None	None
TA50-12-CA-I-HW/RW:	NA	None	Phase V
TA-51:			
TA51-1-CA-I/A-HW:	Negative	None	None
TA51-2-ST-A-HW:	Negative	None	None
TA51-3-S-A-HW:	Negative	None	None

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action	
		EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA51-4-CA/O-A-HW:	Negative	None	None
TA51-5-CA-A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-52:			
TA52-1-CA-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA52-2-CA/S/UST/ST-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA52-3-UST/CA-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA52-4-O-I-RW:	Negative	None	None
TA-53:			
TA53-1-CA-I-HW:	NA	None	Phase V
TA53-2-O/SI/CA-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA53-3-O-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA53-4-SST/UST-A-HW/RW:	Negative	None	None
TA53-5-CA-A-HW/RW:	Negative	None	None

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA-54:			
TA54-1-L-A-HW/RW:	Positive	SI	Phase II
TA54-2-ST-A-HW/RW:	Negative	None	None
TA54-3-CA-A-RW/HW:	Negative	None	None
TA-55:			
TA55-1-CA-A-HW/RW:	Negative	None	None
TA55-2-CA/S-A-HW/RW:	Negative	None	None
TA55-3-IN-A-HW/RW:	Negative	None	None
TA55-4-CA-A-HW/RW:	Negative	None	None
TA55-5-UST-A-PP:	Negative	None	None
TA55-6-CA-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-57:			
TA57-1-CA-A-HW:	Negative	None	None
TA57-2-CA-A-HW:	Negative	None	None

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action	
		EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA57-3-O-A-HW:	Negative	None	None
TA57-4-L-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-59:			
TA59-1-ST-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA59-2-UST-A-PP:	Negative	None	None
TA59-3-O/CA-A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA59-4-CA-I-HW/RW:	Negative	None	None
TA-0:			
TA0-1-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-2-CA-A-HW:	Negative	None	None
TA0-3-IN/OL-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-4-L-I-HW/RW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA0-5-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installatiion Assessment (Supplemental Phase I)
TA0-6-L-A-SW:	Negative	None	None
TA0-7-CA-I-HW:	Negative	None	None
TA0-8-L-I-SW	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-9-CA-I-RW/HW:	Negative	None	None
TA0-10-OL-I-SW:	Negative	None	None
TA0-11-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-12-L-I-RW/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-13-OL-I-RW/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-14-UST-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-15-O/CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table EX.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA0-16-CA/S-I-HW/RW:	NA	None	Phase V
TA0-17-O/IN-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-18-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-19-CA-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-20-UST-A-PP:	Negative	None	None
TA0-21-S-A-HW:	Negative	None	None
TA0-22-ST-I/A-HW:	Negative	None	None

[a]Federal Facility Site Discovery and Identification Findings/Preliminary Assessments/Preliminary Site Inspections.
[b]Site entries have the following designations: technical area (TA); identification number of site within the TA; solid waste management unit: contaminated area (CA), incinerator (IN), well (W), landfill (L), open landfill (OL), outfall (O), septic tank (ST), sump (S), surface impoundment (SI), surface storage tank (SST), or underground storage tank (UST); status: active (A) or inactive (I); type of contaminatin: solid waste (SW), hazardous waste (HW), radioactive waste (RW), or petroleum products (PP).
NA: Not Applicable.

Table EX.2. Potential CERCLA Sites Identified During CEARP Phase I--Material Disposal Areas

	DOE CEARP Phase I		Planned Future Action	
Material Disposal Areas Site	FFSDIF/PA/PSI[a] Finding	HRS/MHRS Score[b]	EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
Area A	Positive	13.8	None	Confirmation (Phase II)
Area B	Positive	14.8	None	Confirmation (Phase II)
Area C	Positive	17.4	None	Confirmation (Phase II)
Area D	Positive	7.1	None	Confirmation (Phase II)
Area E	Positive	6.9	None	Confirmation (Phase II)
Area F	Positive	1.6	None	Confirmation (Phase II)
Area G	Positive	20.4	None	Confirmation (Phase II)
Area H	Positive	14.9	None	Confirmation (Phase II)[c]
Area J	Positive	8.5	None	Confirmation (Phase II)
Area K	Positive	10.2	None	Confirmation (Phase II)

Table EX.2. (continued)

Material Disposal Areas Site	DOE CEARP Phase I: FFSDIF/PA/PSI[a] Finding	DOE CEARP Phase I: HRS/MHRS Score[b]	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
Area L	Positive	19.3	None	Confirmation (Phase II)[c]
Area M	Positive	0.5	None	Confirmation (Phase II)
Area N	Positive	3.7	None	Confirmation (Phase II)
Area P	Positive	1.6	None	NA[d]
Area Q	Positive	2.1	None	Confirmation (Phase II)
Area R	Positive	2.1	None	Confirmation (Phase II)
Area S	Negative	NA	None	None
Area T	Positive	9.7	None	Confirmation (Phase II)
Area U	Positive	1.1	None	Confirmation (Phase II)
Area V	Positive	2.6	None	Confirmation (Phase II)

Table EX.2. (continued)

Material Disposal Areas Site	DOE CEARP Phase I: FFSDIF/PA/PSI[a] Finding	DOE CEARP Phase I: HRS/MHRS Score[b]	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
Area W	Positive	NA	None	Compliance and Verification (Phase V)
Area X	Positive	7.7	None	Confirmation (Phase II)
Area Y	Positive	2.1	None	Confirmation (Phase (II)
Area Z	Uncertain	2.1	None	Confirmation (Phase II)
Area AA	Positive	10.1	None	Confirmation (Phase II)[c]
Area AB	Positive	6.7	None	Confirmation (Phase II)

[a] Federal Facilities Site Discovery and Identification Findings/Preliminary Assessments/Preliminary Site Inspections.
[b] EPA HRS and DOE-modified HRS (for HRS and MHRS scoring details see Appendix B).
[c] Disposal area contains both potential CERCLA and RCRA sites.
[d] Not Applicable.

Table EX.3. HRS/MHRS Scores for the Technical Areas

Technical Areas	HRS/MHRS Migration Mode Score	Technical Areas	HRS/MHRS Migration Mode Score
1	9.0	31	5.4
2,41	8.3	32	5.2
3,59	12.4	33	15.7
6,7,22,40	2.7	35,42,48,50,55	16.8
8,9,23	2.7	36	10.1
10	9.0	39	12.8
11,13,16,24,25	3.0	43	8.3
12	6.7	45	4.4
14	7.0	46	12.6
15	9.9	51	14.1
18,27	14.3	52,4,5	11.3
19	7.0	53,20	12.6
21	20.2	57	14.6
26	0.0		

I. INTRODUCTION

I.A. BACKGROUND

United States Department of Energy (DOE) facilities operate under a policy of compliance with applicable environmental regulations while conducting their missions. The DOE Albuquerque Operations Office (AL) initiated the Comprehensive Environmental Assessment and Response Program (CEARP) in mid-1984 to help fulfill that commitment at installations within the AL complex. CEARP will also assist DOE in setting environmental priorities and will help provide justification for funding to carry out enhancements of existing programs or remedial actions where required. CEARP will be implemented by the combined forces of AL, individual DOE area offices, DOE prime contractors, and other assistance as found to be necessary.

I.B. AUTHORITY

Authority to implement CEARP is derived primarily from the following DOE and AL orders:

- Comprehensive Environmental Response, Compensation, and Liability Act (DOE 5480.14);
- Hazardous, Toxic, and Radioactive Mixed Waste Management (DOE 5480.2 and AL 5480.2);
- Prevention, Control, and Abatement of Environmental Pollution (Ch. XII of DOE 5480.1 and AL 5480.1);
- Environmental Protection, Safety, and Health Protection Information Reporting Requirements (DOE 5484.1 and AL 5484.1);
- Implementation of the National Environmental Policy Act (DOE 5440.1C and AL 5440.1B).

Federal and state regulations of importance to LANL operations are discussed in Section IV.

I.C. PURPOSE AND SCOPE

CEARP is a phased program that identifies, assesses, and corrects existing or potential environmental problems. It includes a review of the following environmental acts: Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), National Environmental Policy Act (NEPA), Clean Air Act (CAA), Clean Water Act (CWA), Safe Drinking Water Act (SDWA), Toxic Substances Control Act (TSCA), and Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), with emphasis on CERCLA and RCRA. The review serves two primary purposes: (1) it determines compliance with environmental regulations, and (2) it evaluates the interaction of CERCLA with other environmental regulations (for example, permitted releases under the CWA or CAA that exceed reportable quantities under CERCLA, or RCRA- and CERCLA-related remedial activities). Past and current practices for handling and disposal of hazardous substances, as defined under CERCLA, are evaluated. In addition, environmental pollution control requirements and environmental monitoring programs for hazardous substances are evaluated for both adequate understanding of pathways and for regulatory compliance.

I.D. METHODOLOGY

CEARP is being implemented in five phases, which exactly parallel DOE Order 5480.14. Additionally, the U.S. Environmental Protection Agency (EPA) has prepared guidelines for federal facilities to follow in carrying out their responsibilities under CERCLA. The EPA has outlined its plans and intentions in a series of program elements that are organized in a somewhat different fashion but constitute the same basic approach as CEARP (Federal Facilities Program Manual for Implementing CERCLA Responsibilities of Federal Agencies, final draft). The five CEARP phases are linked as indicated in Fig. I.1. The purposes of individual CEARP phases are as follows.

I.D.1. <u>Phase I - Installation Assessment</u>

Phase I objectives are to assess present compliance with environmental laws and to ascertain the magnitude of potential environmental concerns. Where insufficient data exist to accomplish these objectives, the additional information necessary to complete the evaluation will be identified. The CEARP Phase I report provides documentation for Phase I of the DOE CERCLA Order 5480.14 and for the following EPA CERCLA preremedial activities: (1) Federal Facility Site Discovery and Identification Findings (FFSDIF)--notification of newly discovered sites, including notification of negative findings, (2) Preliminary Assessment (PA), (3) Site Inspection (SI), and (4) Hazard Ranking System (HRS) evaluation (see I.E.8, the Hazard Ranking System). Sites at LANL are recommended for "no further action" when CEARP findings indicate (1) negative findings for the CERCLA FFSDIF process (for example, sites that are found not to exist or spills that were removed in the past through remedial action), or (2) sites initially requiring notification for the FFSDIF process that are later found to pose no threat of release under CEARP for the EPA CERCLA PA process (for example, sites where the hazardous substance, initially identified because of its stability, no longer persists in the environment). Consequently, sites that no longer pose a threat of release are excluded from the EPA HRS and DOE Modified HRS (MHRS) scoring. This procedure is consistent with the guidelines provided to federal facilities by the EPA in the Federal Facilities Program Manual for Implementing CERCLA Responsibilities of Federal Agencies, final draft (Fig. I.2).

Because of the large number of sites requiring HRS evaluation, sites are grouped geographically by Technical Area (TA) or TAs. The TA or TAs are scored as follows: (1) nonradioactive sites are scored with the EPA's HRS, and (2) radioactive sites are scored with the EPA's HRS and DOE's MHRS. The LANL Material Disposal Areas are scored individually as well as with the assigned TA or TAs. Potential CERCLA sites at LANL do not meet EPA criteria for inclusion on the National Priorities List (NPL). However, sites that do not meet EPA criteria for listing on the NPL but do exceed other applicable DOE remedial action criteria/guidelines (such as guidelines for the DOE's Surplus Facilities Management Program) and/or sites posing potential regulatory compliance concerns (for example, RCRA-related remedial activities) are recommended for future action under CEARP. No further action is recommended for sites not meeting these criteria. Sites with uncertain findings in this Phase I report are retained in CEARP Phase I for supplemental investigation. Supplemental Phase I information will be included in the CEARP Phase II Site Specific Monitoring Plans (SSMPs), which will be developed for each TA or grouping of TAs requiring evaluation under CEARP Phase II (see I.D.2, Phase II - Confirmation).

I.D.2. Phase II - Confirmation

Phase II objectives are to (1) obtain additional information identified as necessary during Phase I, (2) complete an environmental evaluation to confirm the presence or absence of potential CERCLA or RCRA continuing-release problems identified in Phase I, and (3) plan and carry out measurement and sampling programs as required to understand potential sources of contaminants and potential environmental pathways. Confirmed problems will be assessed for health or environmental risk as a basis for setting priorities for remedial or other follow-up action. The CEARP Phase II reports will provide documentation for Phase II of the DOE CERCLA Order (Phase IIA Monitoring Plan and IIB Site Characterization) and for two EPA CERCLA remedial planning program elements (Remedial Investigation Sampling Plan and Remedial Investigation).

CEARP Phase II Confirmation consists of Phase IIA, Monitoring Plan, and Phase IIB, Site Characterization. The Monitoring Plan consists of five parts: Synopsis, Sampling Plan, Technical Data Management Plan, Health and Safety Plan, and Quality Assurance/Quality Control Plan. CEARP will use a three-tiered approach in the preparation of monitoring plans: the CEARP Generic Monitoring Plan (CGMP), the Los Alamos Installation Generic Monitoring Plan (IGMP), and the Site-Specific Monitoring Plans (SSMPs). The IGMP will be tiered from the CGMP. Upon concurrence/approval of the IGMP, appropriate SSMPs will be prepared, and Phase IIB site characterizations will commence at LANL. The SSMPs will be tiered to this IGMP. The SSMPs will be prepared for each TA or grouping of TAs requiring evaluation under CEARP Phase II and will contain the Supplemental Phase I documentation not available for inclusion in the LANL CEARP Phase I report. A tentative schedule for preparation/implementation of the SSMPs will be provided in the IGMP.

I.D.3. Phase III - Technological Assessment

Phase III objectives are to propose and assess alternative technologies to eliminate or control CERCLA or RCRA continuing-release problems identified in CEARP Phase II. This evaluation will assess the effectiveness of the proposed technology, its cost benefits, and its impact on health, safety, and the environment. Phase III will also include the NEPA-related task of evaluating environmental impacts. CEARP

Phase III reports will provide documentation for Phase III of the DOE CERCLA Order and for two remedial planning program elements of the EPA CERCLA program (Feasibility Study and Remedial Action Selection).

I.D.4. Phase IV - Remedial Action

Phase IV objectives are to implement the recommended site-specific remedial measures identified in Phase III, which could include engineering design and construction to remedy or control environmental problems. CEARP Phase IV will encompass requirements of the DOE CERCLA Order (Phase IV) and the remedial implementation program elements of the EPA CERCLA program (Design and Action).

I.D.5. Phase V - Compliance and Verification

Phase V objectives are (1) to verify and document the adequacy of remedial actions carried out in Phase IV, and (2) to identify and plan for continued monitoring that will demonstrate control of migration or that will adequately recognize future problems. CEARP Phase V will encompass requirements of the DOE CERCLA Order Phase V and the EPA Final Site Inspection/Closeout and Monitoring.

I.E. PHASE I IMPLEMENTATION

Under DOE direction, CEARP personnel carried out CEARP Phase I at LANL through a number of tasks, which are summarized below. Phase I activities have not been completed. This document will be supplemented by site-specific monitoring plans to reflect findings of supplemental Phase I investigations. Unless stated to the contrary, the information provided in this report was current as of January 1, 1987.

I.E.1. Records Search and Literature Survey

Although an extensive records search and a literature survey have been made, many more records need to be reviewed. The types of documents reviewed to date include:

- environmental documents
- development or management plans
- environmental monitoring reports
- federal/state/local permits
- operational records/documents
- safety analysis documents
- standard operating procedures
- appraisals, audits, inspections
- contingency/emergency plans
- special/topical studies or reports
- history and mission documents
- accident/incident investigation reports.

Information from the search that relates directly to CEARP is included in Sections II-V and is referenced as appropriate in this report.

I.E.2. Employee Interviews

Interviews at Los Alamos are being conducted as needed during the Phase I review process. Employees or retirees identified as having possibly useful information are contacted and, if locally available and willing, are interviewed directly. If the information to be obtained is modest in nature or if distances are great, interviews are conducted by telephone. To date, there have been approximately 25 direct and 30 telephone interviews to gather information on past operations. In each interview category, about half of the people contacted had worked at Los Alamos during World War II. Many of them continued to work at the Laboratory in various capacities to the present time or worked until their retirement. Those chosen to be interviewed all had direct personal knowledge of the sites or issues for which they were interviewed. Often, they were recommended by their peers as being the most knowledgeable about the subject. Persons interviewed were asked to describe operations in their area of expertise, including waste handling and cleanup procedures for spills or other incidents that could have resulted in environmental contamination. In direct interviews, two or three interviewers were usually involved for each person interviewed. Notes taken during the interview were given to the person interviewed to review for accuracy. Information from the interview process is included as appropriate in the CEARP Phase I report. However, names, positions, and period of position performance have been omitted to preserve anonymity and ensure compliance with employee protection requirements (Section 110 of CERCLA).

It is important to remember that the information collected represents individual recollections of events and conditions that happened as many as 45 years ago. This information was used as an indicator of potential environmental concerns and cannot be taken as documented proof of environmental perturbations. However, any event or condition having the potential to release hazardous substances into the environment provides the basis for obtaining confirmatory data under CEARP, ensuring that all suspect sites are characterized, and potential sources for release of hazardous substances are not overlooked. The intent is to have definitive documentation by the end of Phase II confirming the presence or absence of any environmental problems. Information directly related to CEARP is included in sections IV and V of this report.

I.E.3. Evaluation of Waste Management

Present and past management practices for handling hazardous substances were reviewed and evaluated. Information for this process was gathered from the CEARP records search and literature survey, employee interviews, and investigation of current operations at LANL. Present waste management practices are discussed primarily in sections IV, V.C, and V.D. Past waste management practices are discussed in sections V.A and V.B.

I.E.4. Identification of Contaminated Areas

Sites that have been contaminated or are suspected of being contaminated as a result of current or former incidents, including leaks and spills, are being identified. Information for this process is being gathered from the CEARP records search and literature survey, employee interviews, and investigation of current operations at LANL. Potential CERCLA sites are discussed in Sections V.A and V.B.

I.E.5. Evaluation of Compliance with Environmental Regulations

Compliance with applicable environmental standards and regulations, including DOE orders and internal guidelines, was assessed. Special emphasis was placed on those regulations that interact with CERCLA (such as permitted releases under the CWA or CAA that exceed reportable quantities under CERCLA). Compliance with applicable regulations is discussed in Sections IV, V.C, and V.D.

I.E.6. Preliminary Physical Survey

A preliminary physical survey of present and previously used sites is being conducted to validate observations from the CEARP document search and interviews and to identify any other signs of environmental stress or facility features that might indicate potential contamination. Areas of potential concern under CERCLA are identified in Sections V.A and V.B.

I.E.7. Pathway Evaluation

A preliminary evaluation of potential pathways of migration for hazardous substances is being made. The environmental setting at LANL and potential migration pathways are discussed in Section III.

I.E.8. The Hazard Ranking System (HRS)

The EPA uses the HRS to establish a National Priorities List (NPL) of facilities needing initial attention under CERCLA. Effective February 18, 1986, federal sites meeting NPL criteria can be listed there.

The EPA's HRS, however, does not discriminate among different radionuclides relative to their potential risk at potential CERCLA sites. Therefore, DOE developed the Modified HRS (MHRS), which is a conceptually minor modification/addition to the HRS. The MHRS permits a better assessment of existing radiological risks. Therefore, potentially radioactive sites requiring HRS evaluation are scored with DOE's MHRS and EPA's HRS, and nonradioactive sites requiring HRS evaluation are scored with the EPA's HRS. Details on the HRS and MHRS evaluation for LANL are provided in Appendix B.

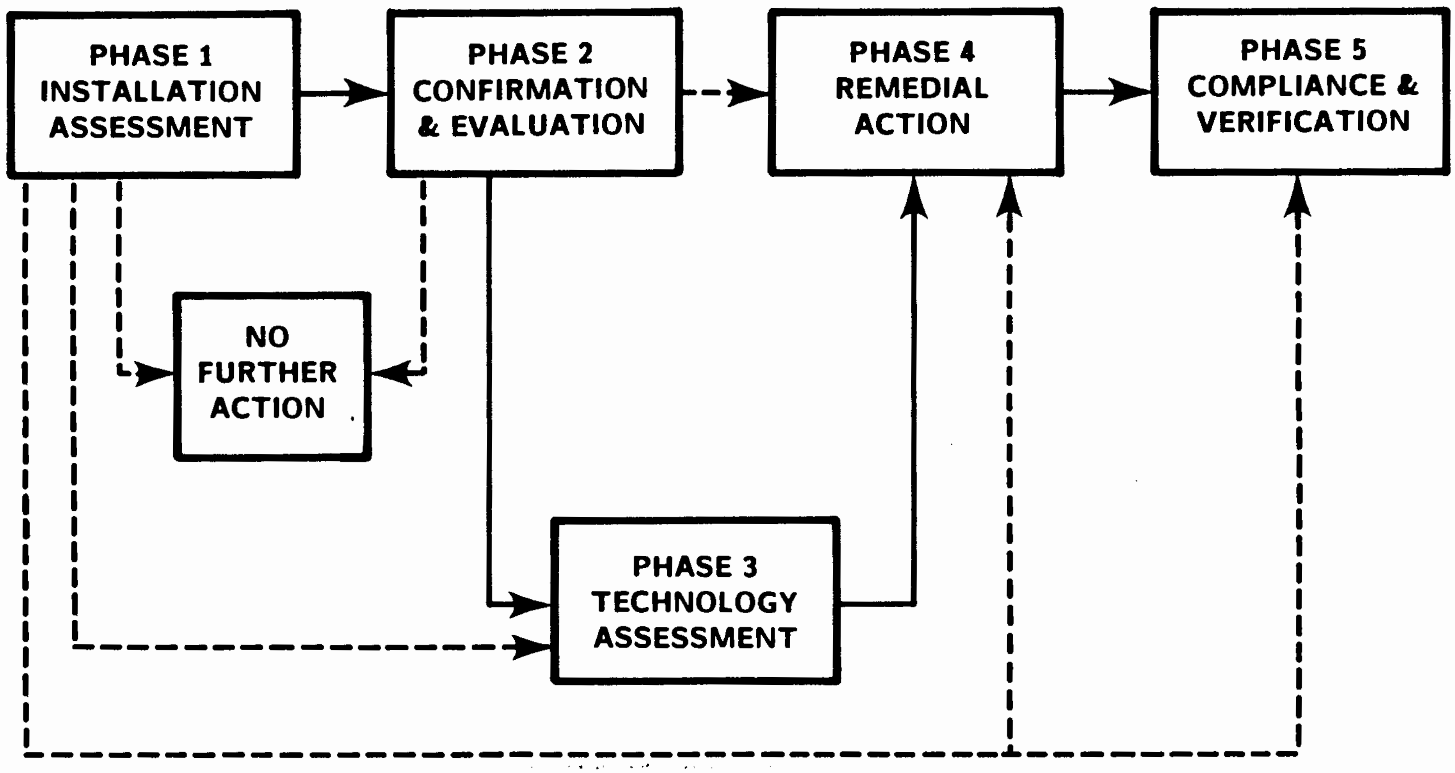


Figure I.1. CEARP decision flow chart.

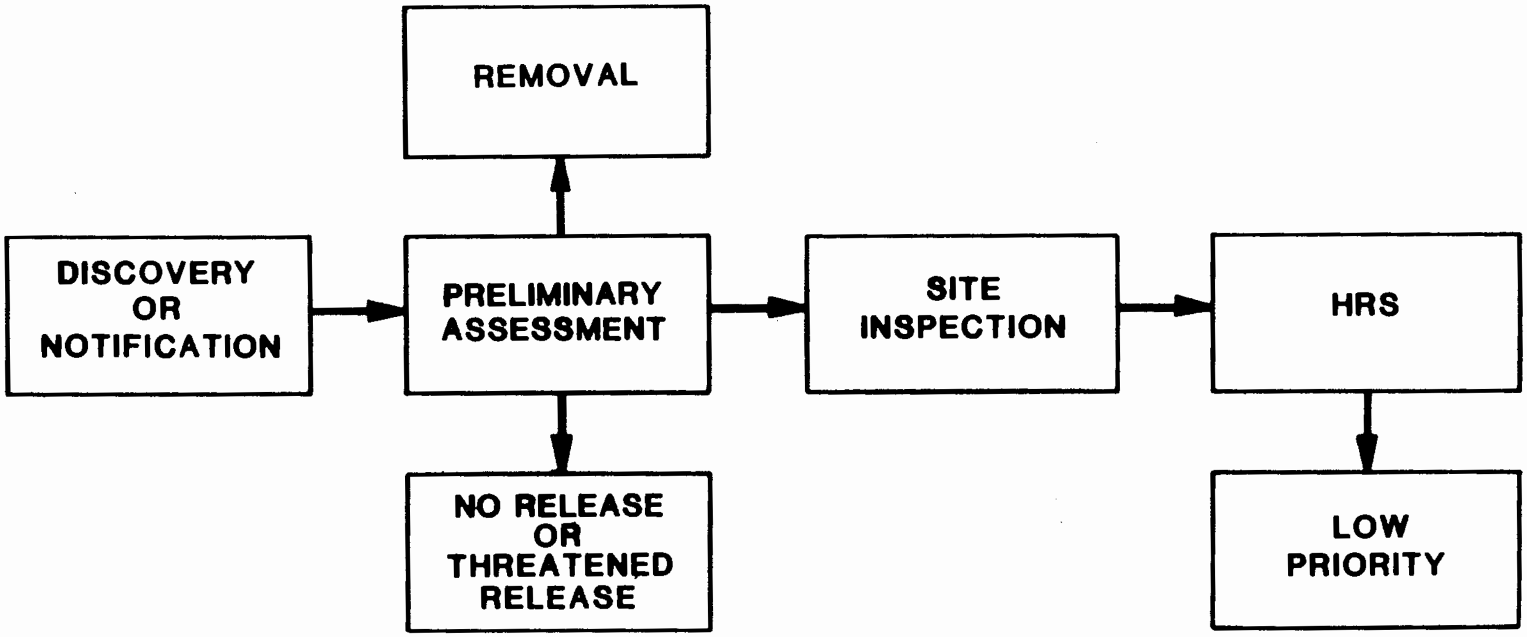


Figure I.2. Initial phases of federal agency-led Superfund response activities and events.

II. DESCRIPTION OF THE LOS ALAMOS INSTALLATION

II.A. LOCATION AND PHYSICAL DESCRIPTION

The Los Alamos National Laboratory (LANL) and associated residential areas of Los Alamos and White Rock are located in Los Alamos County in north-central New Mexico, approximately 60 mi north-northeast of Albuquerque and 25 mi northwest of Santa Fe (Fig. II.1). The 24,400-acre Laboratory site and adjacent communities are situated on the Pajarito Plateau, which is made up of a series of finger-like mesas separated by deep east-west oriented canyons cut by intermittent/ephemeral streams. The mesa tops range in elevation from approximately 7,800 ft at the flank of the Jemez Mountains to about 6,200 ft on their eastern margin, terminating above the Rio Grande Valley.

II.B. HISTORICAL SUMMARY

Evidence of human existence on the Pajarito Plateau dates back to 8000 B.C. Village life on the plateau, through the Puebloan culture, evolved around 700 A.D. Periodic occupation of the plateau by Pueblo Indians continued until the last half of the sixteenth century (Foxx and Tierney 1984). Several hundred prehistoric archaeological sites have been identified within LANL boundaries.

Before World War II, some farming and ranching took place on the Pajarito Plateau. The Los Alamos Ranch School for boys was located in the area of present downtown Los Alamos. The school and other private holdings were purchased by the War Department in 1942 to establish a secret laboratory to research and develop a nuclear fission weapon. In 1947 this installation became the Los Alamos Scientific Laboratory and, in 1980, the Los Alamos National Laboratory.

II.C. MISSION AND OPERATIONS OF THE LABORATORY

Since its inception, the primary mission of LANL has been to research and develop nuclear weapons. Programs include weapons development, nuclear fission and fusion research, nuclear safeguards and security, and laser isotope separation. Basic research in the areas of physics, chemistry, mathematics, engineering, and materials science is also part of the Laboratory's activities. Research on peaceful uses of nuclear energy has included space applications, power reactor programs, magnetic and inertial fusion, radiobiology, and medicine. Other programs include applied photochemistry, astrophysics, earth sciences, lasers, computer sciences, solar energy, geothermal energy, biomedical and environmental research, and nuclear waste management research.

LANL is a government-owned, contractor-operated (or GOCO) facility that has been operated by the University of California for the U.S. Government since its inception. The current operating contract will expire in 1987. In 1985 the University's Board of Regents voted to consider renewing the contract to operate the Laboratory. Zia Company, a support contractor, provided support services from the time the Laboratory began through June 1986. Pan Am World Services assumed support duties on July 1, 1986. Past and current operations at the Laboratory are discussed by Technical Area (TA) in Section V.

II.D. LAND USE

Most LANL and community developments are confined to mesa tops. The surrounding land is largely undeveloped, with large tracts north, west, and south of the Laboratory site held by the Santa Fe National Forest, Bureau of Land Management, Bandelier National Monument, General Services Administration, and Los Alamos County (Fig. II.2). San Ildefonso Pueblo borders the Laboratory to the east.

Present LANL land use consists of approximately 1,400 acres of developed land on a 24,400-acre site. Undeveloped land, much of which is not developable, is used to buffer hazardous operations and to act as security zones. The developed area is spread out among 31 active TAs within Los Alamos County and one in the Jemez Mountains west of Los Alamos (Fig. II.3). Within the active areas, about 9,800 employees (76% LANL and the rest DOE or various support contractors) use about 6 million ft^2 of office and laboratory buildings (Engineering Division 1982).

There are eleven inactive TAs within LANL boundaries and six on land released to Los Alamos County. Four TAs have been merged into present active areas and two inactive areas are located outside Los Alamos County. Within LANL boundaries, 26 material disposal areas have been designated (Fig. II.4). Most involve pit or shaft burial of solid waste.

II.E. DEMOGRAPHICS

Los Alamos County had an estimated population of 19,200 in 1985. Two major residential and related commercial areas exist in the county (Fig. II.2). The Los Alamos townsite, the original area of development, has an estimated population of 12,000. The White Rock area has about 7,200 residents. About 40% of those employed in Los Alamos commute from other counties. Population estimates for 1985 place about 170,000 people within a 50-mi radius of Los Alamos (Environmental Surveillance 1986).

II.F. IMPORTANT CHARACTERISTICS OF THE SITE

The offsite environmental impact of LANL is minimal because of the geological and hydrological characteristics of the area and past waste management practices. Surface water flow crossing LANL is intermittent/ephemeral and reaches the Rio Grande only during significant periods of runoff caused, for example, by snowmelt or thunderstorms.

The main aquifer lies 600 to 1,200 ft below the surface and is separated from the surface by unsaturated tuff, a volcanic ash. There is no known hydrological connection between the surface and the main aquifer from which the municipal supply for Los Alamos is obtained.

II.G. REFERENCES

Engineering Division, LANL. 1982. "Long Range Site Development Plan," Los Alamos National Laboratory publication, September 1982.

Environmental Surveillance Group, LANL. 1986. "Environmental Surveillance at Los Alamos During 1985, "Los Alamos National Laboratory report LA-10721-ENV, April 1986.

Foxx, T. S., and G. D. Tierney. 1984. "Status of the Flora of the Los Alamos National Laboratory Environmental Research Park: A Historical Perspective," Vol. II, Los Alamos National Laboratory report LA-8050-NERP, September 1984.

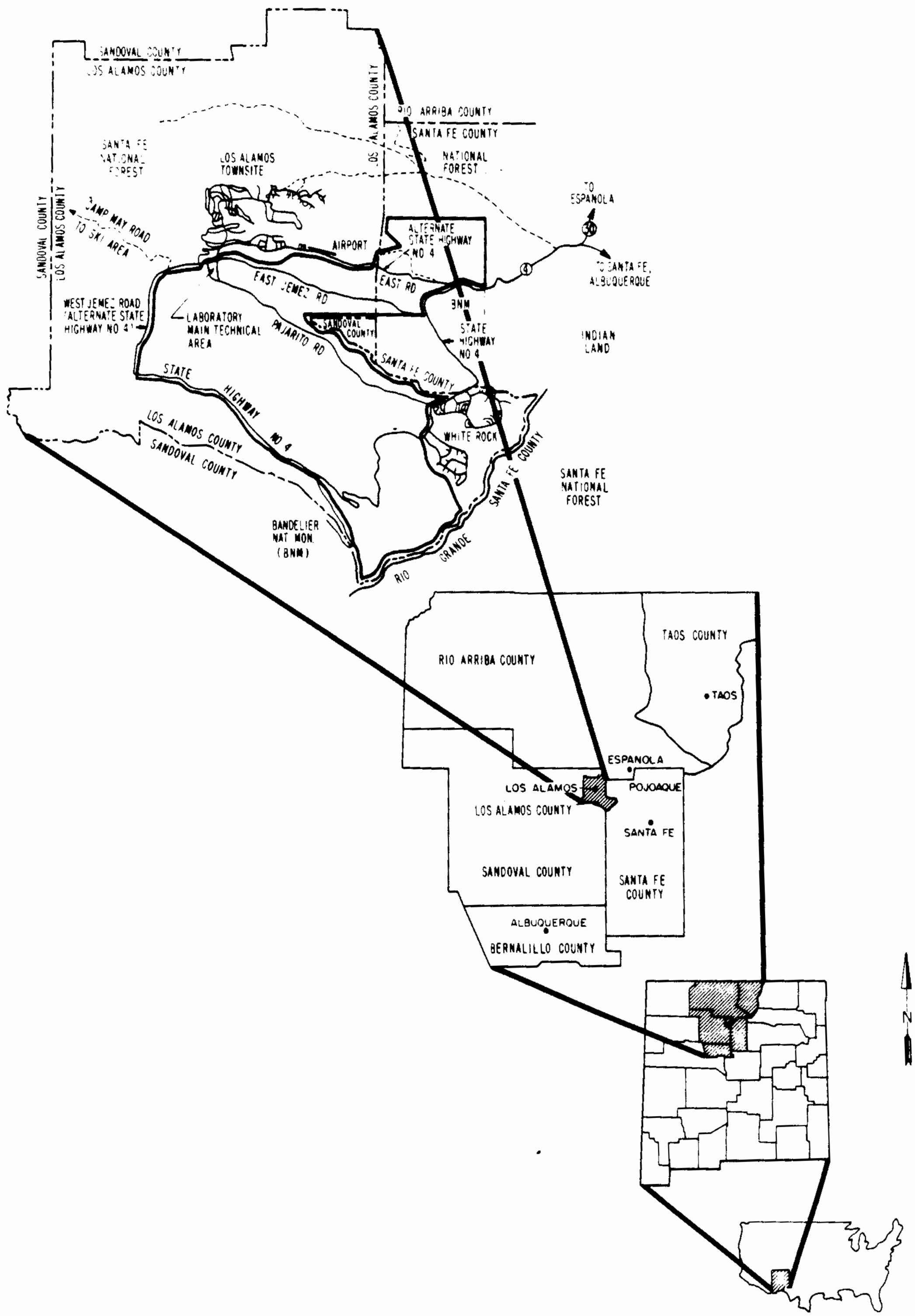


Figure II.1. Regional location of Los Alamos.

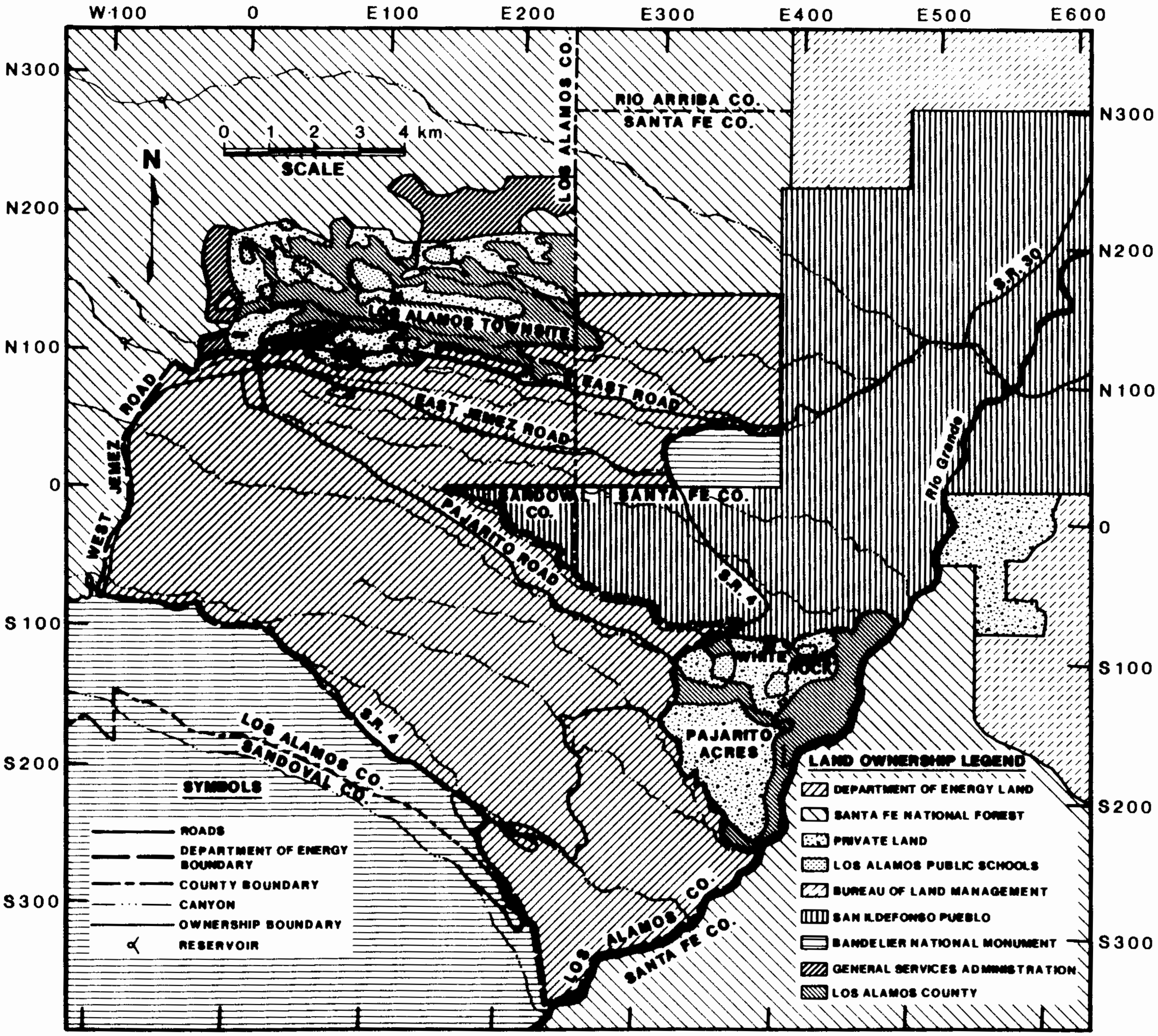
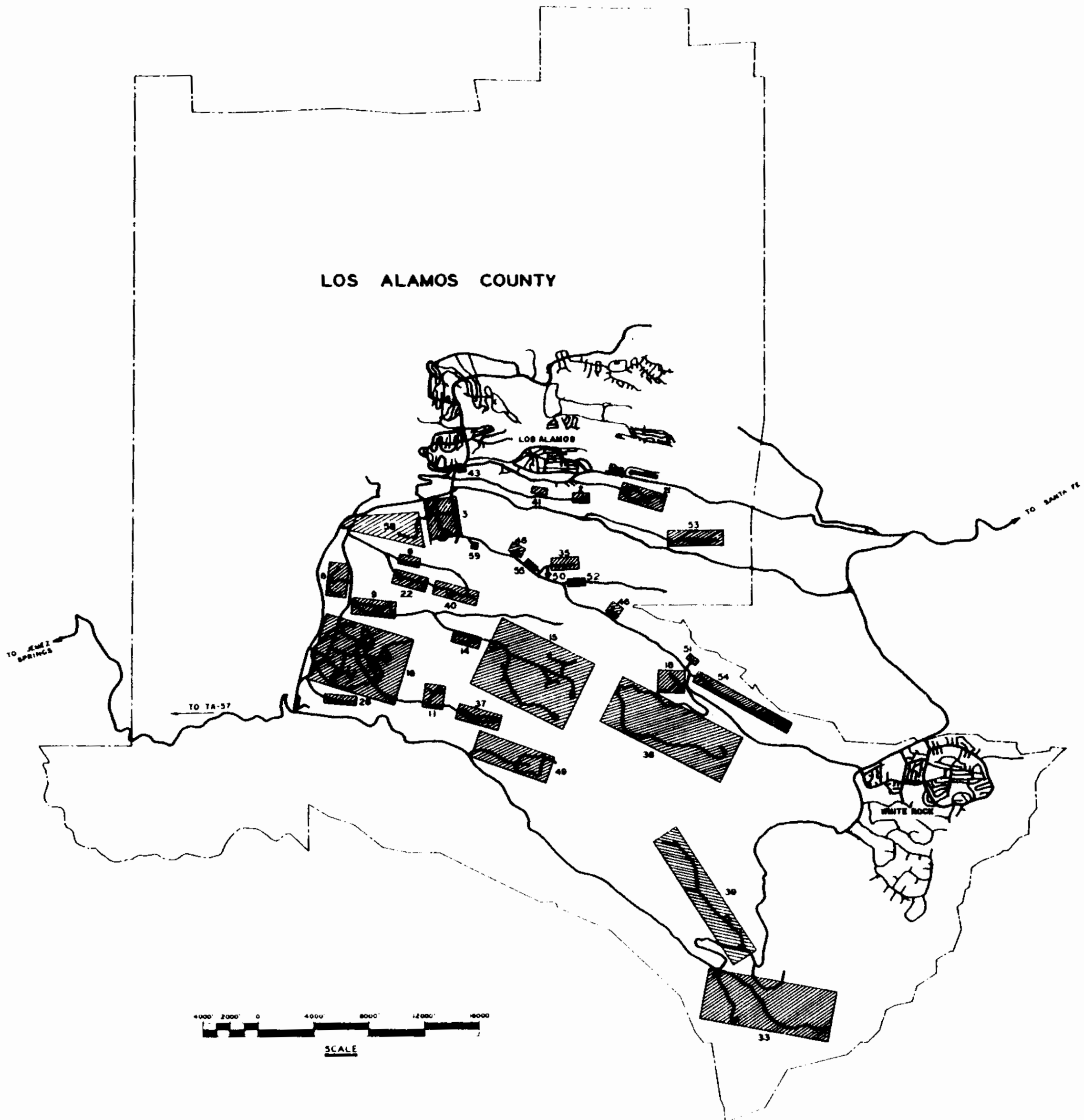


Figure II.2. Los Alamos County.



TECH AREA NUMBER	NOMENCLATURE	REMARKS
TA-0	UNASSIGNED LAND RESERVE	
TA-1		REMOVED 1964-1965
TA-2	OMEGA SITE	
TA-3	SOUTH MESA SITE	
TA-4		REMOVED 1958
TA-5	BETA SITE	ABANDONED 1960
TA-6	TWO MILE MESA SITE	
TA-7	GOMEZ RANCH SITE	ABANDONED 1945
TA-8	ANCHOR SITE WEST	
TA-9	ANCHOR SITE EAST	
TA-10		REMOVED 1963
TA-11	K-SITE	
TA-12	L-SITE	ABANDONED 1953
TA-13	P-SITE	INCORPORATED WITH S-SITE
TA-14	Q-SITE	
TA-15	R-SITE	
TA-16	S-SITE	
TA-17		CANCELLED
TA-18	PAJARITO LABORATORY	
TA-19		REMOVED 1975
TA-20	SANDIA CANYON SITE	ABANDONED 1957
TA-21	DP-SITE	
TA-22	TD-SITE	
TA-23		REMOVED 1950
TA-24	T-SITE	INCORPORATED WITH S-SITE
TA-25	V-SITE	INCORPORATED WITH S-SITE
TA-26		REMOVED 1966
TA-27	GAMMA SITE	ABANDONED 1945
TA-28	MAGAZINE AREA A	
TA-29	MAGAZINE AREA B	ABANDONED 1957
TA-30		REMOVED 1948
TA-31		REMOVED 1954
TA-32		REMOVED 1954
TA-33	HP-SITE	
TA-34		CANCELLED
TA-35	TEN SITE	
TA-36	KAPPA SITE	
TA-37	MAGAZINE AREA C	
TA-38		CANCELLED
TA-39	ANCHO CANYON SITE	
TA-40	DF-SITE	
TA-41	W-SITE	
TA-42	INCINERATOR SITE	ABANDONED 1970
TA-43	HEALTH RESEARCH LABORATORY	
TA-44	LOS ANGELES SHOP	ABANDONED 1958
TA-45		REMOVED 1967
TA-46	WA-SITE	
TA-47	BR-SITE BRUNS RAILHEAD	ABANDONED 1958
TA-48	RADIOCHEMISTRY SITE	
TA-49	FRIJOLES MESA SITE	INACTIVE
TA-50	WASTE MANAGEMENT SITE	
TA-51	RADIATION EXPOSURE FACILITY	
TA-52	REACTOR DEVELOPMENT SITE	
TA-53	MESON PHYSICS FACILITY	
TA-54	WASTE DISPOSAL SITE	
TA-55	PF-SITE	
TA-56	SUBTERRENE BASALT SITE	ABANDONED 1976
TA-57	FENTON HILL SITE	*
TA-58	TWO MILE NORTH SITE	PROPOSED
TA-59	OH-SITE	

* (APPROX. 36 MILES WEST OF LOS ALAMOS)

LEGEND

ACTIVE TECHNICAL AREAS

18	10-6-83	REVISED TITLE BLOCK & DWG TO STATUS OF 6-17-83			
REV.	DATE	REVISION	BY	CKD	APP

UNIVERSITY OF CALIFORNIA
Los Alamos

FACILITIES ENGINEERING DIVISION

TECHNICAL AREA LOCATION PLAN

SUBMITTED | RECOMMENDED | APPROVED
DRAWN | DATE 10-6-83 | SHEET NO 2 OF 12 | DRAWING NO ENG-R5101
CHECKED

Figure II.3. Technical areas at Los Alamos National Laboratory.

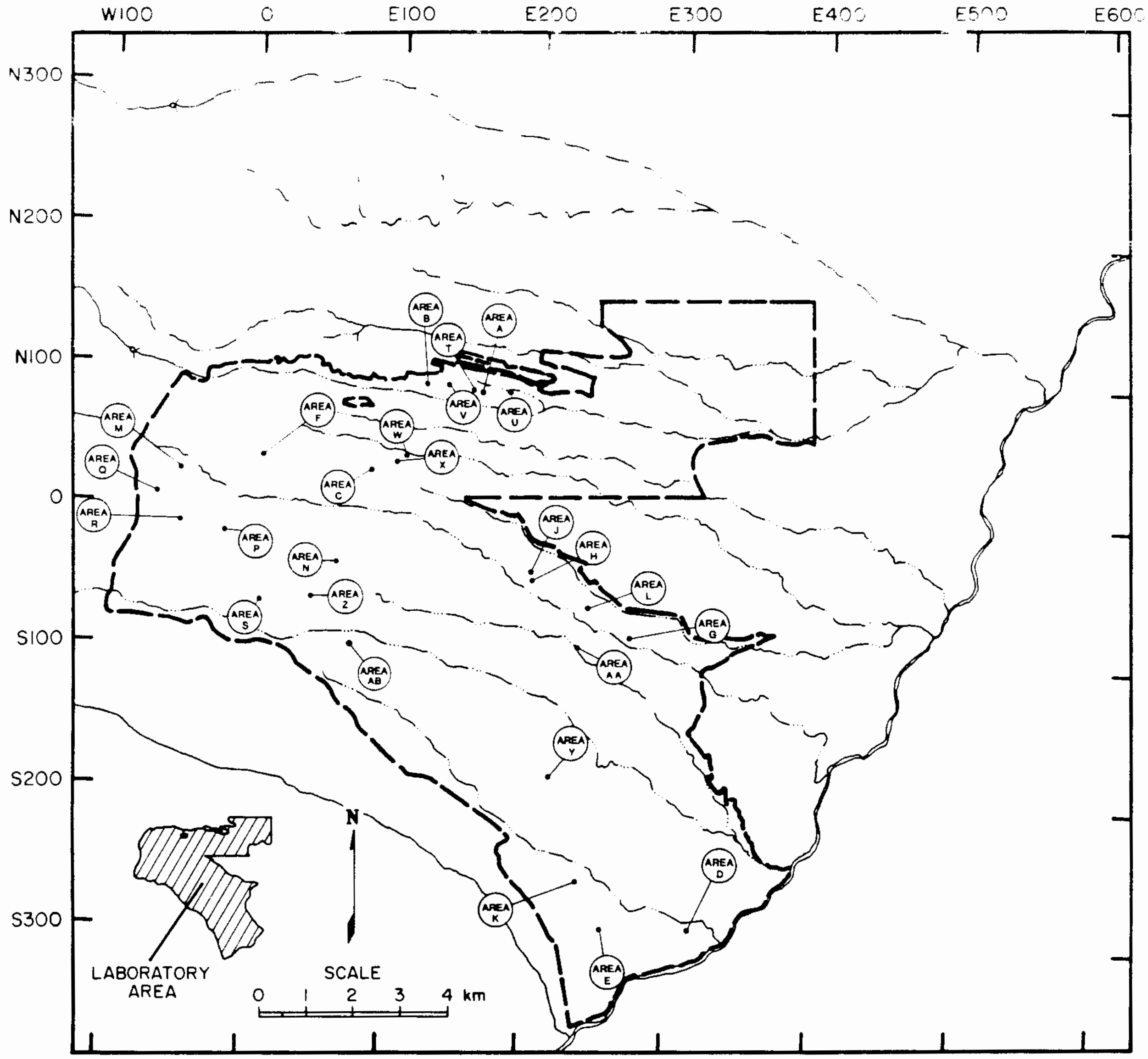


Figure II.4. Material disposal areas at Los Alamos National Laboratory.

III. ENVIRONMENTAL SUMMARY

III.A. INTRODUCTION

Environmental monitoring has been conducted at LANL since World War II. Early studies and surveillance activities were conducted by both Los Alamos Scientific Laboratory and the U.S. Geological Survey. The Laboratory has published annual surveillance reports since 1970, and an environmental impact statement was completed in 1979 (DOE 1979). Since 1972, annual waste management plans have been prepared concurrently with the surveillance reports.

Environmental research has accompanied surveillance and waste disposal programs at Los Alamos and has provided the technical basis for maintaining and improving those programs. In 1976 the laboratory was officially designated as one of five National Environmental Research Parks (NERPs) in the DOE complex. This title emphasizes the Laboratory's willingness to commit its unique technical and physical resources to national environmental goals. The focus of research at the LANL NERP has been to develop (1) improved methods for quantitative and continuous measurements of environmental impacts, (2) improved methods for predicting and assessing the consequences of those impacts, and (3) improved strategies for minimizing and/or mitigating undesirable consequences of those impacts. Much of the current environmental R&D at the LANL NERP deals with nonpoint source pollution and waste disposal issues. Research has also included plant habitat characterization, work with endangered species, and the study of the effects of rodents on waste management practices (Enger, Stafford, and Karl 1984).

Present day environmental monitoring activities include routine onsite, perimeter, and regional sampling for air, soil, sediment, water, foodstuffs, and external penetrating radiation. Sampling of air, water, and effluent is performed to comply with federal and state environmental regulations. In addition, special environmental studies are undertaken to characterize the transport of radionuclides and chemicals in water, soil, and sediments, to characterize the local hydrogeology, and to evaluate the potential for further contaminant migration.

III.B. CLIMATOLOGY

Los Alamos has a semiarid, temperate mountain climate. The average annual precipitation is nearly 18 in. Forty percent of the annual precipitation occurs during July and August in the form of thundershowers. The rest of the precipitation results from winter storms moving through New Mexico. Winter precipitation falls primarily as snow, with average annual snowfall totaling 51 in. (Environmental Surveillance 1986).

Summers are generally sunny with moderately warm days and cool nights. Maximum temperatures are usually below 90°F. High altitude, light winds, clear skies, and dry atmosphere allow night temperatures to drop below 60°F after even the warmest days. Winter temperatures typically range from about 15° to 25° F during the night and from 30° to 50°F during the day. Occasionally, temperatures drop to near 0°F or below. Many winter days are clear with light winds, so strong sunshine can make conditions quite comfortable even when air temperatures are cold (Environmental Surveillance 1986).

To date, no tornadoes have been reported in Los Alamos County. However, dust devils can produce localized winds of up to 75 mph or so, commonly in the eastern part of Los Alamos County. Strong winds with gusts exceeding 60 mph are common and widespread during the spring.

III.C. GEOLOGY

LANL is located on the Pajarito Plateau, which forms an apron around the Jemez Mountains. The plateau is composed of a series of ashfalls and ashflows that have developed into rhyolite tuff. The thickness of the tuff ranges from more than 1,000 ft in the west along the flanks of the mountains, thinning eastward across the plateau to less than 250 ft in White Rock Canyon, cut by the Rio Grande (Ross, Smith, and Bailey 1961; Bailey 1969). The plateau has been dissected into a number of "fingerlike" mesas by east-southeast trending intermittent streams (Fig. III.1). The mesa tops have a thin cover of soil, and in the canyons, thin sections of alluvium have developed (Griggs 1964).

The tuff is underlain by a thick sequence (more than 700 ft) of volcanic sediments composed of boulders, gravels, and sand in a matrix of silt and clay. These volcanic sediments interfinger with basalts that were emplaced from centers to the south and east of the plateau. The volcanic sediments and basalts are underlain by a thick sequence of siltstones, silty sandstone, and an occasional lens of claystone or pebbly conglomerate. These sediments exceed 2,000 ft in thickness, as shown in Fig. III.2 (Purtymun 1984).

LANL lies within the Rio Grande Rift, which is a zone 2 seismic area. Several faults are located on or near LANL property, but no LANL structures are known to be located across any faults. The largest earthquake expected to occur once every 100 years is less than magnitude 6 on the Richter scale, based on an extrapolation of the frequency-magnitude relation (Coats and Murray 1984).

III.D. HYDROLOGY

III.D.1. Surface Water

The Rio Grande, the master stream of north-central New Mexico and south-central Colorado, has cut a deep canyon along the eastern edge of the Pajarito Plateau. The discharge of the Rio Grande at the U.S. Geological Survey gaging station has ranged from 60 ft^3/sec to 24,400 ft^3/sec for the 88 years of record. The mean discharge for 1985 was 372 ft^3/sec (Denis, Beal, and Allen 1986). Surface drainage from the eastern flanks of the Jemez Mountains and the plateau discharges into the Rio Grande.

Streamflow in the canyons on the Pajarito Plateau is intermittent. The occurrence of surface water in major canyons is shown in Table III.1. Springs on the flanks of the mountains supply baseflow to the upper reaches of some canyons, but the amount is insufficient to maintain surface flow across the plateau to the Rio Grande. The surface flow is depleted by evapotranspiration and infiltration into the alluvium of the canyon. Effluent from sanitary and industrial wastes is released into some of these canyons. This manmade discharge is normally sufficient to maintain surface flow for only short distances, not exceeding one mile, and thus remains within LANL's boundaries (Environmental Surveillance 1985a). Storm runoff in the canyons from heavy snowmelt or thunderstorms may reach the Rio Grande several times a year.

No water supplies are taken directly from the Rio Grande downstream from the Laboratory and above Cochiti Dam. Irrigation water is diverted from the Rio Grande at numerous locations beginning below Cochiti Dam, which lies about 10 miles downstream from the Laboratory.

III.D.2. Groundwater

Groundwater in the Los Alamos area occurs as 1) water in shallow alluvium in canyons, 2) perched water that is separated from the main aquifer by an unsaturated zone, and 3) the main aquifer of the Los Alamos area. The occurrence of groundwater in major canyons is summarized in Table III.1.

Intermittent streams have deposited alluvium that ranges up to 100 ft in thickness in some of the canyons (Abrahams, Baltz, and Purtymun 1962). The alluvium is quite permeable, in contrast to the underlying tuff. Storm runoff or released effluents infiltrate the alluvium, forming a shallow body of groundwater perched on the underlying tuff (Fig. III.2). This shallow body of water is of limited extent (Abrahams, Baltz, and Purtymun 1962; Abrahams 1963b; Purtymun 1974a). Tracer studies have indicated rates of movement of about 60 ft/day in a coarse gravel-and-sand unit, to less than 2 ft/day in a silty clay unit of the alluvium (Purtymun 1974a). The downstream movement of water in the alluvium is limited due to losses through evapotranspiration and infiltration into the underlying tuff. Investigations of water in the alluvium in Mortandad Canyon indicate that it is confined within LANL (Baltz, Abrahams, and Purtymun 1963). Furthermore, portions of major canyons such as Pueblo, Los Alamos, Pajarito, Water, and Ancho have been cut to base level in the basalts, thus forcing any water moving through the alluvium to discharge as surface water (Table III.1). This condition can only occur during heavy snowmelt in the spring.

In the volcanic sediments, water that has perched on clay lenses below the alluvium and above the main aquifer occurs in the midreach of Pueblo Canyon at a depth of about 120 ft and near the confluence of Pueblo and Los Alamos canyons at a depth of about 200 ft. Recharge to the perched aquifers is from intermittent streamflow in the two canyons. The perched aquifer discharges to the east at Basalt Springs in lower Los Alamos Canyon (Environmental Surveillance 1981).

The main aquifer of Los Alamos (Fig. III.2) is the only one capable of supplying industrial and municipal water needs (Purtymun and Cooper 1968). The upper surface of the main aquifer rises westward from the Rio Grande, through the siltstones and silty sandstones, into the lower part of the volcanic sediment beneath the central and western parts of the plateau. The depth to water ranges from about 600 ft near the eastern edge of the plateau to about 1,300 ft along the western edge. The recharge area to the main aquifer is in the intermountain basin, the Valle Caldera in the Jemez Mountains, west of Los Alamos. Movement of water in the aquifer is east-to-southeast beneath the plateau to White Rock Canyon of the Rio Grande, where part is discharged through a series of seeps and springs (Purtymun and Adams 1980; Purtymun, Peters, and Owens 1980; Cushman 1965). Rates of movement of water in the aquifer beneath the plateau, as determined from aquifer tests, range from 50 to 365 ft/yr (Purtymun 1984; Theis 1962).

III.D.3. <u>Hydrologic Pathways</u>

The main hydrologic pathway with the potential to transport contamination from LANL is surface runoff, which occurs only during periods of heavy snowmelt or during heavy thunderstorms. Heavy snowmelt runoff occurs at low discharge with low suspended solids over a period of days. Thunderstorm runoff occurs at high discharge with a high suspended solids concentration for periods of a few hours (Environmental Surveillance 1985, Purtymun 1974b). The largest proportion of contaminants, such as plutonium, have been found to be transported with suspended solids, with only trace concentrations in solution. Concentrations of contaminants typically decrease downstream because of dilution and dispersion during streamflow (Lane, Purtymun, and Becker 1985; Environmental Surveillance 1985).

Special studies have been conducted to examine the transport of contaminants by surface runoff processes. Snowmelt and summer runoff are routinely collected and analyzed for plutonium-238, plutonium-239,-240, and total uranium in solution, and plutonium-238 and plutonium-239,-240 in suspended sediments. Samples were collected in Los Alamos, Pueblo, Guaje, Pajarito, and Water Canyons, and at the Rio Grande above Otowi Bridge. Plutonium-238 in solution was below background (levels attributable to worldwide fallout), and trace amounts of plutonium-239,-240 in solution were also below background. Uranium in solution occurred at natural levels in all samples. Suspended sediments in Los Alamos Canyon, Pueblo Canyon, and at Otowi Bridge contained plutonium-238 and plutonium-239,-240 slightly above background. Both Los Alamos and Pueblo canyons received low level radioactive effluents in the past. The plutonium concentrations were low, and were dispersed and diluted by storm runoff before they reached the Rio Grande. Rio Grande water above the Otowi Bridge contains trace amounts of plutonium in solution and in suspended sediments. The plutonium was at or below statistical limits of detection and was the result of worldwide fallout. Uranium in solution occurs naturally. Only background levels or amounts below the statistical limits of detection were found in the other canyons. The results of a study on levels of plutonium, cesium, and uranium in active and inactive bank channel sediments in lower Los Alamos Canyon showed that only plutonium-239,-240 had been transported in sediments from the upper canyon to the lower canyon and found in the active and inactive channels and in the bank of the stream. It appeared that the major transport occurred during heavy summer runoff that spread and dispersed the plutonium through both the active and inactive channel and onto the banks (Environmental Surveillance 1986).

Sediment sampling stations located in drainages leading away from Area G and the active low level radioactive disposal area are sampled annually for radionuclides. Slight amounts of plutonium transport, the result of surface contamination from ongoing activities, have been noted. Runoff from a monitoring station located in Area G is sampled during the year for radioactive constituents in solution and for plutonium in suspended sediments. Results show low levels of plutonium in solution and in suspended sediments. There was no detectable plutonium in sediments in Canada del Buey at State Road 4 (perimeter of LANL) or in Pajarito Canyon, adjacent to Area G. Sediment samples were collected in Canada del Buey and at a number of the Area G sediment sampling stations and analyzed for inorganic chemicals. This sampling is performed to determine movement of chemicals in sediments from Area L, the main chemical disposal and storage area located about 1 km west of Area G. All eight heavy metals in the extraction procedure toxicity test (EP toxicity test) were included in the analysis, as well as nickel, beryllium, cyanide, sulfate, and nitrate. All inorganics were found to be below the statistical limits of detection, except for beryllium, which was at the level of naturally occurring beryllium in background samples (Environmental Surveillance 1986).

Special studies on the movement of contaminants are carried out at sites of operational releases. For example, the effluent released from the Los Alamos Meson Physics Facility's (LAMPF) storage lagoons is sampled twice annually for a variety of radionuclides (beryllium-7, manganese-54, rubidium-83, sodium-22, cobalt-57, hydrogen-3, and cesium-134). Samples are taken at eight stations downstream from the point of discharge, ending at the active channel in Los Alamos Canyon. Concentrations of radionuclides in the effluent were less than 1 per cent of those listed in the Department of Energy's Concentration Guides for Controlled Areas. Concentrations in 1985 were reduced from those of previous years. This is due to a redesign of the LAMPF lagoon area, which reduces the rate of discharge and permits a longer holding time in the lagoons, thereby providing for lower levels of released activity (Environmental Surveillance 1986). Samples of snowmelt runoff from four canyons that drain Laboratory firing sites have been analyzed for lead, beryllium, and mercury in solution and in suspended solids. Results show that small quantities of these metals may be transported in solution and in suspended solids (Environmental Surveillance 1986).

Water in the shallow alluvium may show contamination induced by surface runoff, mainly release of waste effluents, as shown in Table III.1. In general, chemical and radiochemical concentrations decrease downgradient in the alluvium because of ion-exchange or adsorption of contaminants onto sediment particles (Environmental Surveillance 1985).

Water in perched zones in Pueblo and Los Alamos canyons is recharged from canyon streamflow. This flow can include effluents from the sewage treatment plant. The chemical quality of the perched water reflects this source; however, the water quality meets federal drinking water standards and shows no contamination from radionuclides.

Recharge to the main aquifer through the Pajarito Plateau is improbable for the following reasons. The main aquifer is separated from the surface of the plateau by 600 to more than 1,000 ft of unsaturated rhyolite tuff and volcanic sediments

(Kennedy and Purtymun 1971). The solid waste disposal or storage sites are on the finger-like mesas of the plateau (Rogers 1977). The average annual evapotranspiration rates on the plateau greatly exceed the precipitation; thus, there is little potential for precipitation to infiltrate the soil zone and the underlying tuff (Kearl, Dexter, and Kautsky 1986). Investigations have indicated that the tuff forming the mesas is quite dry, with moisture content generally less than 5% by volume. The major movement in the tuff is through the vapor phase (Purtymun 1973). Studies have indicated that the mesas are unlikely to be areas of recharge to the main aquifer (Abrahams, Weir, and Purtymun 1961; Abrahams 1963; Cushman 1965; Kennedy and Purtymun 1971). To move contaminants through the tuff would require more water than occurs as precipitation (Purtymun, Garde, and Peters 1978; Purtymun, Wheeler, and Rogers 1978, Purtymun, Rogers, and Wheeler 1980, Nyhan, et al. 1985). Recent investigations indicate that any movement of contaminants would have to occur in the vapor phase and that there is no free water available to transport contaminants (Kearl, Dexter, and Kautsky 1986).

Recharge to the main aquifer is improbable from water in the alluvium. The volume of water in the alluvium is seasonally dependent on the volume of water in runoff from precipitation or on the volume of effluents released (Purtymun et al. 1983). Evapotranspiration rates in the canyons are high. High evapotranspiration results in major depletion of water in the alluvium. The top of the main aquifer is separated from the ground surface by 600 to more than 1,000 ft of unsaturated tuff and volcanic sediments (Purtymun 1984). Although many low-permeability (perching) beds are present, the lack of perched water in most canyons (except Pueblo, Pajarito, and lower Los Alamos) indicates no movement from water in the alluvium to the main aquifer.

III.D.4. Water Quality

Surface water and groundwater samples are collected annually from stations located regionally in north-central New Mexico, at the perimeter of LANL boundaries, and within LANL. Within LANL boundaries, samples are taken in both waste effluent release areas and in noneffluent locations.

III.D.4.a. Radiochemical Analyses

Radiochemical constituents in surface water and groundwater samples are reported and compared with the standard of the DOE's Concentration Guides (Environmental Surveillance 1986). Surface water samples from regional stations have cesium, plutonium, tritium, total uranium, and gross gamma below the concentration guides. Samples from perimeter stations are also below the concentration guides.

Groundwater and surface water samples are collected from onsite noneffluent release areas. The concentrations of radionuclides are below the concentration guides. Surface water and groundwater samples from effluent releases show measurable amounts of radioactivity, but are below concentration guides (Environmental Surveillance 1985).

III.D.4.b. Chemical Analyses

Surface water samples are collected from regional stations, and selected constituents are compared with drinking water standards. All are below the maximum concentrations permitted for drinking water. Perimeter samples are also compared with drinking water standards. The maximum concentrations are all below standards, except for nitrates in the sanitary effluent from the White Rock sewage treatment plant, which exceeded the drinking water standards. Surface water and groundwater samples from onsite noneffluent release areas are generally within drinking water standards. Surface water samples from onsite effluent releases are discussed in Section IV of this report.

III.E. AIR QUALITY

III.E.1. Local Air Quality

LANL is in a mountain setting with no major sources of air pollution in the immediate vicinity. The local air quality is typical of nonindustrial mountain areas. This conclusion is supported by data from the Environmental Improvement Division of the state of New Mexico, the National Park Service, and LANL. The air quality at the Laboratory has not been continuously monitored for nonradioactive constituents in the past; however, an air quality monitoring station was put in service in December

1985 to document concentrations of background air pollutants. During the first two quarters of 1986, measurements were well below state and federal Ambient Air Quality Standards for total suspended particulates and sulfur dioxide. The New Mexico standard for ozone of 60 ppb, hourly average, was exceeded during the same period (maximum recorded value 76 ppb). However, the exceeding amount is most likely due to distant urban sources rather than to sources within Los Alamos County.

The proximity of Bandelier National Monument Wilderness Area, a Class I air quality area, limits the impact that Laboratory activities are allowed to have on the local air quality. LANL has sources emitting many kinds of air contaminants--natural gas burning power plant and steam plants, motor vehicles, asphalt plant, cement plant, lead pouring facility, beryllium machining and processing facilities, explosive testing and burning operations, hundreds of laboratory hoods, material science labs, semiconductor labs, and machine shops. None of these facilities exceed federal air quality standards (Environmental Surveillance 1985).

III.E.2. <u>Atmospheric Pathways</u>

The winds, driven by both local and large-scale weather systems, transport air contaminants emitted from LANL sources. The local weather systems strongly influence the local transport, and the large-scale systems strongly influence both the local and the distant transport of the emitted air contaminants. The local weather systems are greatly affected by the local topography of mountains, canyons, and mesas. The winds have a strong southwesterly flow component that is influenced by the large-scale weather systems. Winds from westerly and northwesterly directions are more frequent at the Laboratory locations close to the Jemez Mountains.

Contaminants rapidly decrease in concentration as they are transported downwind of the point of emission. This decrease in concentration is primarily due to diffusion processes and secondarily due to removal and chemical transformation processes. Both mechanical and thermally induced turbulent diffusion processes act to disperse the contaminants. The thermal diffusion processes follow a diurnal cycle in which the intensity of thermally induced diffusion increases after sunrise and reaches a minimum during the night. Contaminants are deposited onto ground surfaces by dry removal processes (impaction, Brownian diffusion, etc.) and by precipitation during rainfall and snowfall. The chemical reactivity and the chemical transformation mechanisms of LANL-emitted contaminants are highly variable.

The residence time of a contaminant in the atmosphere is determined by its chemical reactivity, its propensity to bind to ground surfaces, and by the frequency and intensity of precipitation events. The highest concentrations of a contaminant can be expected near the point of emission and during meteorological conditions that cause downwash of the contaminant plume into the building's wake or that cause the plume to come into contact with the ground on nearby high terrain. Because LANL buildings have been built with short stacks or use low roof-mounted exhaust vents, plume downwash is a possibility.

III.F. ECOLOGY

Our limited understanding of the structural and functional relationships among Los Alamos ecosystems is partially due to the wide diversity of ecosystems created by the pronounced 4,920-ft elevational gradient that extends from the Rio Grande on the east to the Jemez Mountains 12 mi to the west. Parallel to this gradient are many canyons with abrupt changes in surface slope. The pronounced east-west canyon and mesa orientations, with concomitant differences in soils, moisture, and solar radiation produce an interlocking-finger effect among ecological life zones, resulting in many transitional overlaps of plant and animal communities within small areas.

A pinon pine and juniper forest surrounds most of the Laboratory. Most of the environmental surveillance waste operations and R&D activities affect physical, chemical, and biological components of the pinon-juniper woodland. Relatively less is known about other ecosystems within the Laboratory. A general description of the LANL NERP and surrounding environs appears in Hakonson et al. (1973).

Six major vegetative complexes or community types are found in Los Alamos County. Within the confines of LANL, the predominant community types are ponderosa pine (6,900-7,500 ft) in the western third, pinon-juniper (6,200-6,900 ft) in the central third, and juniper grassland (5,600-6,200 ft) in the eastern third.

Sheer canyon walls at lower elevations serve as important nesting habitats for birds of prey. Generally, larger mammals and birds are wide ranging and occupy commensurately larger habitats. Smaller mammals, reptiles, invertebrates, and vegetation are more sensitive to variations in elevation and thus are confined to generally smaller ranges.

Past and present uses of the LANL environs have resulted in structural changes in plant communities. This use has had, and will continue to have, important consequences for local ecosystems. Before LANL was established, farming on the mesas by Native Americans and by European settlers created disturbed areas that are in various stages of succession. These areas afford suitable feeding locations for herbivores, especially deer and elk, with adjacent timbered canyon slopes providing cover for these species.

Almost 350 plant species have been identified, and species lists have been prepared (DOE 1979). Special studies have dealt with the past and current status of the flora of the complex (Foxx and Tierney 1980, 1984, 1985).

Information on the fauna within the LANL complex is largely qualitative in nature. Species lists have been compiled from observational data and from published data (DOE 1979), but in some cases the occurrence of some species has not been verified. Only one limited faunal survey has been conducted within the LANL complex (Miera et al. 1977). Special studies are currently under way to provide a more comprehensive survey of the vertebrate fauna.

III.G. SENSITIVE ENVIRONMENTS

III.G.1. Critical Habitats for Endangered Species

Based on published reports and ongoing surveys, one federally listed endangered animal species is known to inhabit the environs of the Los Alamos National Laboratory reservation. The presence of nine state-protected plant species and one plant species proposed for inclusion on the federal endangered species list has been documented in Los Alamos County, but none of these species has been found on LANL property. No critical habitats have been defined on Laboratory lands.

An aerie for peregrine falcons, a federally listed endangered species, exists in Los Alamos County. The nesting peregrines from this aerie, as well as other raptors, hunt on Laboratory lands.

The Jemez mountain salamander has been found in the moist upper reaches (above 8,000 ft) of the canyons that dissect the plateau--usually at a higher elevation than that of LANL. One specimen was collected in 1985 and recorded as being on Laboratory land. However, the reported location data and elevation are internally contradictory. This species is currently listed by the state and is being considered for the federal list as an endangered or threatened species.

The gramagrass cactus proposed for inclusion on the federal endangered species list has been found on the dry mesa tops of Los Alamos County at elevations of about 6,000 to 6,400 ft. However, it has not been found on Laboratory property.

Penalties exist for transporting plants protected under the 1985 New Mexico Rule No. NRD:85-3. Among the species protected under this rule, nine are documented to occur in the vicinity of Los Alamos County. To date, none have been found on Laboratory lands.

III.G.2. Floodplains/Wetlands

There have been few construction and waste disposal activities in the floodplains of canyons at LANL. Natural wetland areas occur in some canyons at LANL, and more extensive wetlands have developed as a result of effluent outfalls.

III.H. ENVIRONMENTAL SURVEILLANCE PROGRAM

Routine monitoring for radiation and radioactive or chemical substances on the Laboratory site and in the surrounding region permits identification of trends and compliance with applicable standards. Results of the routine monitoring program and of special studies, together with a detailed description of the environmental surveillance program, including methods of quality assurance, are reported in LANL's annual Environmental Surveillance Report. A summary of the environmental monitoring data for 1980 through 1984 has been prepared and can be found in Appendix C. The annual monitoring report provides information for the public and contributes to general environmental knowledge. The monitoring program also helps fulfill the Department of Energy and the Laboratory's policy of protecting the public, employees, and the environment from any harm that could be caused by LANL activities and to reduce negative environmental impacts to the greatest extent practicable.

Monitoring and sampling locations for various types of measurements are organized into three groups. (1) Regional stations are located within the five counties surrounding Los Alamos County at distances of up to 50 mi from LANL. They provide a basis for determining conditions in areas not affected by LANL operations. (2) Perimeter stations are located within about 2.5 mi of the LANL boundary, and many are within residential and community areas. They document conditions in public areas that are potentially affected by LANL operations. (3) Onsite stations are located within the LANL boundary, and most are accessible to employees only during normal working hours. They document environmental conditions at LANL where the public has limited access. The number of sampling locations in the routine environmental monitoring network is given in Table III.2.

Samples of air particulates, waters, soils, sediments, and foodstuffs are routinely collected at these stations for subsequent analyses. Additional samples are collected and analyzed to obtain information about such events as major surface runoff or nonroutine releases. Analytical data are used for comparisons with standards and background levels, dose calculations, and other interpretations. More than 25,000 analyses were performed for chemical and radiochemical constituents on routine and special environmental samples during 1986.

III.H.1. External Penetrating Radiation

Levels of external penetrating radiation, including gamma rays, x rays, and charged particle contributions from cosmic, terrestrial, and manmade sources, are monitored at regional, boundary, and onsite locations using thermoluminescent dosimeters.

III.H.2. Radioactivity in Air, Water, Soils, Sediments, and Foodstuffs

Air particulates and water vapor, surface water, groundwater, soil, and sediment samples are collected from regional, boundary, and onsite stations and are analyzed for radionuclides emitted during Laboratory operations. Locally grown fruits and vegetables, fish caught in local streams and lakes, and honey from regional and onsite beehives are also analyzed for radionuclides emitted during Laboratory operations. These samples are analyzed for gross radioactivity and for selected radionuclides.

III.H.3. Radiation Doses

The data obtained from the dosimetry network and from analyses of air, water, soil, sediment, and foodstuffs are used to calculate radiation doses received by the public using exposure pathway modeling. Radiation doses to the public are expressed as a percentage of the DOE Radiation Protection Standard for whole-body doses. This standard is for dose assessment from exposures that exclude background radiation contributions.

III.H.4. Chemicals in Water, Soil, and Sediments

Surface water, groundwater, soil, and sediment samples are collected from regional, boundary, and onsite stations and are analyzed for a spectrum of chemical constituents. Onsite sampling stations include effluent discharge and waste disposal areas that are known to be potential sources of contamination.

III.H.5. Nonradiological Air Monitoring

A station that measures the composition of precipitation has been operating at the Laboratory since 1982 and is part of the National Atmospheric Deposition Program Network.

Limited sampling is carried out at stacks known to discharge pollutants of concern. Stack sampling is performed as required by new air permits. Annual estimates of discharges are made for most known potential sources of air pollution.

III.H.6. Special Studies

In addition to environmental surveillance and compliance work, LANL carries out a number of related environmental activities. Selected studies include soil stabilization, vadose zone characterization, preoperational surveys of preconstruction conditions, validation-of-pathways modeling, movement of radionuclides in storm water runoff, and air pollution. Many of these studies are ongoing and provide supplemental information for surveillance and compliance work at the Laboratory.

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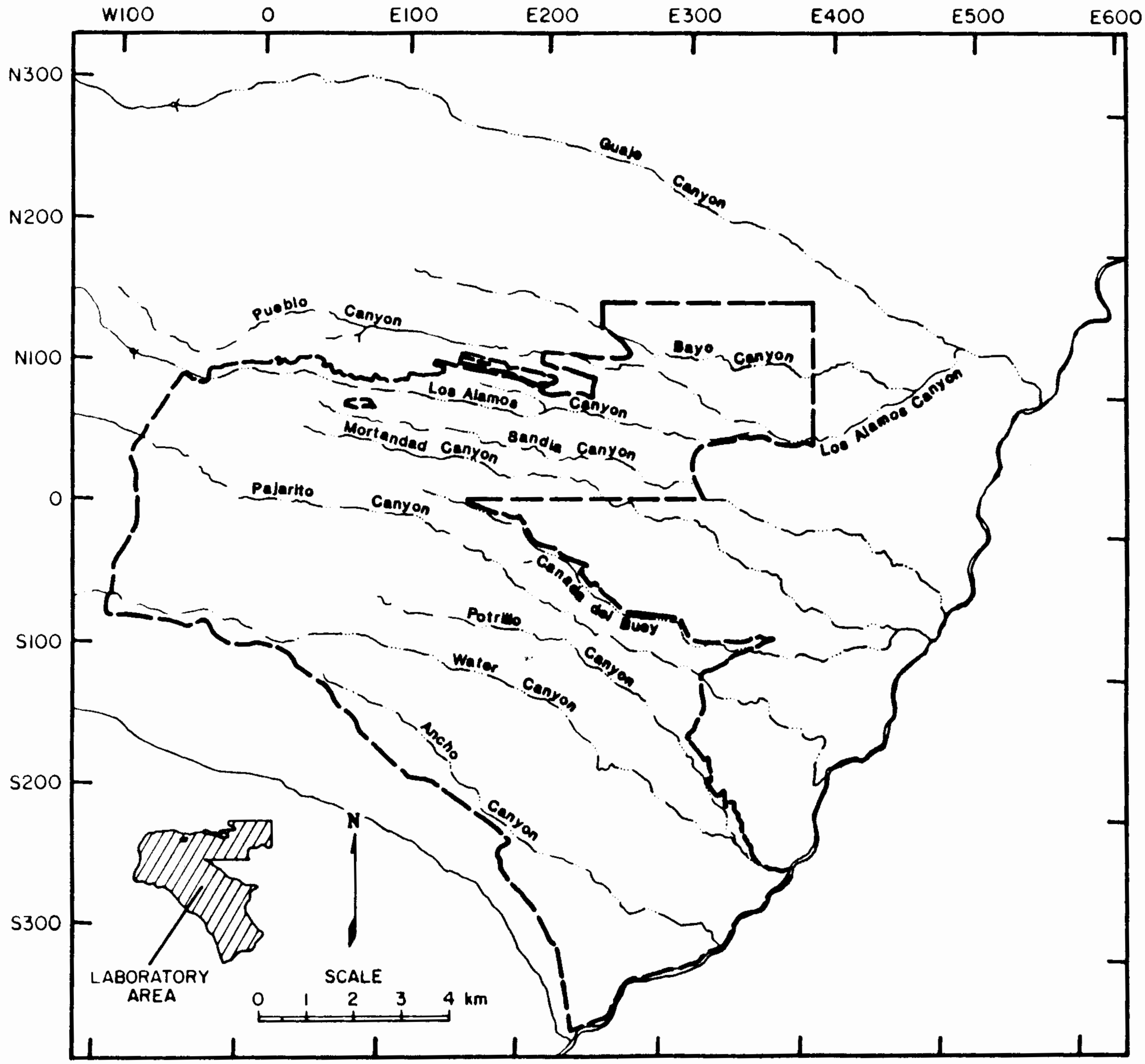


Figure III.1. Pajarito Plateau canyon systems.

LOS ALAMOS, NM

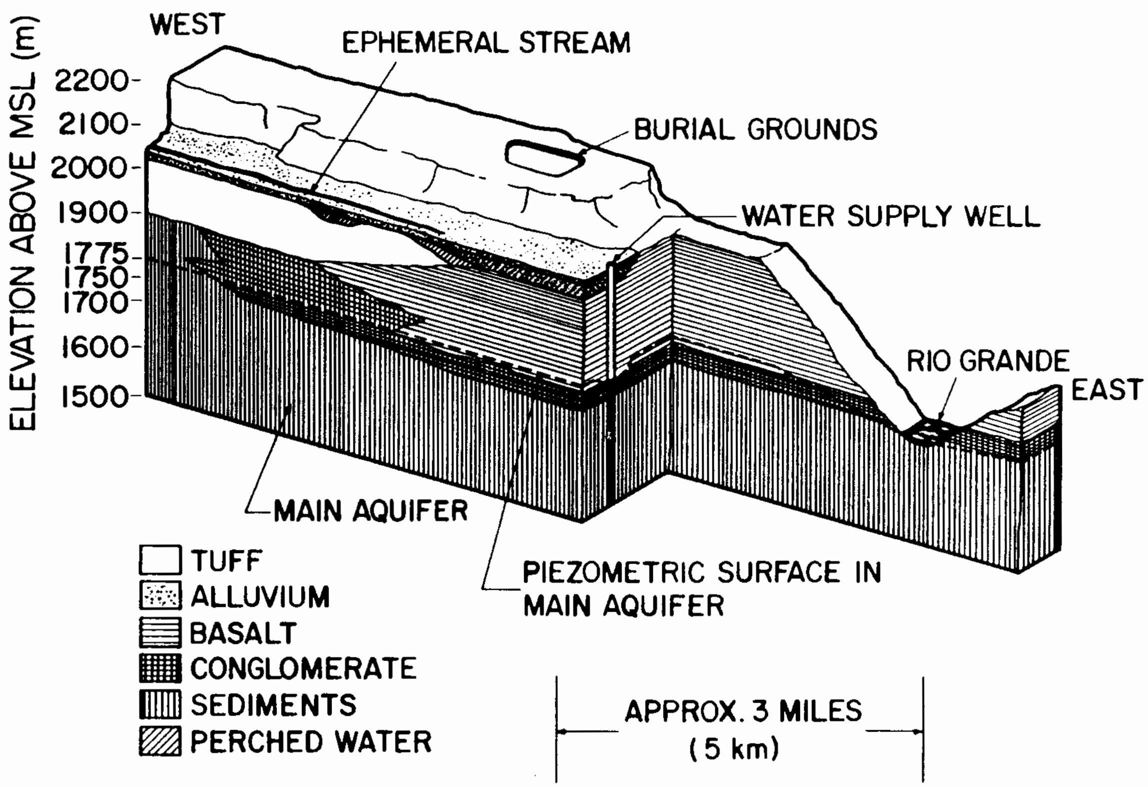


Figure III.2. Geological-hydrological relationships in the Los Alamos area.

Table III.1. Hydrologic Characterization of Major Canyons

Canyon	Groundwater	Surface Water
Pueblo	Alluvial aquifer occurs in canyon midreach, but discharges to surface water in lower reach.	Formerly received radioactive effluent. Now receives Los Alamos County municipal sewage treatment plant effluent.
	Perched water occurs along midreach at a depth of 120 ft and at confluence with Los Alamos Canyon at a depth of about 200 ft.	Streamflow in the upper reach is perennial only because of released effluent. Flow in the lower reach occurs only because of snowmelt or local heavy thunderstorms.
	Depth to the main aquifer varies from 750 ft in lower reach to more than 1,000 ft in upper reach.	
Los Alamos	Alluvial aquifer occurs throughout upper reach, but discharges to surface water in midreach.	Receives treated radioactive effluent. Flow is perennial only in the upper reach. Flows off Laboratory boundaries during heavy snowmelt and local heavy thunderstorms. Streamflow does not always reach the Rio Grande.
	Perched water occurs at confluences with Pueblo Canyon at a depth of about 200 ft, and discharges to Basalt Springs in the lower reach.	
	Depth to the main aquifer varies from less than 100 ft near the Rio Grande to more than 1,000 ft in the upper reach.	
Sandia	Alluvial aquifer occurs in the upper reach.	Receives sewage treatment effluent.
	Depth to the main aquifer varies from about 750 ft in the midreach to more than 1,000 ft in the upper reach.	May flow offsite during heavy snowmelt and local heavy thunderstorms. Streamflow reaches the Rio Grande occasionally.
Mortandad	Alluvial aquifer occurs in the upper reach, but terminates within the Laboratory about 1 mi from the boundary.	Receives radioactive treatment plant effluent. No flow off Laboratory boundaries has been observed for the past 25 years.

Table III.1 (cont)

Canyon	Groundwater	Surface Water
	Depth to the main aquifer varies from less than 100 ft at the Rio Grandeto more than 1,300 ft in the upper reach.	
Pajarito	Alluvial aquifer occurs throughout upper and midreach, but discharges as surface water in lower reach at the Laboratory boundary. Depth to main aquifer varies from more than 1,000 ft in upper reach to less than 100 ft at the Rio Grande.	Maintains perennial flow in the upper reach but flows in the lower reaches only in response to snowmelt or local heavy thunderstorms.
Water	Alluvial aquifer occurs throughout upper and midreach, but discharges as surface water in lower reach above the Laboratory boundary. Depth to main aquifer varies from more than 1,000 ft in the upper reach to less than 100 ft at the Rio Grande.	Maintains perennial flow in the upper reach but flows in the lower reaches only in response to snowmelt or local heavy thunderstorms
Ancho	Alluvial aquifer occurs seasonally throughout upper and midreach, but discharges as surface water above the Laboratory boundary. Depth to main aquifer varies from more than 1,100 ft in the upper reach to less than 100 ft at the Rio Grande.	Streamflow occurs in the upper and midreaches in response to snowmelt and local heavy thunderstorms. In the lower reaches there is perennial flow due to spring discharge.

Table III.2. Number of Sampling Locations

Type of Monitoring	Regional	Perimeter	Onsite
External radiation	4	12	139
Air	3	11	12
Surface and groundwater[ppa]	6	32	34
Soils and sediments	16	16	32
Foodstuffs	10	8	11

[a]Samples were taken from an additional 22 stations for the water supply and 33 special surface water and groundwater stations related to the Fenton Hill Geothermal Program. The samples were analyzed as part of the monitoring program.

(Environmental Surveillance 1986)

IV. APPLICABLE ENVIRONMENTAL STANDARDS AND REGULATIONS

The U.S. Department of Energy (DOE) is responsible for health, safety, and environmental protection programs at DOE-owned, contractor-operated facilities. The DOE and its contractors are guided by applicable federal, state, and local environmental laws/regulations and DOE Orders. Because the DOE and its predecessors were in operation before present environmental statutes were enacted, this review is being conducted to assess current operational compliance with the environmental regulations (Sections IV and V.D) and to review past practices for potential environmental risk in relation to current standards (Sections V.A. and V.B). Applicable federal and state regulations are discussed in the following sections.

IV.A. FEDERAL COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA)

IV.A.1. Inactive Waste Disposal Sites

Current CERCLA regulations (this discussion does not include the Superfund Amendments and Reauthorization Act of 1986) address inactive waste sites from the standpoint of hazardous and toxic substances. Sites are given a numerical Hazard Ranking System (HRS) score based on various site and waste characteristics. Sites that receive a numerical EPA HRS Migration Mode Score above the value of 28.5 are included on the National Priorities List (NPL) for cleanup. Effective February 18, 1986, federal facilities meeting the criteria for listing on the NPL may be included.

IV.A.2. Reporting Requirements

Under CERCLA, the DOE is responsible for reporting to the National Response Center routine operational or accidental releases of hazardous substances from facilities under its jurisdiction or control. These releases must be reported if they exceed the 24-hour reportable quantities (RQs) specified in 40 CFR 302. The Health, Safety, and Environment Division Office has reporting responsibilities through the division's Emergency Operations Plan and has developed a procedure for reporting these releases to DOE. There is limited information about the quantities of these materials that are routinely released to the atmosphere through hoods or by direct venting.

IV.B. FEDERAL RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)

This act defines solid and hazardous wastes and regulates their generation, storage, treatment, transport, and disposal. The Hazardous and Solid Waste Amendments of 1984 describe in detail deadlines that must be met with regard to storage, handling, and disposal of hazardous wastes. In New Mexico, the state Environmental Improvement Division (EID) has authorization for issuing RCRA permits, but it has not yet obtained authorization under the 1984 RCRA amendments.

IV.B.1. Permits

For large quantity generators (i.e., greater than 100 kg/month), either interim status or a RCRA Part B permit must be obtained if hazardous wastes are stored, treated or disposed of at a facility. In order to obtain a permit, an application consisting of Parts A and B must be submitted. These parts must describe in detail the wastes that exist at the facility and how they are managed.

Los Alamos National Laboratory generates RCRA-regulated hazardous wastes. Because hazardous wastes are stored, treated, and were formerly disposed of at the Laboratory, the Los Alamos Area Office of DOE has submitted both Parts A and B of the application for the Laboratory. Part A was submitted in 1980. The formal Part B application was submitted in May of 1985, although drafts had previously been reviewed by the state. The Part B was revised in October 1985 and January 1986. The Completeness Review has been completed by the EID and the Technical Review phase is under way. Table IV.1 lists hazardous waste management facilities at LANL. A description of hazardous wastes generated at LANL is provided in Appendix D. At the present time, the Laboratory is not disposing of hazardous wastes by onsite burial because no groundwater monitoring system was in place by the November 8, 1985, deadline.

IV.B.2. Biennial Inventory of Hazardous Waste Sites

The 1984 Hazardous and Solid Waste Amendments to RCRA require federal facilities to submit a biennial inventory of their hazardous waste sites. This inventory must include all sites that the facility owns or operates, or has owned or operated at which hazardous waste is stored, treated, or disposed of or has been disposed of at any time. The first such inventory was due on January 31, 1986. Los Alamos identified 20 sites to be included in the inventory and identified 22 additional sites to DOE for further investigation to determine whether they should be added in future updates of the inventory.

IV.B.3. Underground Tanks

The 1984 Hazardous and Solid Waste Amendments to RCRA mandate that owners of underground tanks used to store petroleum products or substances listed as hazardous under CERCLA must provide information on the materials stored and the construction and location of the tanks by May 8, 1986. This rule applies to all tanks now in use and to those taken out of service after January 1, 1974, that remain in the ground. Underground tanks installed after May 8, 1986, must be reported to the appropriate authorities within 30 days after being put into service. In New Mexico, this information must be provided to the Ground Water/Hazardous Waste Bureau of the state EID. The status of LANL tank reporting is presented in Section V.D.

IV.B.4. Solid Waste Disposal

Disposal of nonhazardous solid wastes is also regulated under RCRA. These regulations are pertinent to the Los Alamos National Laboratory because the Los Alamos County landfill is located on DOE property. The Guidelines for the Land Disposal of Solid Wastes (40 CFR 241) are mandatory for land disposal sites located on federal property, regardless of the origin of the disposed material. Both the existing landfill and any future landfills located on DOE property must conform to them. The New Mexico Solid Waste Management Regulations also apply to the operation of sanitary landfills.

IV.B.5. New Mexico's Hazardous Waste Act

This act allows the EID to promulgate regulations equivalent to federal regulations to manage hazardous waste, pursuant to RCRA. The state Hazardous Waste Act establishes the powers of the state Environmental Improvement Board (EIB) and EID to (1) promulgate regulations, (2) issue permits, and (3) take enforcement actions.

IV.B.6. New Mexico's Solid Waste Management Regulations

These regulations are promulgated under the authority of the Environmental Improvement Act. They regulate landfill disposal of nonhazardous wastes with respect to collection, transportation, and disposal techniques. The county landfill, which is located on DOE property, is required to conform to these regulations. Should any new landfill be located on DOE property, it will also be required to conform to these regulations.

IV.C. FEDERAL CLEAN AIR ACT (CAA)

Authority to enforce the federal Clean Air Act regulations has been delegated to the state EID. New Mexico has an approved implementation plan for this act.

IV.C.1. National Ambient Air Quality Standards (NAAQS)

The NAAQS regulate ambient atmospheric concentrations of sulfur dioxide, particulates, carbon monoxide, ozone, nitrogen oxides, and lead. At LANL, the emission sources for these substances are as follows:

- sulfur dioxide--government vehicle fleet

- particulates--power plant, steam plants, asphalt plant, explosive detonations, waste explosive burning, government vehicle fleet

- carbon monoxide--power plant, steam plants, waste explosive burning, government vehicle fleet

- ozone--no regulated sources, but sources of hydrocarbons that are involved in the photochemistry of ozone production include the power plant, steam plants, government vehicle fleet, waste explosive burning, and explosives detonations

- nitrogen oxides--power plant, steam plants, waste explosive burning, nitric acid emissions through fume hoods, government vehicle fleet

- lead--the LANL facility support contractor's lead-pouring facility and explosive detonation.

Estimates of the emissions from these sources are provided in the Laboratory's annual Environmental Surveillance Reports. None of them are known to cause any NAAQS violations. Particulate data collected by the state EID in Los Alamos County indicate that particulate standards are occasionally violated because of naturally occurring windborne dust.

The Laboratory also operates a wet deposition station at Bandelier National Monument as part of the National Atmospheric Deposition Program. Data from this station, including pH, conductivity, and concentrations of nine inorganic elements and compounds, indicate that acid precipitation does occur in Los Alamos County.

IV.C.2. National Emission Standards for Hazardous Air Pollutants (NESHAPS)

NESHAPS establishes emission standards for substances designated as hazardous air pollutants. Currently, seven substances are on the hazardous air pollutant list: asbestos, beryllium, mercury, vinyl chloride, benzene, radionuclides, and inorganic arsenic. The EPA has published notification of its intent to add 1,3-butadiene, cadmium, carbon tetrachloride, chloroform, chromium, ethylene dichloride, and ethylene oxide to the hazardous air pollutant list. Substances designated as hazardous air pollutants under NESHAPS are included in the CERCLA list of hazardous substances for which reportable quantities are established. The hazardous air pollutants of concern at Los Alamos are asbestos, beryllium, and radionuclides. The other substances designated as hazardous air pollutants are either not in use at the Laboratory or else are not used in processes that are regulated under NESHAPS.

Asbestos is of concern because it was frequently used as insulation in older facilities and must be handled according to NESHAPS regulations during demolition or renovation. As required, the Los Alamos Area Office of the DOE notifies the state EID of demolition or renovation involving friable asbestos. The final draft of a document specifying how to safely handle, remove, and dispose of asbestos will be included with other specifications in Laboratory contracts. A similar write-up is being prepared for the Laboratory's Health and Safety Manual. The requirements specified in these documents upgrade existing procedures and are in the process of being implemented.

Beryllium is machined in Shop 4 of TA-3-39 at Los Alamos, Shop 13 in TA-3-102, and at a beryllium shop located at TA-35-213, all of which have exhausts to the atmosphere. These operations have been inspected by the state EID and by the EPA. The machine shops are in compliance with NESHAPS regulations and with state permitting regulations, which require that a one-time sampling at maximum production be done for new facilities and for other facilities after modifications.

Beryllium is also occasionally dispersed through dynamic testing. Beryllium emissions from dynamic testing are not specifically covered by NESHAPS. These emissions can be compared with NESHAPS regulations for rocket motor firing. Static samplers, samplers mounted in aircraft, and modeling procedures have been used to measure downwind beryllium concentrations and to estimate amounts of beryllium aerosolized during dynamic testing experiments. The conclusions drawn from these efforts were that 3-day average concentrations and downwind concentrations were below the standards (Ferenbaugh 1980).

Estimates of beryllium emissions are reported in the Laboratory's annual Environmental Surveillance Report. In 1985 no beryllium was used in dynamic tests.

The NESHAPS regulation for radionuclides specify dose limits rather than emission quantity limits. Radionuclides are emitted from facilities at the Laboratory. LAMPF is the primary facility of concern at Los Alamos, and improvements to the beam stop at LAMPF have reduced its emissions so as to bring the resulting dose within NESHAPS limits. Summaries of emission and dose estimates from Laboratory facilities are reported in its annual Environmental Surveillance report. The DOE is required to summarize this information for all DOE facilities and report it annually to the EPA. Additionally, the DOE is required to make an initial stack survey for all DOE facilities. Los Alamos is in the process of compiling the information required for the stack survey.

IV.C.3. New Source Performance Standards (NSPS)

New Source Performance Standards are designed to regulate atmospheric emissions from specified types of facilities required to comply with NSPS regulations. The LANL facilities, which meet capacity criteria for NSPS regulation, predate the regulations.

IV.C.4. Prevention of Significant Deterioration (PSD)

PSD regulations are designed to protect air quality by establishing air quality regions and a PSD review process for new emission sources. Although the Laboratory currently has no air pollution sources that are regulated under PSD, the proximity of the Bandelier Wilderness, a Class I air quality area, means that Laboratory emissions are subject to a more stringent set of emission standards. Should the Laboratory ever construct a major stationary source that emits a regulated air pollutant, PSD evaluation and review would be required.

IV.D. NEW MEXICO'S AIR QUALITY CONTROL ACT

This act designates the New Mexico Environmental Improvement Division as the state agency to oversee air pollution control. Any action taken under the Air Quality Control Act must be approved by the Environmental Improvement Board. The New Mexico Ambient Air Quality Standards and Air Quality Control Regulations are promulgated under the Air Quality Control Act. The following standards and regulations are pertinent to LANL operations.

IV.D.1. Regulation No. 201, Ambient Air Quality Standards

There are state standards for sulfur dioxide, particulate matter, carbon monoxide, photochemical oxidants, nonmethane hydrocarbons, nitrogen oxides, beryllium, asbestos, heavy metals, hydrogen sulfide, and total reduced sulfur. These are pertinent to Laboratory operations as enumerated in Section IV.C.1 for the National Ambient Air Quality Standards. Additional Laboratory operations that are covered by state standards include beryllium shop operations, asbestos demolition and renovation activities, and the Fenton Hill geothermal site, which infrequently emits hydrogen sulfide from its holding ponds.

IV.D.2. Regulation No. 301, Open Burning

Under New Mexico's AQCR 301, LANL is permitted to burn burnable explosive and potentially explosive-contaminated wastes. Waste explosives (i.e., reactive wastes) are burned at the TA-16 burn ground, whereas potentially explosive-contaminated wastes are burned at the TA-16 open burn cage. A burn permit application was submitted to the state of New Mexico and the permit was issued to burn TA-16-525, a building located within the explosives exclusion area and potentially contaminated with high explosives. Another burn permit was issued for a second potentially explosive-contaminated building, TA-22-1. This building was never burned because it was determined to have historic value. A burn permit was also issued by the EID for one year to burn trash potentially contaminated with high explosives. The trash is generated within the TA-16 explosives exclusion area. An incinerator has been purchased to burn this trash.

IV.D.3. Regulation No. 401, Smoke Control

This regulation specifies the allowable time-density characteristics permitted for smoke-emitting operations. No facilities at LANL fall under this regulation.

IV.D.4. Regulation No. 501, Asphalt Process Equipment

Pan Am World Services, Inc., operates an asphalt plant that is subject to the provisions of New Mexico's AQCR 501 regulation. A study conducted in 1977 by an independent consulting firm demonstrated that emissions from the asphalt plant were well within state standards (Kramer 1977). The plant is required to meet a particulates emission limit of 35 lb/h. The stack test indicated an average emission rate of 1.8 lb/h and a maximum rate of 2.2 lb/h over three tests. These have been eliminated, and the facility is now inspected on a semiannual basis to detect any fugitive emission problems.

IV.D.5. Regulation No. 604, Nitrogen Dioxide Emissions from Gas Burning Equipment

The TA-3 power plant and several smaller steam plants throughout LANL are fired by natural gas. Although none of these boilers exceed the heat input threshold specified in New Mexico's AQCR Regulation No. 604, several are registered with the state. The TA-3 power plant's boilers have the capacity to operate at heat inputs that exceed the 10^{12} Btu/yr/unit limit, but they have not operated beyond this limit. Thus, these boilers have not been subject to requirements of New Mexico's AQCR 604. Because the power plant might be subject to New Mexico's AQCR, however, NMEID requires LANL to submit an annual fuel consumption report for the plant.

The TA-3 power plant meets the NO_x emission standard under New Mexico's AQCR 604, although it is not required to do so. The emission standard is equivalent to a flue gas concentration of 248 cm^3/m^3 (ppm by volume). The TA-3 boilers met the standard in 1985 with measured flue gas concentrations between 14 and 22 cm^3/m^3 (ppm), 6% to 9% of the standard.

IV.D.6. Regulation No. 702, Permits

New Mexico AQCR 702 requires the permitting of any new or modified source which, if uncontrolled, would emit greater than 4.5 kg/h (10 lb/h) or 25,000 kg/yr (25 tons/yr) of any airborne contaminant or would emit any hazardous air pollutant. The hazardous air pollutants covered are those regulated under NESHAPS. No threshold of applicability is specified in this regulation, and the Laboratory has many operations that emit small quantities of substances designated as hazardous under NESHAPS. Existing and planned sources of hazardous air pollutants, excluding radionuclides, are in the process of being permitted. The Atomic Energy Act exempts federal facilities from having to comply with permitting requirements for certain radioactive materials. However, this exemption is currently being reviewed by DOE.

Administrative Requirement 6-1 in the Los Alamos Health and Safety Manual specifies that operations involving the use of hazardous materials be reviewed by the Health, Safety and Environment Division before construction or start-up, but this review is intended primarily to determine occupational safety. The EID is no longer doing meteorological dispersion modeling for the air permits. LANL will now need to do this modeling when submitting new permits.

IV.D.7. Regulation No. 703, Registration of Air Contaminant Sources

New Mexico's AQCR 703 states that "the owner or operator of any commercial or industrial stationary source which emits more than two thousand pounds of any air contaminant per year must obtain a registration for the source from the department [EID]." As used in this regulation, an airborne contaminant is defined as anything that is emitted into the atmosphere. The Los Alamos National Laboratory as a whole emits more than 2,000 lbs/yr year of several chemicals, and the appropriate registration has been obtained.

IV.D.8. Regulation No. 707, Prevention of Significant Deterioration (PSD) Permits

This is the state regulation that implements the federal PSD regulations discussed in Section IV.C.4.

IV.D.9. New Source Performance Standards (NSPS)

Sources at LANL have not yet been subject to NSPS. New Mexico's AQCR 750 adopts the federal NSPS (see Section IV.C.3).

IV.E. FEDERAL CLEAN WATER ACT

DOE NPDES permitting for the Laboratory and other actions pertinent to the Clean Water Act are administered through EPA Region VI (Dallas). New Mexico is not a delegated state for NPDES under the Clean Water Act.

IV.E.1. Effluent Guidelines and Standards

Effluent guidelines and standards are designed to limit aqueous pollutant discharges from specified types of operations. Laboratory operations that are potentially subject to effluent guidelines and standards include steam electric generating plants, electroplating and metal finishing operations, and photographic laboratories. The outfalls from the power plants, plating shops, and photographic laboratories are covered by the DOE NPDES permit, which incorporates the effluent guidelines and standards. Eleven sanitary outfalls must meet secondary treatment standards.

IV.E.2. National Pollutant Discharge Elimination System (NPDES)

NPDES is designed to regulate aqueous pollutant discharges by issuing technology based permits for all outfalls. The DOE has two NPDES permits, one for the

Laboratory itself and one for the hot dry rock geothermal facility, Fenton Hill, located about 20 air miles west of Los Alamos in the Jemez Mountains.

When the outfalls at LANL were originally approved, numerous individual permits were issued instead of a single, consolidated permit. The effective date on most of the permits was November 30, 1974, and the expiration date was December 29, 1979. Many of the permits were terminated prior to the December 29 date as consolidation occurred. The current Laboratory permit (NM0028355) was reissued March 1, 1986, and expires March 1, 1991. The types of discharges, parameters monitored, and discharge limits under the permit are presented in Tables IV.2 and IV.3. The tables identify 95 industrial outfalls and 11 sanitary outfalls. Weekly sampling results are tabulated in a discharge monitoring report and submitted through DOE to EPA and EID on a monthly basis. During 1986, 93% and 98% of monitoring analyses at sanitary and industrial outfalls, respectively, complied with NPDES limits (Tables IV.4 and IV.5).

IV.E.2.a. Federal Facility Compliance Agreement (FFCA)

In March 1983, DOE signed a FFCA that contained an abatement schedule with compliance dates ranging from 1983 to 1985. The FFCA called for abatement efforts to be completed at three high-explosive, liquid-waste treatment plants and at one sanitary sewage treatment plant in 1984. Improved administrative procedures at two of the high-explosive waste treatment plants were responsible for achieving compliance. Compliance at the third location was achieved by constructing a lined evaporation pit. Reconstructing a sand filter at the TA-35 sanitary sewage treatment plant was intended to put the plant back in compliance in 1984. Sand filter installation and system testing were completed by December 31, 1985.

During July 1986, EPA and DOE were signatories to a FFCA, which included interim effluent limitations (Table IV.6) and a schedule of compliance (Table IV.7) for NPDES wastewater categories and specific outfalls that were chronically noncompliant with the NPDES permit.

IV.E.2.b. Administrative Order (AO)

On February 12, 1985, EPA Region VI issued an AO to DOE regarding NPDES Permit NM0028355. The AO was based on self-monitoring reports submitted by DOE that identified a number of individual parameter violations occurring at outfalls during 1984.

DOE responded to the AO in two separate submissions to EPA. The response dated March 14, 1985, stated that corrective action had been taken and completed on the industrial outfalls, numbers 02A, 03A, 05A, 06A, 050, and 051. The response dated May 23, 1985, proposed a schedule of compliance for the sanitary waste water outfalls, numbers 01S, 03S, 05S, 06S, 07S, 08S, 10S, and 11S. Corrective activity in response to the AO was then incorporated into the July 1986 FFCA. In a letter to DOE dated October 15, 1986, EPA terminated the February 12, 1985, AO because of satisfactory responses.

IV.E.2.c. Fenton Hill Geothermal Project NPDES Permit

The NPDES permit for the Fenton Hill Geothermal Project was issued to regulate the discharge of mineral-laden water from the recycle loop of the geothermal wells. NPDES permit NM0028576 was issued October 15, 1979, with an expiration date of June 30, 1983. Although DOE applied for a permit renewal more than 180 days before the expiration date, EPA Region VI has not yet acted upon the application. Therefore, the existing permit is being administratively continued until it is supplanted by a new permit.

The Fenton Hill Geothermal Project did not have a discharge during 1986. The NPDES permit regulates a single outfall. The daily monitoring requirements for the outfall during discharge include arsenic, boron, cadmium, fluoride, lithium, pH, and flow. Concentrations for each of these parameters are to be reported. However, only the parameter pH has a limit, i.e., it may be within the range of 6.0 to 9.0 standard units.

IV.E.2.d. Storm Water Runoff

New NPDES regulations promulgated in 1984 require that all storm water discharges from point sources be covered by an NPDES permit unless specifically excluded. The deadline to file for Group 1 discharge permits (for those sources with a relatively higher potential for picking up contaminants) is December 31, 1987. The deadline for Group 2 (for other outfalls) is June 30, 1989.

On August 19, 1985, DOE submitted an NPDES application package for storm water point sources to EPA Region VI that included LANL and the Fenton Hill Geothermal Project. Thirty specific technical areas or portions of technical areas were designated to fall into Group 2. TA-50 and -54 were designated to have the characteristics of a Group 1 storm water point source. Sampling and analyses were performed during the summer of 1986 to support the required permit applications.

IV.E.2.e. Spill Prevention Control and Countermeasure (SPCC) Plan

The SPCC Plan for the Laboratory addresses facilities improvements (e.g., dikes, berms, or other runoff control), operational procedures, and policies/requirements for reporting hazardous substances and oil spills to the appropriate regulatory authority. The SPCC Plan was completed September 30, 1986, and submitted for technical and administrative review.

IV.E.2.f. Consolidation of Sanitary Wastewater Systems

During 1985, the Laboratory began to consider a Sanitary Wastewater Systems Consolidation (SWSC) project. The objective of the SWSC is to provide an area-wide wastewater treatment system for LANL. When constructed, the new consolidated wastewater system will enhance NPDES permit compliance. The project includes a new centralized sewage treatment plant capable of treating approximately 1.0 to 1.3×10^6 gal./day. The project also includes a new collection system for transporting sewage to the treatment plant. The proposed project will eliminate nine existing sanitary wastewater plants (01S at TA-3, 02S at TA-9, 03S at TA-16, 04S at TA-18, 06S at TA-41, 07S at TA-46, 08S at TA-48, 010S at TA-35, 011S at TA-8), and 29 individual septic tanks. The project will also provide makeup water for the TA-3 power plant by using the treated wastewater.

The wastewater collection system will tentatively consist of 51,280 ft of gravity sewer, 29,680 ft of force main, three lift stations, four suspension bridges, and 79,000 ft of maintenance road.

The treatment process selected is an extended aeration process using an oxidation ditch, secondary clarification, and disinfection. A lift station at the consolidated treatment plant and force main will convey treated effluent back to the central (TA-3) power plant for use as recycled water. Storage reservoirs at the treatment plant and the power plant will provide temporary storage prior to recycling.

IV.E.2.g. Regulations on Water Pollution

No major problems with compliance were identified during the March 10, 1986, NPDES compliance evaluation inspection conducted by the EPA. However, at times minor noncompliance incidents occur. Currently, 95 industrial and 11 sanitary effluent outfalls are permitted. The present or absence of priority pollutants or hazardous substances has recently been determined for certain classes of outfalls, such as typical explosive sump outfalls and photographic chemical waste outfalls.

IV.F. NEW MEXICO'S WATER QUALITY CONTROL ACT

This act creates a Water Quality Control Commission consisting of nine members. It empowers the commission to (1) promulgate regulations, (2) set stream standards, (3) issue permits, and (4) take enforcement actions. The following regulations of the Water Quality Control Commission are pertinent to Los Alamos National Laboratory.

IV.F.1. Regulations of the Water Quality Control Commission

These regulations require the Laboratory to report any new discharges of water contaminants that could impact ground or surface water and, under Regulation 1-203, to report any spill of oil or other water contaminant that has the potential for injurious or detrimental effects on human beings or the environment. They also set effluent limitations for end-of-the-pipe discharges, which are enforceable under the

DOE NPDES permit for the Laboratory. The regulations establish a permitting system for discharges that could affect groundwater, a program for certifying water and wastewater utility operators, and criteria for underground injection wells.

The Water Quality Control Commission's regulations require a groundwater discharge plan for surface discharges that have the potential to contaminate any present or future underground source of drinking water. The purpose of the plan is to specify containment or discharge procedures that will prevent groundwater from being contaminated. A groundwater discharge plan for the Fenton Hill Geothermal Site was submitted to the Oil Conservation Division of the New Mexico Energy and Minerals Department because the geothermal site is an energy producing facility. A groundwater discharge plan has not been submitted for the Los Alamos National Laboratory because facilities in existence at the time that the regulation was enacted were not required to submit such a plan until directed to do so by the state. No such directive has been given to the Laboratory. However, a notice of intent to discharge should be filed before construction of any lagoon, dry well, or discharge that could impact groundwater. The EID is notified of all discharges added to or removed from the NPDES permit, and, if the state requested a groundwater discharge plan for the Laboratory, the plan would be submitted to the EID.

IV.F.2. Water Quality Standards for Interstate and Intrastate Streams in New Mexico

These standards designate protected uses for surface waters and establish the water quality standards necessary to sustain the designated uses. These standards are reflected in the DOE NPDES permit.

IV.F.3. Regulations of the New Mexico Water Quality Control Commission

A Discharge Plan was submitted for the Fenton Hill Geothermal Project to the New Mexico Energy and Minerals Department, Oil Conservation Division (OCD) for approval June 1984, and supplemental materials were submitted April 19, 1985. On June 5, 1985, the Oil Conservation Division approved the discharge plan (GW-31) for the Fenton Hill Geothermal Project. The discharge plan approval is effective for a period of 5 years.

The approved discharge plan has the following provisions:

1. The service pond will be relined and modified to contain a leak detection system, pursuant to OCD approval. Plans and specifications are expected to be submitted in 1987 following completion of the well workover project.

2. All discharges to the service pond shall be reported in writing to the OCD. When effluent is held in the service pond, the leak detection system shall be monitored via the system's catchment basin at least weekly, and a log book shall document the inspection with its date. There was approximately 4,500,000 gal. of discharge from the geothermal loop to the pond during 1986.

3. If storage requirements for emergency venting exceed the capacity of the 1-million-gal. service pond, the larger water reservoir will be used for the excess. Any such events will be reported in writing to the OCD. No reports were necessary in 1986.

The approval letter for the discharge plan states that there will be no routine monitoring or reporting requirements other than those mentioned above.

IV.G. NEW MEXICO'S LIQUID WASTE DISPOSAL REGULATIONS

These regulations are promulgated under the authority of the Environmental Improvement Act and are designed to prevent surface and groundwater contamination from small onsite liquid waste disposal practices. They are applicable to liquid waste systems that are designed both to receive and do receive 2,000 gal. or less of liquid waste per day and are not subject to an NPDES permit or to a Groundwater Discharge Plan. The regulations apply to any septic tanks or other liquid waste disposal operations at the Laboratory that fall within the above criteria. Systems receiving more than 2,000 gal. per day are covered under the Water Quality Control Regulations, Part III.

IV.H. NEW MEXICO'S WATER LAW

This law is found in Ch. 72 of the State of New Mexico statutes of 1978. This chapter addresses water law and water rights and provides authority to the state engineer to administer the appropriate use of water in the State of New Mexico.

The existing water rights at Los Alamos, as set by the New Mexico State Engineer, are 5,541.3 acre-ft annually, or about 1,806 x 10^6 gal. In addition, the DOE has contracted for 1,200 acre-ft annually (about 391 x 10^6 gal.) of San Juan-Chama Transmountain Diversion Water from the Bureau of Reclamation. The projected water requirements without conservation indicate that the existing amount (5,541.3 acre-ft) will be exceeded by 1990. At that time, a permit from the state engineer's office will be required for using the San Juan-Chama water. Additional water is not expected to be needed until the year 2007. Return flow credit could extend the combined water rights until 2030, but the return flow facet of the water rights question has not been investigated.

The Fenton Hill geothermal site has been allocated 18 acre-ft/yr of water, which includes 3 acre-ft for domestic use and 15 acre-ft for experimental use. The permit for the 15 acre-ft for experimental use expires in January of 1987.

IV.I. FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)

FIFRA contains federal regulations governing the manufacture, use, application, and disposal of pesticides. These regulations are pertinent to Los Alamos because of pesticide applications that occur on Laboratory property. There is a Laboratory Pest Control Policy ensuring that pesticide applications at the Laboratory conform to FIFRA regulations. In New Mexico, FIFRA is administered by the State Department of Agriculture, which is responsible for testing and licensing applicators, proper use and disposal of pesticides, and maintenance of proper records.

IV.J. NEW MEXICO'S PESTICIDE CONTROL ACT

This act contains state regulations governing the manufacture, use, application, and disposal of pesticides. These regulations are consistent with the federal regulations found in FIFRA, and, like FIFRA, the state regulations are administered by the state's Department of Agriculture. The Laboratory's Pest Control Policy requires that pesticide use at the Laboratory conform to state regulations.

IV.K. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

The NEPA, as implemented by the Council on Environmental Quality (40 CFR 1500), requires federal agencies to prepare appropriate environmental documentation for any action taken or funded by the agency that may result in environmental impacts. The DOE has prepared guidelines to implement NEPA (45 FR 20694), and additional guidance has been given in DOE Order 5440.18 (5/14/82) and in the DOE Environmental Compliance Guide.

According to DOE guidelines, any of three levels of NEPA-related documentation may be prepared for an activity--an Action Description Memorandum (ADM), an Environmental Assessment (EA), or an Environmental Impact Statement (EIS). The ADMs address environmental impacts of proposed actions and allow determination of whether further environmental documentation is necessary. Los Alamos ADMs also identify various health and safety documents required by DOE for project management plans that normally fulfill documentation requirements of the Historic Preservation Act, the floodplain/wetland environmental review regulations, and other applicable federal and state regulations. The EAs, essentially expanded versions of ADMs, are concise public documents that aid in determining whether preparation of an EIS is necessary. They provide a way for DOE to show compliance with NEPA and facilitate preparation of an EIS when necessary. The EIS is a formal document that presents in detail environmental impacts of proposed actions and viable alternatives. Preparation of an EIS is typically reserved for major installations or facilities that fall outside existing environmental documentation.

Administrative Requirement 9-2 of the Los Alamos National Laboratory's Health and Safety Manual requires that Laboratory programs and activities comply with federal and state environmental protection regulations. This administrative requirement specifies the procedures and documents that are needed to comply with those regulations.

NEPA documentation is prepared through the Laboratory's environmental evaluations coordinator. This procedure ensures that appropriate input from both the operating group and the Health, Safety and Environment Division is obtained. The NEPA documentation is reviewed by the Laboratory Environmental Review Committee (LERC). Following approval by LERC, it is forwarded to DOE and other sponsoring agencies, if appropriate.

A procedure has been established for selecting projects that DOE is likely to view as 1) major new actions, 2) projects that have the potential for significant environmental impact or that may solve recognized environmental or safety problems, or 3) that have the potential for negative public reaction. The selection criteria currently used are

(1) Major new actions (require design criteria and DOE oversight)

- Line item projects
- General plant projects funded at more than $150,000
- Expense projects funded at more than $500,000

(2) Projects with potential for significant environmental impact

- Projects involving processes which may not be covered by the Laboratory Environmental Impact Statement
- Projects involving processes which are new to the Laboratory
- Projects involving expansion of activities which are of known environmental and safety risk

(3) Projects with potential for negative public reaction

- Projects involving materials perceived as hazardous
- Projects disturbing areas viewed by large numbers of the public
- Projects involving endangered species or historical and archaeological landmarks.

IV.L. SAFE DRINKING WATER ACT

The major purpose of this act is to protect the quality of drinking water in the United States. This includes establishing standards for public water systems and protecting underground sources of drinking water.

Water for domestic and Laboratory usage in Los Alamos County is obtained from deep wells in three well fields. One well field is on DOE property, one is on Forest Service land, and one is on San Ildefonso Pueblo. All equipment is owned by the DOE. The Laboratory, through an agreement with the DOE, is responsible for the chemical, radiological, and bacteriological water quality analyses imposed by the Safe

Drinking Water Act. Microbiological analyses are performed by Pan Am World Services, Inc., a subcontractor to the Laboratory, and chemical analyses are performed by the Health, Safety and Environment Division of the Laboratory.

IV.M. TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA establishes a list of toxic chemicals for which the manufacture, use, storage, handling, and disposal are regulated. Regulation is accomplished by requiring premanufacturing notification for new chemicals, testing of new or existing chemicals suspected of presenting unreasonable risk to human health or the environment, and control of chemicals found to pose an unreasonable risk.

TSCA-regulated polychlorinated biphenyls (PCBs) are used at LANL. PCB-containing oils are found in many electrical transformers and capacitors, and these materials are handled and disposed of in accordance with TSCA regulations. The Laboratory has a federally permitted incinerator for burning radioactively contaminated PCB materials.

LANL is continuing to sample inventory, and mark articles with PCBs, such as transformers and capacitors. LANL marked and registered all (134) transformers with fire response personnel and building owners by December 1, 1985, as required by regulation. All proximal means of access to PCB transformers were also marked to aid fire response personnel, and a survey was made of combustible materials stored or located near PCB transformers. Visual inspections of PCB transformers are conducted at least quarterly, and inspection records maintained pursuant to the regulations.

LANL received approval from EPA Region VI on June 5, 1980, to dispose of PCB-contaminated articles, oils, and materials in the chemical waste landfill located at TA-54, Area G. The approval requires semiannual reporting to EPA regarding the type and weight of the articles disposed of, and monitoring information regarding chemical quality of storm water runoff and natural springs in the area. Cumulative weights of specific types of articles contaminated with PCBs that were disposed of at TA-54 during 1986 are listed in Table IV.8.

Certain weapons components produced at LANL consist of a diallyl phthalate resin that is reinforced with asbestos fiber. The resin is received at the Laboratory in granulated form and already contains the asbestos. Free asbestos is not used in the fabrication, although there is some dust associated with the granulated resin. The necessity to regulate this material under TSCA is not clear.

IV.N. REFERENCES

Ferenbaugh, R. W. 1980. "LASL Compliance with Clean Air Act and Other Air Pollution Regulations; National Emission Standards for Beryllium," Los Alamos Scientific Laboratory memorandum to Harry S. Jordan, April 1, 1980.

Kramer, Callahan, and Associates. 1977. "Particulate Analyses of Drier Exhaust Emissions at the Zia Company Asphalt Plant, Los Alamos, New Mexico."

Table IV.1. Hazardous Waste Management Facilities at LANL

Technical Area	Facility Type	Interim Status or ≤90-Day Storage	Part B Permit Application
TA-54 Area L	Tank treatment	Yes	Yes
	Container storage	Yes	Yes
	Landfill[a]	No	No
TA-54 Area G	Landfill[a]	No	No
TA-54 Area H	Landfill[a]	No	No
TA-50-1	Batch treatment	Yes	Yes
	Container storage	Yes	Yes
TA-50-37	Controlled air incinerator	Yes	Yes
TA-3-102	Container storage	Yes	No
TA-3-40	Container storage	<90-day	No
TA-9-39	Container storage	<90-day	No
TA-14	Thermal treatment	Yes	Yes
TA-15	Thermal treatment	Yes	Yes
TA-36	Thermal treatment	Yes	Yes
TA-39	Thermal treatment	Yes	Yes
TA-22-24	Container storage	Yes	No
TA-22-96	Container storage	<90-day	No
TA-40-2	Container storage	Yes	No
TA-40	Thermal treatment	Yes	No
Scrap detonation pit			
TA-16	Thermal treatment	Yes	Yes
TA-16 Area P	Landfill[a]	No	No
TA-46	Tank storage	<90-day	No

[a]Interim status was terminated in November 1985. These landfills are in the process of being closed in accordance with New Mexico Hazardous Waste Regulations.

Table IV.2. Types of Discharges and Parameters Monitored at LANL Under Its NPDES Permit NM0028355

EPA ID#	Type of Discharge	Number Outfalls	Monitoring Required and Sample Frequency
01A	Power plant	1	Total suspended solids, free available chlorine, pH, flow (monthly)
03A	Treated cooling water	30	Total suspended solids, free available chlorine, phosphorous, pH, flow (weekly)
04A	Noncontact cooling water	29	pH, flow (weekly)
050	Radioactive waste treatment plant	2	Ammonia, chemical oxygen demand, total suspended solids, cadmium, chromium, copper, iron, lead, mercury, zinc, pH, flow (weekly)
05A	High-explosive discharge	20	Chemical oxygen demand, pH, flow, total suspended solids (weekly)
06A	Photographic chemical wastes	13	Cyanide, silver, pH, flow (weekly)
SS	Sanitary wastes	11	Biochemical oxygen demand, flow, pH, total suspended solids, fecal coliform bacteria, (variable frequency, from 3 months to quarterly)

Table IV.3. Limits Established by NPDES Permit NM0028355 for Industrial Outfall Discharges

Discharge Category	Parameter Limited	Daily Average	Daily Maximum	Units of Measurement
Power plant	TSS	30.0	100.0	mg/L
	Free Cl	0.2	0.5	mg/L
	pH	6-9	6-9	standard units
Treated cooling water	TSS	30.0	100.0	mg/L
	Free Cl	0.2	0.5	mg/L
	P	5.0	5.0	mg/L
Noncontact cooling water	pH	6-9	6-9	standard units
Radioactive waste treatment plant	COD	18.8	37.5	lb/day
	COD[a]	94.0	156.0	lb/day
	TSS	3.8	12.5	lb/day
	TSS[a]	18.8	62.6	lb/day
	Cd	0.01	0.06	lb/day
	Cd[a]	0.06	0.3	lb/day
	Cr	0.02	0.08	lb/day
	Cr[a]	0.19	0.38	lb/day
	Cu	0.13	0.13	lb/day
	Cu[a]	0.63	0.63	lb/day
	Fe	0.13	0.13	lb/day
	Fe[a]	1.0	2.0	lb/day
	Pb	0.01	0.03	lb/day
	Pb[a]	0.06	0.15	lb/day
	Hg	0.007	0.02	lb/day
	Hg[a]	0.003	0.09	lb/day
	Zn	0.13	0.37	lb/day
	Zn[a]	0.62	1.83	lb/day
	pH	6-9	6-9	standard units
	pH[a]	6-9	6-9	standard units
High explosives	COD	150.0	250.0	mg/L
	TSS	30.0	45.0	mg/L
	pH	6-9	6-9	standard units
Photographic chemical wastes	CN	0.2	0.2	mg/L
	Ag	0.5	1.0	mg/L
	pH	6-9	6-9	standard units

[a]Limitations for outfall 051 located at TA-50-1.

Table IV.4. NPDES Permit NM0028355 Effluent Quality Monitoring of Sanitary Sewage Treatment Outfalls - 1986

Discharge Location	Permit Parameters	Number of Deviations	Range of Deviation[a,b,c,d]
TA-3	BOD[a]	4	48.9 to 63.3
	TSS[b]	0	---
	Fecal coliforms[c]	7	4060.0 to 353,000
	pH[d]	0	---
TA-8	BOD	0	---
	TSS (90)	1	155.4
	pH	0	---
TA-9	BOD	0	---
	TSS	0	---
	pH	0	---
TA-16	BOD	0	---
	TSS	2	47.6 to 83.0
	pH	0	---
TA-18	BOD	0	---
	TSS (90)	1	128.0
	pH	2	5.8 to 9.2
TA-21	BOD	0	---
	TSS	0	---
	pH	0	---
TA-35	BOD	1	49.0
	TSS (90)	0	---
	pH	0	---
TA-41	BOD	1	59.2
	TSS	0	---
	Fecal coliforms	0	---
	pH	0	---
TA-46	BOD	0	---
	TSS	0	---
	pH	1	5.0

Table IV.4. (Continued)

Discharge Location	Permit Parameters	Number of Deviations	Range of Deviation[a,b,c,d]
TA-48	BOD	0	---
	TSS	0	---
	pH	0	---
TA-53	BOD	0	---
	TSS (90)	1	313.0
	pH	2	9.02 to 9.1

[a]Biochemical Oxygen Demand (BOD) permit limits are 30 mg/L (20-day average) and 45 mg/L (7-day average).

[b]Total Suspended Solids (TSS) permit limits are 30 mg/L (20-day average) and 45 mg/L or 90 mg/L (7-day average).

[c]Fecal coliform limits are 1000 organisms/100 ml (20-day average) and 2000 organisms/100 ml (7-day average).

[d]Range of permit pH limits is >6.0 and <9.0 standard units.

Table IV.5 NPDES Permit Effluent Quality Monitoring of Industrial Outfalls - 1986[a]

Discharge Category	Number of Outfalls	Permit Parameter	Number of Deviations	Range of Deviations	Number of Outfalls With Deviations
Power plant	1	TSS[b]	0	--	0
		Free Cl	1	0.6	1
		pH	1	11.4	1
Treated cooling water	30	TSS	0	--	0
		Free Cl	6	0.8 to 10.6	6
		P	0	--	0
		pH	0	--	0
Noncontact cooling water	29	pH	1	9.5	1
Radioactive waste treatment plant	2	COD[c]	6	180.2 to 787.33	1
		TSS	0	--	0
		Cd	0	--	0
		Cr	0	--	0
		Cu	0	--	0
		Fe	0	--	0
		Pb	0	--	0
		Hg	0	--	0
		Zn	0	--	0
		pH	7	9.4 to 12.8	1
High explosives	20	COD	0	--	0
		TSS	2	49.0 to 1368.0	1
		pH	0	--	0
Photographic chemical wastes	13	CN	0	--	0
		Ag	3	--	0
		TSS	0	--	0
		pH	1	5.6	1

[a]Limits set by the NPDES permit are presented in Table IV.3.
[b]Total Suspended Solids.
[c]Chemical Oxygen Demand.

Table IV.6. Federal Facility Compliance Agreement Interim Compliance Limits

Effluent Characteristic	Discharge Limitation Daily Avg. (lb/day)	Daily Avg. (mg/L)	7-Day Avg. (mg/L)
Industrial Outfalls			
Outfall 01A (Power Plant)			
Flow[a]	N/A	N/A	N/A
Total Suspended Solids	N/A	30	100
Free available chlorine	N/A	1.0	5.0
Outfall 03A (Treated Cooling Water)			
Flow[a]	N/A	N/A	N/A
Total Suspended Solids	N/A	30	100
Free available chlorine	N/A	1.0	5.0
Total phosphorus	N/A	5	5
Outfall 05A (High Explosive)			
Flow[a]	N/A	N/A	N/A
Chemical oxygen demand (load)	N/A	1000	2000
Total Suspended Solids	N/A	60	90
Sanitary Waste Water Outfalls			
Outfall 01S (Located at TA-3)			
Flow[a]	N/A	N/A	N/A
Biochemical Oxygen Demand	225.2	70	105
Total Suspended Solids	225.2	55	105
Fecal coliform	N/A	10,000	200,000
Outfall 04S (Located at TA-18)			
Flow[a]	N/A	N/A	N/A
Biochemical Oxygen Demand	10	60	95
Total Suspended Solids	10	70	125

Table IV.6. (Continued)

Effluent Characteristic	Discharge Limitation Daily Avg. (lb/day)	Daily Avg. (mg/L)	7-Day Avg. (mg/L)
Outfall 05S (Located at TA-21)			
Flow[a]	N/A	N/A	N/A
Biochemical Oxygen Demand	6.8	60	95
Total Suspended Solids	7.3	60	100
Outfall 06S (Located at TA-41)			
Flow[a]	N/A	N/A	N/A
Biochemical Oxygen Demand	11.4	55	60
Total Suspended Solids	6.2	30	45
Fecal coliform bacteria	N/A	20,000	100,000
Outfall 10S (Located at TA-35)			
Flow[a]	N/A	N/A	N/A
Biochemical Oxygen Demand	23.2	115	185
Total Suspended Solids	26.1	130	170
Outfall 11S (Located at TA-8)			
Flow[a]	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	60	95
Total Suspended Solids	N/A	70	125

[a]Flow must be monitored and reported.
Note: The pH shall not be less than 6.0 nor greater than 9.0.

Table IV.7. Schedule and Status of Upgrading LANL Industrial and Sanitary Sewage Waste Outfalls

Outfalls	Date
Outfall 01A	
Final design complete	Completed
Advertisement of construction contract	Completed
Award of construction contract	Completed
Construction completion	Completed
In compliance with final limits	Completed
Outfall 03A	
Final design complete	Completed
Advertisement of construction contract	Completed
Award of construction contract	Completed
Construction completion	Completed
In compliance with final limits	Completed
Outfall 05A	
Final design complete	Completed
Advertisement of construction contract	Completed
Award of construction contract	Completed
Construction completion	May 1987
In compliance with final limits	June 1987
Outfall 01S	
Final design complete	Completed
Advertisement of construction contract	Completed
Award of construction contract	Completed
Construction completion	May 1987
In compliance with final limits	August 1987
Outfall 04S	
Final design complete	Completed
Advertisement of construction contract	February 1987
Award of construction contract	March 1987
Construction complete	December 1987
In compliance with final limits	January 1988

Table IV.7. (Continued)

Outfalls	Date
Outfall 05S	
Final design complete	Completed
Advertisement of construction contract	Completed
Award of construction contract	Completed
Construction completion	January 1988
In compliance with final limits	May 1988
Outfall 06S	
Final design complete	Completed
Advertisement of construction contract	Completed
Award of construction contract	August 1986
Construction completion	August 1987
In compliance with final limits	September 1987
Outfall 10S	
Final design complete	Completed
Advertisement of construction contract	Completed
Award of construction contract	Completed
Construction completion	Completed
In compliance with final limits	Completed
Outfall 11S	
Final design complete	Completed
Advertisement of construction contract	Completed
Award of construction contract	Completed
Construction complete	Completed
In compliance with final limits	Completed

Table IV.8. Quantities (kg) of PCB-Contaminated Articles Discarded at TA-54 in 1986[a]

PCB Article(s)	Shaft C11	Shaft C12	Pit 29	Pit 32
Transformer carcasses			1,436	4,268
Absorbed PCB oil (<500 ppm)	453			45
Rags/dirt (drummed)	3,377			793
Empty drums			62	
Asphalt/dirt				45
(noncontainerized)			5,987	422,571
Capacitors				3,622
Generators				1,361
Power supply			866	5,542
PCB cleanup drum		587		
PCB-contaminated equipment			4,082	
Misc			2,054	3,221
Total	3,830	587	10,405	445,550
Grand total	462,172			

[a]PCB articles and oils that contain ≥500 ppm PCB are shipped offsite for incineration.

V. FINDINGS AND PLANNED FUTURE ACTIONS

Los Alamos National Laboratory is a large and complex installation that has encompassed many operations during its 43-year history. It is not possible to completely identify and characterize all environmental releases that may have occurred. Detailed environmental studies and remedial actions that began in 1972 and that continue today under the Laboratory's extensive environmental surveillance program provide the necessary assurance and documentation that present contamination levels on lands returned to private or county control pose no hazard to the public. The ongoing surveillance program also provides reasonable assurance that the public is not exposed to unacceptable environmental contamination from present LANL operations.

However, uncertainty exists about onsite contamination of Laboratory lands that may have occurred during the early years of the Laboratory, and the public has expressed increased concern about possible exposure to low levels of environmental contamination. Although the potential is low, no absolute assurances can be made about the effects on human beings or the environment that may result from the future inadvertent transport of environmental contaminants off Laboratory sites. For this reason, the Laboratory initiated the site characterization program in 1983 to begin to address the problems of potential contamination throughout the Laboratory. This program was merged with CEARP when the latter began in early 1984. The findings from both programs are integrated in this section. The CEARP Phase I findings describe potential CERCLA sites, including the material disposal areas described in Sections V.A and V.B, and potential environmental concerns, including management of hazardous substances (Section V.C) and regulatory compliance (Section V.D).

V.A. POTENTIAL CERCLA SITES--INACTIVE OR FORMER DISPOSAL FACILITIES/ACTIVITIES/SPILLS AND LEAKS

V.A.1. POTENTIAL SITES

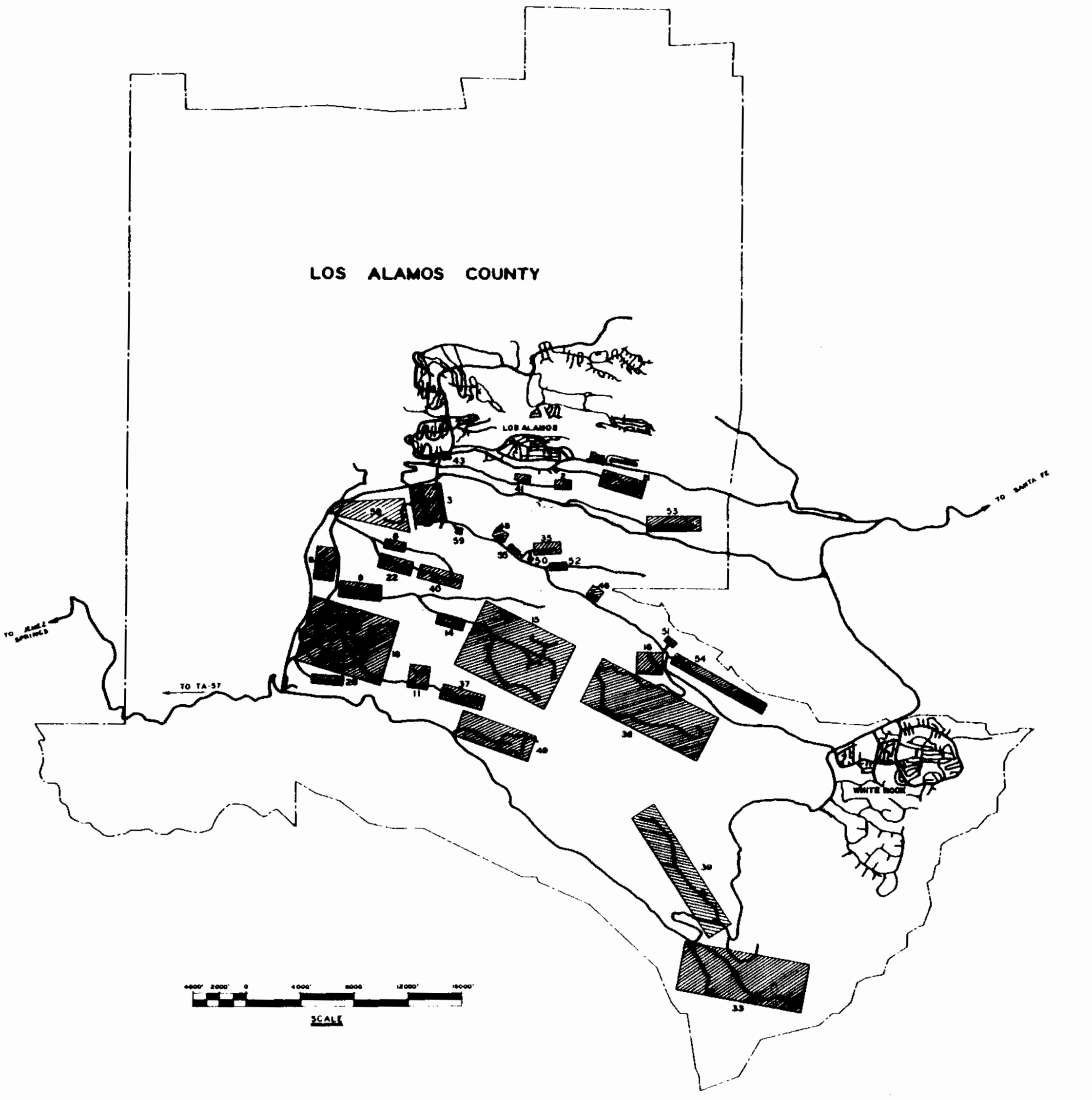
Potential CERCLA sites identified during CEARP Phase I (the equivalent of DOE CERCLA Order Phase I) are presented in Table V.A.1. Additional detail for each potential CERCLA site is provided by technical area (TA). The TAs are identified in Figures V.A.1 and V.A.2. Due to the overlap between potential CERCLA sites and RCRA sites (e.g., RCRA continuing release sites), both CERCLA and RCRA sites could be included in the list of potential sites (see Section I for implementation of CEARP). Current Laboratory activities covered by routine LANL operations (e.g., active outfalls) are discussed to the extent that they could have resulted in a CERCLA site. These operations are discussed in Section IV (Applicable Environmental Standards and Regulations), Section V.C (Waste Generation, Handling, and Disposal Surveillance), and V.D (Regulatory Compliance) as they are pertinent to Phase I of CEARP. The CEARP findings for CERCLA are based on a negative, positive, or uncertain finding for the following EPA CERCLA program elements: (1) Federal Facilities Site Discovery and Identification Findings (FFSDIF), and (2) Preliminary Assessments (PA), and Site Inspections (SI) (SI in CEARP is a preliminary SI [PSI]). Phase I investigations have not been completed at many of the TAs, therefore, the list of potential CERCLA sites may not be complete.

V.A.2. HAZARD RANKING SYSTEM (HRS) AND MODIFIED HAZARD RANKING SYSTEM (MHRS)

The HRS/MHRS Migration Mode Scores for the potential CERCLA sites, which are scored on the basis of individual TAs or groups of TAs, are presented in Table V.A.2. Migration Mode Scores are calculated for those TAs with potential CERCLA sites. Conservative assumptions have been made to allow calculation of these scores (see Appendix B). Therefore, it is anticipated that as additional site characterization data are obtained, recalculation of the HRS/MHRS scores would result in lower scores. Even though the TA migration mode scores are conservatively high, none of the scores exceed the EPA criterion of 28.5 for listing on the National Priorities List (NPL).

V.A.3. PLANNED FUTURE ACTIONS FOR POTENTIAL CERCLA SITES

The planned future action for each potential CERCLA site or grouping of sites (e.g., inactive outfalls at a TA) is specified in Table V.A.1. Because of a lack of current information, most of the sites are slated for supplemental CEARP Phase I investigation. Additional detail for each potential CERCLA site or grouping of sites is provided by TA.



TECH AREA NUMBER	NOMENCLATURE	REMARKS
TA-0	UNASSIGNED LAND RESERVE	
TA-1		REMOVED 1964-1965
TA-2	OMEGA SITE	
TA-3	SOUTH MESA SITE	
TA-4		REMOVED 1958
TA-5	BETA SITE	ABANDONED 1960
TA-6	TWO MILE MESA SITE	
TA-7	GOMEZ RANCH SITE	ABANDONED 1945
TA-8	ANCHOR SITE WEST	
TA-9	ANCHOR SITE EAST	
TA-10		REMOVED 1963
TA-11	K-SITE	
TA-12	L-SITE	ABANDONED 1953
TA-13	P-SITE	INCORPORATED WITH S-SITE
TA-14	Q-SITE	
TA-15	R-SITE	
TA-16	S-SITE	
TA-17		CANCELLED
TA-18	PAJARITO LABORATORY	
TA-19		REMOVED 1975
TA-20	SANDIA CANYON SITE	ABANDONED 1957
TA-21	DP-SITE	
TA-22	TD-SITE	
TA-23		REMOVED 1950
TA-24	T-SITE	INCORPORATED WITH S-SITE
TA-25	V-SITE	INCORPORATED WITH S-SITE
TA-26		REMOVED 1966
TA-27	GAMMA SITE	ABANDONED 1945
TA-28	MAGAZINE AREA A	
TA-29	MAGAZINE AREA B	ABANDONED 1957
TA-30		REMOVED 1948
TA-31		REMOVED 1954
TA-32		REMOVED 1954
TA-33	HP-SITE	
TA-34		CANCELLED
TA-35	TEN SITE	
TA-36	KAPPA SITE	
TA-37	MAGAZINE AREA C	
TA-38		CANCELLED
TA-39	ANCHO CANYON SITE	
TA-40	DF-SITE	
TA-41	W-SITE	
TA-42	INCINERATOR SITE	ABANDONED 1970
TA-43	HEALTH RESEARCH LABORATORY	
TA-44	LOS ANGELES SHOP	ABANDONED 1958
TA-45		REMOVED 1967
TA-46	WA-SITE	
TA-47	BR-SITE BRUNS RAILHEAD	ABANDONED 1958
TA-48	RADIOCHEMISTRY SITE	
TA-49	FRIJOLES MESA SITE	INACTIVE
TA-50	WASTE MANAGEMENT SITE	
TA-51	RADIATION EXPOSURE FACILITY	
TA-52	REACTOR DEVELOPMENT SITE	
TA-53	MESON PHYSICS FACILITY	
TA-54	WASTE DISPOSAL SITE	
TA 55	PF-SITE	
TA-56	SUBTERRENE BASALT SITE	ABANDONED 1976
TA-57	FENTON HILL SITE	*
TA-58	TWO MILE NORTH SITE	PROPOSED
TA-59	OH-SITE	

* (APPROX. 30 MILES WEST OF LOS ALAMOS)

LEGEND

ACTIVE TECHNICAL AREAS

10-6-83 REVISED TITLE BLOCK & DWG TO STATUS OF 6-17-83

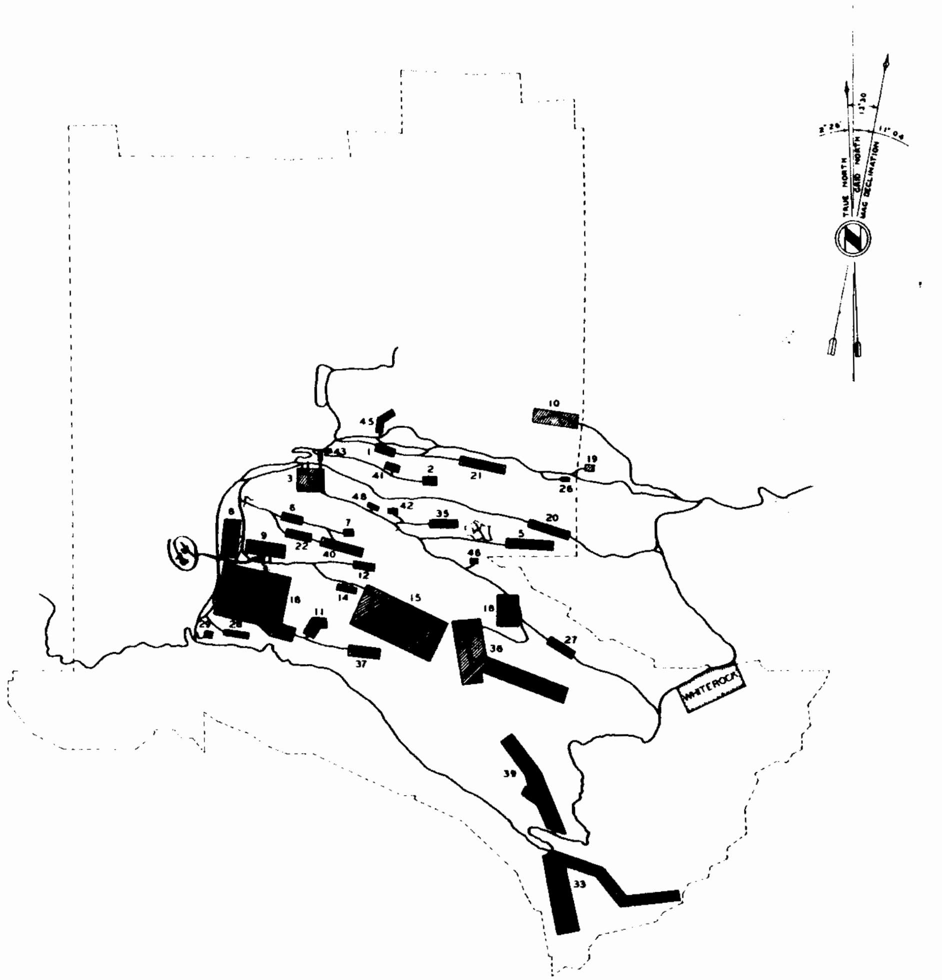
UNIVERSITY OF CALIFORNIA
Los Alamos

FACILITIES ENGINEERING DIVISION

TECHNICAL AREA LOCATION PLAN

DATE 10-6-83 SHEET NO 2 of 12 DRAWING NO ENG-R5101

Figure V.A.1. Technical areas at Los Alamos National Laboratory (1983).



TECHNICAL AREA NUMBERS AND NOMENCLATURE

TA 1	MAIN TECHNICAL AREA	
TA-2	OMEGA SITE	
TA 3	SOUTH MESA SITE	
TA-4	ALPHA SITE	(REMOVED) 1958
TA-5	BETA SITE	
TA-6	TWO MILE MESA SITE	
TA-7	GOMEZ RANCH SITE	
TA-8	ANCHOR SITE WEST	
TA-9	ANCHOR SITE EAST	
TA 10	BAYO CANYON SITE	
TA-11	K-SITE	
TA 12	L-SITE	(ABANDONED)
TA-13	P-SITE (INCORPORATED WITH S-SITE)	
TA-14	Q-SITE	
TA-15	R-SITE	
TA-16	S-SITE	
TA-17	X-SITE	(NOT BUILT)
TA-18	PAJARITO LABORATORY	
TA-19	EAST GATE LABORATORY	
TA-20	SANDIA CANYON SITE	(ABANDONED)
TA-21	DP-SITE	
TA-22	TD-SITE	
TA-23	NU-SITE	(REMOVED) 1950
TA-24	T-SITE (INCORPORATED WITH S-SITE)	
TA-25	V-SITE (INCORPORATED WITH S-SITE)	
TA-26	D-SITE	
TA-27	GAMMA SITE	(ABANDONED)
TA-28	MAGAZINE AREA "A"	
TA-29	MAGAZINE AREA "B"	(ABANDONED)
TA-30	ELECTRONICS TEST AREA	(REMOVED) 1948
TA 31	EAST RECEIVING YARD	(REMOVED) 1954
TA-32	MEDICAL RESEARCH LAB	(REMOVED) 1954
TA-33	HP SITE	
TA-34	NEW LABORATORY WHSE AREA	(ABANDONED)
TA-35	TEN SITE	
TA-36	KAPPA SITE	
TA 37	MAGAZINE AREA "C"	
TA-38	MONTE REY SITE	(PROPOSED)
TA-39	ANCHO CANYON SITE	
TA-40	DF-SITE	
TA-41	W-SITE	
TA-42	INCINERATOR SITE	
TA-43	HEALTH RESEARCH LABORATORY	
TA-44	LOS ANGELES SHOP	(ABANDONED)
TA-45	WD-SITE	
TA-46	WA-LABORATORY	
TA-47	BR-SITE	(BRUNS RAILHEAD)
TA-48	RADIOCHEMISTRY SITE	

NO.	DATE	REVISIONS	BY	CHKD
8	7-7-57	REVISED TO STATUS OF 7-1-57	PR	NB
7	[illegible]	REDRAWN TO STATUS OF JULY 1, 1955	NOB	JAS

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT LOS ALAMOS, N. M.

TECHNICAL AREA LOCATION PLAN

CHECKED DESIGNER — RECOMMENDED GROUP LEADER — APPROVED ENG. DEPT. OFFICE

DRAWN N BYERS — DATE 9/8/55 — DRAWING NO. ENG-R 111
SCALE 1" = 1 MILE — SHEET 1 OF 1

Figure V.A.2. Technical areas at Los Alamos National Laboratory (1955).

Table V.A.1. Potential CERCLA Sites Identified During CEARP Phase I--Technical Areas

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-1:			
TA1-1-CA-I-HW/RW:[b]	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA1-2-CA-I-HW/RW:	Positive	SI	Phase II
TA1-3-OL-I-RW/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA1-4-CA-I-HW/RW:	NA	None	Phase V
TA1-5-ST-I-HW/RW:	NA	None	Phase V
TA1-6-IN-I-SW:	Negative	None	None
TA1-7-UST-I-PP:	Negative	None	None
TA1-8-L-I-HW/RW:	Negative	None	None
TA-2:			
TA2-1-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA2-2-CA/S/UST-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA2-3-CA/O-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA2-4-CA/ST-I-HW/RW:	NA	None	Phase V
TA2-5-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA2-6-UST-A/I-PP:	Negative	None	None
TA2-7-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA2-8-CA-I-HW	NA	None	Phase V
TA-3:			
TA3-1-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-2-CA/ST-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-3-CA/UST/SST-A/I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA3-4-S-A/I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-5-CA/S/UST/SST-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-6-CA/O-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-7-CA-I-HW:	Negative	None	None
TA3-8-SI-A/I-HW/RW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-9-W-A/I-HW:	Negative	None	None
TA3-10-OL/L-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-11-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA3-12-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-4:			
TA4-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action	
		EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA4-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA4-3-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-5:			
TA5-1-CA/L-I-HW/RW	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA5-2-CA-I-HW/RW:	NA	None	Phase V
TA5-3-CA/O-I-HW/RW:	Positive	SI	Phase V
TA5-4-CA-I-HW/RW	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-6:			
TA6-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA6-2-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA6-3-S-I-HW:	Uncertain	FFSDIF	Installation Assessment (Supplemental Phase I)
TA6-4-ST/CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA6-5-ST/CA-A/I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA6-6-UST-I-HW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA6-7-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA6-8-CA-A-HW/PP:	Negative	None	None
TA6-9-L-I-HW/RW:	Positive	SI	Phase II
TA6-10-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-7:			
TA7-1-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA7-2-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA7-3-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA7-4-CA-I-HW:	Negative	None	None

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-8:			
TA8-1-CA-I-HW/RW:	Negative	None	None
TA8-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment) (Supplemental Phase I)
TA8-3-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA8-4-CA-A/I-HW:	Negative	None	None
TA8-5-CA/ST/O-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment) (Supplemental Phase I)
TA8-6-UST-I-PP:	Negative	None	None
TA8-7-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment) (Supplemental Phase I)
TA-9:			
TA9-1-CA-A/I-HW/RW:	Negative	None	None
TA9-2-CA/ST/S/O/SI-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA9-3-CA-A-HW	Negative	None	None

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-9(AE):			
TA9(AE)-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA9(AE)-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA9(AE)-3-CA/ST/S-I/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA9(AE)-4-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-10:			
TA10-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA10-2-S/ST/CA/O-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA10-3-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA10-4-CA-I-RW:	Negative	None	None
TA10-5-CA-I-HW/RW:	Negative	None	None

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-11:			
TA11-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA11-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessmenr (Supplemental Phase I)
TA11-3-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA11-4-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA11-5-CA-A-HW/RW:	Negative	None	None
TA11-6-ST-A-HW:	Negative	None	None
TA11-7-O/S/CA-A-HW:	Negative	None	None
TA11-8-O-A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA11-9-OL-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA11-10-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA11-11-CA-A-HW:	Negative	None	None

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-12:			
TA12-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA12-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA12-3-CA-I-HW:	Negative	None	None
TA12-4-CA-I-HW:	Negative	None	None
TA12-5-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-13:			
TA13-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA13-2-CA/L/OL-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA13-3-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA13-4-ST-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-14:			
TA14-1-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA14-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA14-3-IN-A-HW/RW:	Negative	None	None
TA14-4-OL-A-HW/RW:	Negative	None	None
TA14-5-CA/ST-A-HW/RW:	Negative	None	None
TA14-6-CA-I-HW:	Negative	None	None
TA14-7-CA-A-HW:	Negative	None	None
TA14-8-L-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-15:			
TA15-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-2-CA-A-HW/RW:	Negative	None	None

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action	
		EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA15-3-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-4-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-5-CA/OL-I-HW/RW:	Positive	SI	Phase II
TA15-6-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-7-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-8-S/ST/O-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-9-S/ST/O-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA15-10-UST-A-PP:	Negative	None	None
TA15-11-CA-A-HW:	Negative	None	None
TA15-12-CA-A-HW:	Negative	None	None
TA15-13-CA-A-HW:	Negative	None	None

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA16:			
TA16-1-CA-I-HW:	Positive	SI	Phase II
TA16-2-S-A/I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA16-3-SI-A/I-HW:	Positive	SI	Phase II
TA16-4-CA-A/I-HW:	Positive	SI	Phase II
TA16-5-O/CA-A/I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA16-6-IN-A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA16-7-CA-I-HW:	Positive	SI	Phase II
TA16-8-ST/UST-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA16-9-UST/SST-A/I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA16-10-L-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA16-11-CA-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA16-12-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Plan I)
TA18:			
TA18-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-3-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-4-CA/ST/O-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-5-CA/UST-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-6-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-7-UST-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-8-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action	
		EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA18-9-UST-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA18-10-CA-I-PP:	Negative	None	None
TA18-11-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA19:			
TA19-1-ST-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA19-2-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA20:			
TA20-1-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA20-2-CA-I-HW/RW:	Positive	SI	Installation Assessment (Supplemental Phase I)
TA21:			
TA21-1-CA-I/A-RW/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-2-SI-I-HW/RW:	Positive	SI	Phase II

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA21-3-CA/O-I/A-HW/RW:	Positive	SI	Phase II
TA21-4-IN-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-5-S-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-6-ST-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-7-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-8-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-9-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-10-UST-A/I-RW/HW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-11-L-I-RW/HW/SW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA21-12-OL-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA21-13-CA-A-HW:	Negative	None	None
TA21-14-CA-A-HW:	Negative	None	None
TA21-15-CA-A-HW:	Negative	None	None
TA-22:			
TA22-1-CA-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA22-2-CA/O-I/A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA22-3-S/O-I/A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA22-4-ST/CA-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	InstallationAssessment (Supplemental Phase I)
TA22-5-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA22-6-L-I--HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA22-7-UST-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA22-8-CA-A-HW:	Negative	None	None

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA-23:			
TA23-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA23-2-CA/ST/S-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-24			
TA24-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA24-2-S/UST-I-HW/RW	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-25			
TA25-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA25-2-CA/ST-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-26:			
TA26-1-L-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA26-2-O/CA-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA26-3-ST-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-27:			
TA27-1-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA27-2-CA-I-HW/RW:	Positive	SI	Phase II
TA27-3-L-I-RW	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-28:			
TA28-1-CA-A-HW:	Negative	None	None
TA28-2-CA-I-HW:	Negative	None	None
TA-29			
TA29-1-CA-I-HW:	NA	None	Phase V
TA-31:			
TA31-1-ST-I-HW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action	
		EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA-32:			
TA32-1-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA32-2-ST/O/CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA32-3-IN-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-33:			
TA33-1-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA33-2-O/S-A/I-RW/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA33-3-L-I-HW/RW:	Positive	SI	Phase II
TA33-4-CA-I-HW/RW:	Positive	SI	Phase II
TA33-5-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA33-6-CA-I-HW/RW:	Positive	SI	Phase II
TA33-7-ST-A/I-HW/RW:	Positive	SI	Phase II

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-35:			
TA35-1-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA35-2-CA-I/A-HW/RW:	Negative	None	None
TA35-3-S/UST/CA-A/I-HW/RW:	NA	None	Phase V
TA35-4-O/CA-I-HW/RW:	Positive	SI	Phase II
TA35-5-O-A-HW:	Negative	None	None
TA35-6-ST-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA35-7-UST/SST-A/I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA35-8-CA/SI-A-PP:	Negative	None	None
TA35-9-SI/O-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA35-10-SI-A-HW:	Negative	None	None

Table V.A.1. (continued)

		Planned Future Action	
Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA35-11-CA-A-HW/PP:	Negative	None	None
TA35-12-OL-I-SW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-36:			
TA36-1-CA-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA36-2-CA-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA36-3-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA36-4-S/ST/O-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA36-5-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA36-6-L-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA36-7-CA-A-HW/RW:	Negative	None	None
TA36-8-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA36-9-CA-A-HW:	Negative	None	None
TA36-10-CA-A-HW:	Negative	None	None
TA37:			
TA37-1-CA-A-HW:	Negative	None	None
TA37-2-ST-A-SW:	Negative	None	None
TA-39:			
TA39-1-CA-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA39-2-L-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA39-3-CA/ST-I/A-RW/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA39-4-CA-A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA39-5-IN-I-SW:	Negative	None	None
TA39-6-CA-A-HW:	Negative	None	None
TA39-7-CA-A-HW:	Negative	None	None

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-40:			
TA40-1-CA-I-HW:	Negative	None	None
TA40-2-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA40-3-CA-A-HW:	Negative	None	None
TA40-4-OL-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA40-5-S-A-HW:	Negative	None	None
TA40-6-CA/ST/O-A/I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA40-7-CA-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA40-8-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA40-9-CA-A-HW:	Negative	None	None
TA-41:			
TA41-1-CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA41-2-ST-I-RW:	Positive	SI	Phase II
TA41-3-CA/O-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA41-4-UST/S-A-RW:	Negative	None	None
TA41-5-UST-A-PP:	Negative	None	None
TA-42:			
TA42-1-CA-I-RW/HW:	NA	None	Phase V
TA42-2-ST/O/CA-I-RW:	NA	None	Phase V
TA42-3-OL-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-43:			
TA43-1-CA-A-HW/RW:	Negative	None	None
TA43-2-CA/O-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-45:			
TA45-1-O/CA-I-HW/RW:	NA	None	Phase V
TA45-2-OL-I-HW/RW/SW:	Negative	None	None
TA-46:			
TA46-1-CA/O-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA46-2-O/CA-A-HW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA46-3-SI/CA-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA46-4-ST-A/I-HW/RW:	Positive	SI	Phase II
TA46-5-CA-A/I-HW/RW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA46-6-CA-A/I-HW/PP:	Positive	SI	Phase II
TA46-7-S-I-HW/RW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA46-8-SI-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA46-9-SI-I-HW:	Negative	None	None
			(Supplemental Phase I)
TA46-10-L-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-47:			
TA47-1-CA-I-RW:	Negative	None	None
TA-48:			
TA48-1-CA-A-HW/RW:	Negative	None	None
TA48-2-CA/SST/S-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA48-3-O/CA-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA48-4-CA-A-HW:	Negative	None	None
TA48-5-CA-A/I-HW/RW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA48-6-CA/ST-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA48-7-CA-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-49:			
TA49-1-CA-I-HW/RW:	Positive	SI	Phase II
TA49-2-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA49-3-CA-I-HW/RW:	Positive	SI	Phase II
TA49-4-SST-I-PP:	Negative	None	None
TA49-5-ST-A-HW:	Negative	None	None
TA-50:			
TA50-1-UST-A-HW/RW:	Negative	None	None
TA50-2-UST-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA50-3-CA-A-RW:	Negative	None	None

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action	
		EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA50-4-O/CA-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA50-5-CA-I-HW/RW:	Positive	SI	Phase II
TA50-6-CA-A-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA50-7-CA-I/A-HW:	Negative	None	None
TA50-8-CA-A-RW:	Negative	None	None
TA50-9-IN-A-HW/RW:	Negative	None	None
TA50-10-CA-A-RW:	Negative	None	None
TA50-11-CA-A-HW/RW:	Negative	None	None
TA50-12-CA-I-HW/RW:	NA	None	Phase V
TA-51:			
TA51-1-CA-I/A-HW:	Negative	None	None
TA51-2-ST-A-HW:	Negative	None	None
TA51-3-S-A-HW:	Negative	None	None

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA51-4-CA/O-A-HW:	Negative	None	None
TA51-5-CA-A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-52:			
TA52-1-CA-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA52-2-CA/S/UST/ST-I/A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA52-3-UST/CA-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA52-4-O-I-RW:	Negative	None	None
TA-53:			
TA53-1-CA-I-HW:	NA	None	Phase V
TA53-2-O/SI/CA-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA53-3-O-A-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA53-4-SST/UST-A-HW/RW:	Negative	None	None
TA53-5-CA-A-HW/RW:	Negative	None	None

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA-54:			
TA54-1-L-A-HW/RW:	Positive	SI	Phase II
TA54-2-ST-A-HW/RW:	Negative	None	None
TA54-3-CA-A-RW/HW:	Negative	None	None
TA-55:			
TA55-1-CA-A-HW/RW:	Negative	None	None
TA55-2-CA/S-A-HW/RW:	Negative	None	None
TA55-3-IN-A-HW/RW:	Negative	None	None
TA55-4-CA-A-HW/RW:	Negative	None	None
TA55-5-UST-A-PP:	Negative	None	None
TA55-6-CA-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-57:			
TA57-1-CA-A-HW:	Negative	None	None
TA57-2-CA-A-HW:	Negative	None	None

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action	
		EPA CERCLA Program Element	DOE CEARP/CERCLA Order Phase
TA57-3-O-A-HW:	Negative	None	None
TA57-4-L-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA-59:			
TA59-1-ST-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA59-2-UST-A-PP:	Negative	None	None
TA59-3-O/CA-A-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA59-4-CA-I-HW/RW:	Negative	None	None
TA-0:			
TA0-1-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-2-CA-A-HW:	Negative	None	None
TA0-3-IN/OL-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-4-L-I-HW/RW/PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA0-5-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installatiion Assessment (Supplemental Phase I)
TA0-6-L-A-SW:	Negative	None	None
TA0-7-CA-I-HW:	Negative	None	None
TA0-8-L-I-SW	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-9-CA-I-RW/HW:	Negative	None	None
TA0-10-OL-I-SW:	Negative	None	None
TA0-11-CA-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-12-L-I-RW/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-13-OL-I-RW/HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-14-UST-I-PP:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-15-O/CA-A/I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)

Table V.A.1. (continued)

Site	DOE CEARP Phase I (FFSDIF/PA/PSI[a]) Finding	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
TA0-16-CA/S-I-HW/RW:	NA	None	Phase V
TA0-17-O/IN-I-HW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-18-L-I-HW/RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-19-CA-I-RW:	Uncertain	FFSDIF/PA/PSI	Installation Assessment (Supplemental Phase I)
TA0-20-UST-A-PP:	Negative	None	None
TA0-21-S-A-HW:	Negative	None	None
TA0-22-ST-I/A-HW:	Negative	None	None

[a]Federal Facility Site Discovery and Identification Findings/Preliminary Assessments/Preliminary Site Inspections.
[b]Site entries have the following designations: technical area (TA); identification number of site within the TA; solid waste management unit: contaminated area (CA), incinerator (IN), well (W), landfill (L), open landfill (OL), outfall (O), septic tank (ST), sump (S), surface impoundment (SI), surface storage tank (SST), or underground storage tank (UST); status: active (A) or inactive (I); type of contaminatin: solid waste (SW), hazardous waste (HW), radioactive waste (RW), or petroleum products (PP).
NA: Not Applicable.

Table V.A.2. HRS/MHRS Scores for the Technical Areas

Technical Areas	HRS/MHRS Migration Mode Score	Technical Areas	HRS/MHRS Migration Mode Score
1	9.0	31	5.4
2,41	8.3	32	5.2
3,59	12.4	33	15.7
6,7,22,40	2.7	35,42,48,50,55	16.8
8,9,23	2.7	36	10.1
10	9.0	39	12.8
11,13,16,24,25	3.0	43	8.3
12	6.7	45	4.4
14	7.0	46	12.6
15	9.9	51	14.1
18,27	14.3	52,4,5	11.3
19	7.0	53,20	12.6
21	20.2	57	14.6
26	0.0		

TA-1 - MAIN TECHNICAL AREA

CURRENT OPERATIONS

The site where the former Main Technical Area (TA-1) was located is now downtown Los Alamos. The Laboratory completely abandoned the area in 1965, and the land was sold to Los Alamos County or to private owners.

POTENTIAL CERCLA/RCRA SITES

Beginning in November 1942, the Los Alamos Ranch School and areas around it were chosen as a top-secret site for the development and assembly of an atomic bomb. The U.S. Government took over approximately 3,000 acres of the school's and other private holdings, and 46,000 acres of land belonging to government agencies. TA-1 was the first technical area at the Laboratory, and it was concentrated on an area less than 50 acres near the former Ranch School, around Ashley Pond, and the south side of the present Trinity Drive (LASL 1947:5).

TA-1 housed the theoretical divisions, Laboratory administration, plutonium chemistry, physics research, uranium machining and heat treatment, radiochemistry, medical research, and a host of other activities. By about 1945, some 100 structures were being used. After World War II, following the success of building the world's first atomic bombs, work at the Laboratory slowed down. Most of the work that continued involved improving and evaluating nuclear explosives.

Beginning in the 1950s, the Laboratory gradually moved most of its TA-1 facilities across Los Alamos Canyon onto South Mesa. By 1965, the move had been completed, and except for some underground structures (e.g., unused utility lines, septic tanks, and manholes) that were abandoned in place, all of the buildings at the former TA-1 were removed. The Atomic Energy Commission transferred the land to the county of Los Alamos or to private owners in 1966.

A number of manholes for sanitary sewer and electrical distribution were also transferred to the county in 1966. The AEC later requested a follow-up survey of the area where TA-1 had been to determine if any residual contamination, especially radioactivity, remained. Areas of TA-1 were decontaminated, as appropriate, during the mid-1970s (Ahlquist, Stoker, and Trocki 1977).

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring plan for TA-1. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-1 is 9.0 (Appendix B).

FIGURES

Figure TA-1-1: Structure Location Plan for TA-1 - Main Technical Area (1954)

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TABLE TA-1 - POTENTIAL CERCLA/RCRA SITES

TA1-1-CA-I-HW/RW (Surface and subsurface contamination)

Background--By 1945, approximately 100 structures were in use in the Main Technical Area (TA-1). Although some of the structures were being used for storage, the other structure made up a large complex combining features of both experimental laboratory research and industrial operations. Building continued at a slower pace until about 1950; the J-2 building, for example, TA-1-115, was completed at the end of 1949.

Between 1943 and 1945 much of the theoretical, experimental, and production work in developing the atomic bomb took place in the Main Technical Area. Nuclear explosives were improved and evaluated during the next few years. Beginning in the 1950s, a slow move to new facilities at TA-3 on South Mesa took place. At least some buildings in TA-1 were used until 1965, and activity involving the development of thermonuclear and different types of fission weapons continued at TA-1. Facilities in the Main Technical Area handled radionuclides that included uranium-238, uranium-235, plutonium-239, tritium, polonium-210, thorium-232, radium-226, cesium-137, strontium-90, americium-241, and curium. Nonradioactive materials handled included lithium hydride, beryllium, mercury, iodine, trisodium phosphate, and ammonium sulfate; various types of organics; and hydrochloric, nitric, perchloric, hydrofluoric, and orthophosphoric acids (Burke 1945; H Division 1951:12, 1952:16,20; Ahlquist, Stoker, and Trocki 1977). Appendix B of report LA-6887 (Ahlquist, Stoker, and Trocki 1977) lists the building numbers and history of the use of radioactive materials at TA-1.

The eastern portion of TA-1 was removed between 1953 and late 1959, and the remaining western portion and most of the acid-sewer lines extending north from TA-1 were removed during the 1964-1965 period. Some items were moved to other laboratory sites--some uncontaminated equipment was sent to salvage. Buildings with residual radioactive contamination were disposed of at Area C (see Material Disposal Area C). In several cases, combustible portions of buildings were burned at Area G (see Material Disposal Area G) (H Division 1958:10, Davis and Miller 1964:3). When the initial eastern area decommissioning phase was completed, the statement was made that "To the best of our knowledge, no radioactive contamination remains in TA-1 north or south of Trinity, east of the north-south exclusion fence, or within the J-2 area" (Buckland 1973). The same conclusion was reached when the western portion was decommissioned in 1964-1965.

In the 1960s, the U.S. Atomic Energy Commission (AEC) relinquished the old TA-1 area so that it could be used for residential and commercial development. A new County Building built by the AEC near Ashley Pond was turned over to the county. Parts of TA-1 south of Trinity Drive were sold as commercial property, and by 1974, office buildings, a motel, gasoline station, and other commercial structures had been built.

Public concern over low-level contamination increased, and in 1971, the AEC began resurveying certain lands formerly used for or associated with nuclear research. Early in 1974, resurveying of TA-1 began, but it was hampered by the development that had occurred on the land. Only the areas around the former D, H, Sigma, HT, and J-2 buildings had not been developed and could be extensively surveyed in the subsurface region and decontaminated if necessary. Survey data taken before decontamination are presented in Browne (1976) and Ahlquist, Stoker, and Trocki (1977). The survey and cleanup lasted until 1976 and are documented in LA-6887. As a result, about 15,000 m^3 of contaminated or potentially contaminated material was removed to a radioactive disposal site. When contaminated material was found, enough was removed to obtain acceptable levels of residual contamination, except in several inaccessible locations. Most contamination was associated with the old acid waste lines, septic tanks, and other drains. The area surveyed and decontaminated probably had the highest probability for residual contamination. However, although some surface reconnaissance was done in the other areas, the possibility for undetected subsurface contamination on private lands remains. In addition, Trinity Drive may have some subsurface contamination (Ahlquist, Stoker, and Trocki 1977:120-121). Measurements taken at the Gulf Station located on former TA-1 land show that the plutonium-239 concentrations in the air are similar to the concentrations measured at other perimeter Los Alamos stations (LANL 1986:137; LANL 1985:119).

When major excavations take place in the area formerly occupied by TA-1, the Laboratory observes the work to ensure that no contamination is uncovered. Thus far, field surveys have not detected contamination levels of concern in any of the areas.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Additional information on residual surface and subsurface nonradiological contamination will be gathered during supplemental Phase I activities. The adequacy of radiological decontamination will also be evaluated as part of CEARP Phase V.

TA1-2-CA-I-HW/RW (Hillsides)

Background--Three hillside locations that received runoff water from septic tanks and other sources at TA-1 are known to have surface contamination. The depth of that contamination is unknown. Two hillsides (known as 137 and 138) have plutonium-239 as the principal contaminant. The other hillside (known as 140) is principally contaminated with natural uranium. The known extent and maximum concentrations are listed below:

Hillside	Maximum Known Surface Contamination (pCi/g)[a]	Area Known/Suspected of being Contaminated
137 Upper level	400--plutonium-239	450 m^2
137 Lower level	Unknown--plutonium-239	unknown
138 Upper level	3,600--plutonium-239	110 m^2
138 Lower level	8,900--plutonium-239	325 m^2
140 Upper level	Est. 3,000-- nat. uranium	50 m^2
140 Lower level	unknown	unknown

[a]Primarily based on gross alpha measurements.

It is probable that the maximum concentration and total extent of radioactive contamination have not yet been determined (LASL 1977:41). The extent of nonradiological contamination is also unknown (LASL 1977:41).

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--The extent of hillside contamination on DOE property will be determined during Phase II.

TA1-3-OL-I-RW/HW (Canyon disposal)

Background--In May 1964, a note was written that said the concrete floor of building TA-1-104 had alpha contamination spots ranging from 300 to 5,000 counts/min. The suggestion was made that loose contaminated material be removed and the concrete floor placed in a nearby canyon (Buckland 1964). Later in 1964, instructions were given to break up the concrete walls and floor from Sigma Building and deposit them in the canyon beyond Bailey Bridge (Hill 1964). A note in the CEARP files dated November 23, 1964, indicated that several loads had been taken from areas showing less than 2,500 counts/min and had been deposited in Bailey's Canyon.

Large quantities of concrete contaminated with low levels of normal and enriched uranium were encountered during the demolition of TA-1-11, -56, and -29, and possibly -103 and -104. To expedite disposal, much of the concrete was disposed of in Bailey Canyon. Most of the concrete was covered with fill. The alpha count on the concrete was an average of 4,000 dis/min per 60 cm^2 of probe area. Much of the concrete was not contaminated (Buckland 1978).

In addition to the Bailey Bridge area, a small disposal area was also noted over the rim of the canyon to the west during the 1986 and 1987 CEARP field surveys. Several disposal areas were noted down Los Alamos Canyon from the Bailey area, along a ledge about a quarter of the way down. In two regions, concrete, utility boxes, pipe, and other construction debris had been disposed of. In another area, cans for paint and solvents that appeared to have been deposited over the side of the canyon were seen protruding from the soil.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination on DOE property resulting from disposal activities will be investigated during supplemental Phase I.

TA1-4-CA-I-HW/RW (Acid sewer line)

Background--While TA-1 was operating, the floor drains, sinks, and similar process areas of five buildings representing the major chemical facilities at the technical area were connected to a chemical drain (Tribby n.d.). This line ran north of the TA-1 area to an outfall in a tributary to Pueblo Canyon, known as Acid Canyon (Los Alamos Project Record Drawing Area E, U.S. Engineering Office, 1943; in CEARP files at LANL). From 1943 to 1951, liquid from the sewer line was discharged untreated through a weir box (Emelity n.d.). The DOE Onsite Discharge Information System of July 12, 1982, gives the following inventory after decay through 1981 from the 1945-1951 operation period:

Radionuclide	Curies
beryllium-7	0.623
cobalt-57	0.263
cobalt-60	0.066
cesium-134	0.237
tritium	56.286
manganese-54	0.173
sodium-22	0.520
plutonium-239	0.150
strontium-89	0
strontium-90	0.041
unidentified beta/gamma	0.010

Over the years, many studies on radionuclides in Acid/Pueblo Canyon have taken place (Hempelmann 1946, 1947; DOE 1981). The Acid/Pueblo disposal complex has been estimated to be approximately 250,000 m^2 in size, with plutonium concentrations of 0.122-550 pCi/g (Voelz 1980). Discharges into the canyon have included treated discharge from TA-45.

The acid line was removed during decommissioning operations (Elder et al., 1986). When any major construction occurs in the former region of these lines, the Laboratory monitors for possible contamination.

CERCLA Finding--Due to the status of activities, (i.e., CEARP Phase V), a CERCLA finding is not appropriate for FFSDIF, PA, and PSI.

Planned Future Action--The adequacy of the TA-1 acid sewer line cleanup will be evaluated during CEARP Phase V.

TA1-5-ST-I-HW/RW (Septic tanks and sanitary waste lines)

Background--The sanitary sewers from TA-1 were reported to be radioactively contaminated in 1946 (Drazer 1946). Buckland (1957, 1973) also reported radioactively contaminated sanitary lines. During the 1975-1976 remedial action, radionuclides were observed in sanitary drain lines, in trenches that had served sanitary lines, and in sanitary septic tanks (LASL 1977; Ahlquist, Stoker, and Trocki 1977).

CERCLA Finding--Due to the status of activities, a CERCLA finding is not appropriate for FFSDIF, PA, and PSI.

Planned Future Action--The adequacy of the TA-1 septic tank and sanitary waste lines cleanup/removal will be evaluated during CEARP Phase V.

TA1-6-IN-I-SW (Incinerators)

Background--Technical Area 1 had two incinerators, TA-1-146 and -147. What was burned in them and where noncombustibles were disposed of after incineration is not known. In 1957, the incinerators were reported to be free of any significant radioactive contamination (Buckland 1957). Incinerator 146 was indicated to have been removed in October of 1958 and incinerator 147 in February 1959 (LASL 1977:136). A small incinerator in TA-1-68 was used in uranium recovery (LASL 1977:131).

There is no indication of residual environmental contamination of concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

TA1-7-UST-I-PP (Underground storage tank)

Background--Although not part of TA-1, one area on the Corps of Engineers' maps from 1943 shows an underground gasoline storage tank at approximately N95, E96. Also shown are fuel tanks T-442, -443, and -444 at approximately N93, E80. Whether they were underground is not known. TA-1-240 is listed on ENG-R83 as a fuel tank, but whether it was underground is not known. According to ENG-R112, it was removed in 1955.

There is no indication of residual environmental contamination of concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

TA1-8-L-I-HW/RW (Burial area)

Background--There is indication of a possible burial area under the old cyclotron building in TA-1 (Meyer 1972). No signs of such an area were observed during the decommissioning of the site.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

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STRUCTURE NUMBER	DESIGNATION	APPROXIMATE GRID LOCATION	REMARKS
TA-1-1	BUILDING A	N 97+50 E 75+00	
TA-1-2	BUILDING B	N 97+50 E 72+50	
TA-1-3	BUILDING B-1		(REMOVED) 7-23-46
TA-1-4	BOILER HOUSE NO. 2	N 95+00 E 72+50	
TA-1-5	BUILDING C	N100+00 E 70+00	
TA-1-6	BUILDING D		(REMOVED) 1954
TA-1-7	BUILDING D-1	RELOCATED	NOW TA-21-29
TA-1-8	BUILDING D-2		(REMOVED) 1953
TA-1-9	BUILDING D-3		(REMOVED) 1955
TA-1-10	BUILDING D-4		(REMOVED) 1-12-54
TA-1-11	BUILDING D-5	N 95+00 E 67+50	SIGMA VAULT
TA-1-12	BUILDING D-6		(REMOVED) 1-12-54
TA-1-13	BUILDING D-7		(REMOVED) 1953
TA-1-14	BUILDING D-8	N 92+50 E 72+50	BUNKER REMAINS
TA-1-15	BUILDING D-9		(REMOVED) 1953
TA-1-16	BUILDING DELTA	N 95+00 E 65+00	
TA-1-17	BUILDING E	N 97+50 E 77+50	
TA-1-18	BUILDING F	N 97+50 E 72+50	
TA-1-19	BUILDING F-1	N 95+00 E 65+00	
TA-1-20	BUILDING FP	N 95+00 E 62+50	
TA-1-21	BUILDING G	N 95+00 E 72+50	
TA-1-22	BUILDING GAMMA	N 97+50 E 80+00	
TA-1-23	BUILDING GAMMA-1	N 97+50 E 77+50	
TA-1-24	BUILDING GC		(REMOVED) 1946
TA-1-25	WAREHOUSE GR		(REMOVED) 1953
TA-1-26	BUILDING H		(REMOVED) 1957
TA-1-27	BUILDING H-EXT.	(RELOCATED 1957)	(CONT. DUMP)
TA-1-28	BUILDING H-1	N 97+50 E 72+50	
TA-1-29	BUILDING HT	N 95+00 E 62+50	
TA-1-30	HT BARREL HOUSE	N 97+50 E 62+50	
TA-1-31	HT GAS STORAGE	N 97+50 E 60+00	
TA-1-32	BUILDING I	N 95+00 E 67+50	
TA-1-33	PLATFORM I		(REMOVED) 1955
TA-1-34	BUILDING J		(REMOVED) 1954
TA-1-35	BUILDING J-5		(REMOVED) 1950
TA-1-36	BUILDING J-6		(REMOVED) 1954
TA-1-37	BUILDING J-7		(REMOVED) 1954
TA-1-38	BUILDING J-8		(REMOVED) 1954
TA-1-39	BUILDING J-9		(REMOVED) 1954
TA-1-40	BUILDING K		(REMOVED) 1954
TA-1-41	BUILDING L		(REMOVED) 1947
TA-1-42	BUILDING ML	N 95+00 E 70+00	
TA-1-43	BUILDING M	N 95+00 E 75+00	
TA-1-44	BUILDING N		(REMOVED) 1954
TA-1-45	BUILDING O		(REMOVED) 1956
TA-1-46	BUILDING P	N100+00 E 75+00	
TA-1-47	BUILDING P-PRIME	N100+00 E 77+50	
TA-1-48	PAINT SHOP		(REMOVED) 1955
TA-1-49	BUILDING Q	N 95+00 E 72+50	
TA-1-50	BUILDING R		(REMOVED) 1954
TA-1-51	BUILDING R-1		(REMOVED) 1954
TA-1-52	BUILDING R-2		(REMOVED) 1954
TA-1-53	BUILDING S	N 95+00 E 80+00	
TA-1-54	BUILDING S-1		(REMOVED) 1954
TA-1-55	SAW BUILDING		(REMOVED) 1953
TA-1-56	BUILDING SIGMA	N 97+50 E 67+50	
TA-1-57	COOLING TOWER NO. 57	N 97+50 E 67+50	
TA-1-58	BUILDING SIGMA-1		(REMOVED) 1955
TA-1-59	BUILDING SIGMA-2		(REMOVED) 1955
TA-1-60	BUILDING SIGMA-3		(REMOVED) 1955
TA-1-61	BUILDING SIGMA-4		(REMOVED) 1955
TA-1-62	STEAM PIT	N 90+00 E 75+00	
TA-1-63	COOLING TOWER NO.63	N 95+00 E 72+50	
TA-1-64	BUILDING T	N 95+00 E 77+50	
TA-1-65	BUILDING THETA		(REMOVED) 1948
TA-1-66	BUILDING THETA-1	N 95+00 E 65+00	
TA-1-67	BUILDING TU	N 97+50 E 62+50	
TA-1-68	BUILDING TU-1	N 97+50 E 62+50	
TA-1-69	BUILDING U	N 95+00 E 77+50	
TA-1-70	BUILDING V	N 95+00 E 75+00	
TA-1-71	BUILDING W	N 95+00 E 77+50	
TA-1-72	COOLING TOWER NO.72	N 95+00 E 77+50	
TA-1-73	WAREHOUSE 1		(REMOVED) 1948
TA-1-74	WAREHOUSE 2		(REMOVED) 1954
TA-1-75	J-DIV. ANNEX	N 97+50 E 65+00	(WHSE.-3)
TA-1-76	WAREHOUSE 4		(REMOVED) 1954
TA-1-77	WAREHOUSE 5		(REMOVED) 1954
TA-1-78	WAREHOUSE 6		(REMOVED) 1954
TA-1-79	BUILDING X		(REMOVED) 1954
TA-1-80	COOLING TOWER NO.80		(REMOVED) 1954
TA-1-81	BUILDING Y		(REMOVED) 1956
TA-1-82	COOLING TOWER NO.82		(REMOVED) 1956
TA-1-83	BUILDING Z	N 95+00 E 75+00	
TA-1-84	P-PRIME ANNEX	N102+50 E 75+00	
TA-1-85	SPRINKLER HOUSE	N 97+50 E 77+50	
TA-1-86	PLATFORM		(REMOVED) 1948
TA-1-87	BUILDING 87		(REMOVED) 1957
TA-1-88	BUILDING 88	N 95+00 E 80+00	(GRD. STA. 210)
TA-1-89	BUILDING 89	N 97+50 E 75+00	(GRD. STA. 202)
TA-1-90	GUARD TOWER NO. 90	N 95+00 E 67+50	(ABANDONED)
TA-1-91	WAREHOUSE 7	N 90+00 E 82+50	(RELEASED) 1955
TA-1-92	GUARD TOWER NO. 92		(REMOVED) 1951
TA-1-93	GUARD TOWER NO. 93	RELOCATED	NOW TA-18-23
TA-1-94	GUARD TOWER NO. 94	RELOCATED	NOW TA-15-19
TA-1-95	GUARD TOWER NO. 95		(REMOVED) 1946
TA-1-96	BUILDING M-1	N 95+00 E 60+00	
TA-1-97	WAREHOUSE 13		(REMOVED) 1955
TA-1-98	BUILDING K-1	N 95+00 E 60+00	
TA-1-99	WAREHOUSE 15		(REMOVED) 1955
TA-1-100	WAREHOUSE 16		(REMOVED) 1955
TA-1-101	WAREHOUSE 17		(REMOVED) 1954
TA-1-102	WAREHOUSE 18		(REMOVED) 1954
TA-1-103	WAREHOUSE 19	N 92+50 E 65+00	
TA-1-104	SHEET METAL SHOP	N 95+00 E 65+00	
TA-1-105	BUILDING GAMMA-2	N 97+50 E 60+00	
TA-1-106	PASSAGEWAY 106	N 97+50 E 72+50	
TA-1-107	PASSAGEWAY 107	N 97+50 E 75+00	
TA-1-108	PASSAGEWAY 108	N 97+50 E 75+00	
TA-1-109	PASSAGEWAY 109	N 97+50 E 77+50	
TA-1-110	PASSAGEWAY 110	N 97+50 E 77+50	
TA-1-111	PASSAGEWAY 111	N 95+50 E 75+00	
TA-1-112	PASSAGEWAY 112	N 95+00 E 77+50	
TA-1-113	PASSAGEWAY 113		(REMOVED) 1954
TA-1-114	MICROSCOPY LAB.		(REMOVED) 1953
TA-1-115	BUILDING J-2	N100+00 E 60+00	
TA-1-116	BUILDING J-3	N 95+00 E 70+00	
TA-1-117	GAS STORAGE	N 92+50 E 77+50	
TA-1-118	BUILDING 118		(REMOVED) 1953
TA-1-119	WAREHOUSE 21		(REMOVED) 1953
TA-1-120	WAREHOUSE 22		(REMOVED) 1953
TA-1-121	WAREHOUSE 23		(REMOVED) 1953
TA-1-122	WAREHOUSE 24		(REMOVED) 1953
TA-1-123	GUARD TOWER NO.123	RELOCATED	NOW TA-18-24
TA-1-124	BUILDING 124	N100+00 E 67+50	(GRD. STA. 224)
TA-1-125	BUILDING 125		(RELEASED) 1952
TA-1-126	OLD MESA LIBRARY		(REMOVED) 1953
TA-1-127	BUILDING AP	N100+00 E 75+00	
TA-1-128	MEDICAL WAREHOUSE		(REMOVED) 1953
TA-1-129	BUILDING 129	N 97+50 E 80+00	(GRD. STA. 239)
TA-1-130	BUILDING 130		(REMOVED) 1953
TA-1-131	BAILEY BRIDGE	N 95+00 E 67+50	
TA-1-132	WATER TOWER	N102+50 E 75+00	
TA-1-133	BOOSTER STATION	N102+50 E 65+00	
TA-1-134	SEPTIC TANK (SANITARY)	N 92+50 E 65+00	
TA-1-135	SEPTIC TANK (SANITARY)	N 92+50 E 80+00	
TA-1-136	PLATFORM 136		(REMOVED) 1954
TA-1-137	SEPTIC TANK (SANITARY)	N 90+00 E 75+00	
TA-1-138	SEPTIC TANK (SANITARY)	N 90+00 E 77+50	
TA-1-139	SEPTIC TANK (SANITARY)	N 95+00 E 67+50	
TA-1-140	SEPTIC TANK (SANITARY)	N 97+50 E 60+00	
TA-1-141	SEPTIC TANK (SANITARY)	N 92+50 E 70+00	
TA-1-142	SEPTIC TANK (SANITARY)	N 90+00 E 82+50	(ABANDONED) 1953
TA-1-143	SEPTIC TANK (SANITARY)	N 97+50 E 62+50	
TA-1-144	BUILDING 144		(REMOVED) 1953
TA-1-145	BUILDING 145		(REMOVED) 1955
TA-1-146	INCINERATOR 146	N 97+50 E 72+50	
TA-1-147	INCINERATOR 147	N 95+00 E 77+50	
TA-1-148	PLATFORM 148	N 92+50 E 75+00	
TA-1-149	TANK NO.149	RELOCATED	NOW TA-3-63
TA-1-150	BUILDING 150	RELOCATED	NOW TA-21-133
TA-1-151	BUILDING 151	N 95+00 E 75+00	(ABANDONED)
TA-1-152	TRANSFORMER STA.	N 97+50 E 60+00	
TA-1-153	TRANSFORMER STA.	N 97+50 E 60+00	
TA-1-154	TRANSFORMER STA.	N 92+50 E 65+00	
TA-1-155	TRANSFORMER STA.	N100+00 E 67+50	
TA-1-156	TRANSFORMER STA.	N 97+50 E 70+00	
TA-1-157	TRANSFORMER STA.		(REMOVED) 1954
TA-1-158	TRANSFORMER STA.	N 95+00 E 72+50	
TA-1-159	TRANSFORMER STA.	N 95+00 E 72+50	
TA-1-160	TRANSFORMER STA.	N 92+50 E 72+50	
TA-1-161	TRANSFORMER STA.	N102+50 E 75+00	
TA-1-162	TRANSFORMER STA.	N 97+50 E 75+00	
TA-1-163	TRANSFORMER STA.	N 92+50 E 75+00	
TA-1-164	TRANSFORMER STA.	N 92+50 E 77+50	
TA-1-165	TRANSFORMER STA.	N 92+50 E 77+50	
TA-1-166	TRANSFORMER STA.	N 97+50 E 77+50	
TA-1-167	TRANSFORMER STA.	N 92+50 E 82+50	
TA-1-168	MANHOLE STEAM	N 97+50 E 62+50	
TA-1-169	MANHOLE STEAM	N 97+50 E 62+50	
TA-1-170	MANHOLE SPRINKLER	N 97+50 E 62+50	
TA-1-171	MANHOLE SPRINKLER	N 95+00 E 62+50	
TA-1-172	MANHOLE ELECTRICAL	N 97+50 E 65+00	
TA-1-173	MANHOLE ACID SEWER	N 97+50 E 67+50	
TA-1-174	MANHOLE ACID SEWER	N100+00 E 67+50	
TA-1-175	MANHOLE SPRINKLER	N 97+50 E 70+00	
TA-1-176	MANHOLE SAN. SEWER	N 97+50 E 70+00	
TA-1-177	MANHOLE STEAM	N 95+00 E 72+50	
TA-1-178	MANHOLE WATER	N 97+50 E 75+00	
TA-1-179	MANHOLE TELEPHONE	N 97+50 E 75+00	
TA-1-180	MANHOLE SPRINKLER	N 97+50 E 75+00	
TA-1-181	MANHOLE SAN. SEWER	N 97+50 E 72+50	
TA-1-182	MANHOLE STEAM	N 97+50 E 72+50	
TA-1-183	MANHOLE STEAM	N 95+00 E 75+00	
TA-1-184	MANHOLE STEAM	N 95+00 E 75+00	
TA-1-185	MANHOLE STEAM	N 95+00 E 75+00	
TA-1-186	MANHOLE STEAM	N 95+00 E 75+00	
TA-1-187	MANHOLE ACID DRAIN	N 95+00 E 75+00	
TA-1-188	MANHOLE SAN. SEWER		(REMOVED)
TA-1-189	MANHOLE SAN. SEWER	N 95+00 E 72+50	
TA-1-190	MANHOLE GAS VA. PIT	N 95+00 E 72+50	
TA-1-191	MANHOLE TELEPHONE	N 95+00 E 80+00	
TA-1-192	MANHOLE SPRINKLER	N 92+50 E 75+00	
TA-1-193	MANHOLE DOM. WATER	N 92+50 E 75+00	
TA-1-194	MANHOLE SPRINKLER	N100+00 E 75+00	
TA-1-195	MANHOLE SAN. SEWER	N100+00 E 77+50	
TA-1-196	MANHOLE SAN. SEWER	N 97+50 E 77+50	
TA-1-197	MANHOLE SAN. SEWER	N 97+50 E 77+50	
TA-1-198	MANHOLE SAN. SEWER	N 97+50 E 80+00	
TA-1-199	MANHOLE SAN. SEWER	N100+00 E 80+00	
TA-1-200	MANHOLE SAN. SEWER	N 97+50 E 80+00	
TA-1-201	MANHOLE SAN. SEWER	N 97+50 E 80+00	
TA-1-202	MANHOLE SAN. SEWER	N 95+00 E 77+50	
TA-1-203	MANHOLE SPRINKLER	N 95+00 E 77+50	
TA-1-204	MANHOLE DOM. WATER	N 95+00 E 77+50	
TA-1-205	MANHOLE SPRINKLER	N 95+00 E 77+50	
TA-1-206	MANHOLE SPRINKLER	N 97+50 E 75+00	
TA-1-207	MANHOLE SAN. SEWER	N 95+00 E 77+50	
TA-1-208	MANHOLE SAN. SEWER	N 95+00 E 77+50	
TA-1-209	MANHOLE SPRINKLER	N 92+50 E 75+00	
TA-1-210	MANHOLE SAN. SEWER	N 92+50 E 85+00	
TA-1-211	MANHOLE PROCESS		(REMOVED)
TA-1-212	MANHOLE SAN. SEWER	N 95+00 E 77+50	
TA-1-213	MANHOLE ELECTRICAL	N 95+00 E 80+00	
TA-1-214	MANHOLE ELECTRICAL	N 92+50 E 80+00	
TA-1-215	MANHOLE ELECTRICAL	N 92+50 E 80+00	
TA-1-216	MANHOLE ELECTRICAL	N 92+50 E 80+00	
TA-1-217	MANHOLE ELECTRICAL	N 92+50 E 80+00	
TA-1-218	MANHOLE ELECTRICAL	N 92+50 E 77+50	
TA-1-219	MANHOLE TELEPHONE	N 92+50 E 77+50	
TA-1-220	MANHOLE ELECTRICAL	N 90+00 E 75+00	
TA-1-221	MANHOLE TELEPHONE	N 90+00 E 75+00	
TA-1-222	MANHOLE SAN. SEWER	N 95+00 E 82+50	
TA-1-223	MANHOLE ELECTRICAL	N 95+00 E 80+00	
TA-1-224	MANHOLE ELECTRICAL	N 95+00 E 80+00	
TA-1-225	MANHOLE ELECTRICAL	N 97+50 E 80+00	
TA-1-226	MANHOLE TELEPHONE	N 97+50 E 80+00	
TA-1-227	MANHOLE TELEPHONE	N100+00 E 80+00	
TA-1-228	MANHOLE TELEPHONE	N100+00 E 80+00	
TA-1-229	MANHOLE TELEPHONE	N100+00 E 80+00	
TA-1-230	MANHOLE SAN. SEWER	N100+00 E 80+00	
TA-1-231	MANHOLE ELECTRICAL	N100+00 E 80+00	
TA-1-232	MANHOLE ELECTRICAL	N 97+50 E 77+50	
TA-1-233	MANHOLE ELECTRICAL	N 95+00 E 80+00	
TA-1-234	MANHOLE STEAM	N 95+00 E 77+50	
TA-1-235	MANHOLE ACID SEWER	N 97+50 E 70+00	
TA-1-236	MANHOLE SAN SEWER	N 97+50 E 75+00	
TA-1-237	DRUM STORAGE		(REMOVED) 1955
TA-1-238	DRUM STORAGE	N100+00 E 60+00	
TA-1-239	STORAGE SHED		(REMOVED) 1955
TA-1-240	FUEL TANK		(REMOVED) 1955
TA-1-241	RESERVE		
TA-1-242	RESERVE		
TA-1-243	MANHOLE SAN. SEWER	N 95+00 E 75+00	
TA-1-244	MANHOLE SAN. SEWER	N 95+00 E 77+50	
TA-1-245	MANHOLE SAN. SEWER	N100+00 E 67+50	
TA-1-246	MANHOLE SAN. SEWER		(REMOVED) 1948
TA-1-247	BUILDING 247		(REMOVED) 1945
TA-1-248	TRANSFORMER STA.		(REMOVED) 1946
TA-1-249	TRANSFORMER STA.		(REMOVED) 1945
TA-1-250	TRANSFORMER STA.		(REMOVED) 1946
TA-1-251	TRANSFORMER STA.		(REMOVED)
TA-1-252	TRANSFORMER STA.		(REMOVED) 1948
TA-1-253	TRANSFORMER STA.		(REMOVED) 1948
TA-1-254	TRANSFORMER STA.		(REMOVED) 1948
TA-1-255	BUILDING 255		(REMOVED) 1947
TA-1-256	TRANSFORMER STA.		(REMOVED) 1947
TA-1-257	TRANSFORMER STA.		(REMOVED) 1946
TA-1-258	MANHOLE SAN SEWER	N 95+00 E 70+00	
TA-1-259	VALVE BOX	N 92+50 E 77+50	
TA-1-260	RETAINING WALL	N 92+50 E 72+50	
TA-1-261	MANHOLE ACID	N 97+50 E 72+50	
TA-1-262	RESERVE		
TA-1-263	RETAINING WALL	N 95+00 E 67+50	
TA-1-264	RESERVE		
TA-1-265	RESERVE		
TA-1-266	RETAINING WALL	N100+00 E 70+00	
TA-1-267	RETAINING WALL	N 97+50 E 70+00	
TA-1-268	SEPTIC TANK (SANITARY)	N 97+50 E 62+50	
TA-1-269	SEPTIC TANK (SANITARY)		(ABANDONED) 1954
TA-1-270	RESERVE		
TA-1-271	RESERVE		
TA-1-272	BUILDING TP		(NOT BUILT)
TA-1-273	TANK NO. 273		(NOT BUILT)
TA-1-274	MANHOLE SEWER	N 90+00 E 85+00	(ABANDONED)
TA-1-275	SEPTIC TANK (SANITARY)	N 90+00 E 85+00	(ABANDONED)
TA-1-276	SEPTIC TANK (SANITARY)	N 97+50 E 70+00	(ABANDONED)
TA-1-277	TRANSFORMER STA.	N 97+50 E 77+50	
TA-1-278	MANHOLE STEAM	N 92+50 E 75+00	
TA-1-279	WATER TANK		(REMOVED) 1947
TA-1-280	WATER TANK		(REMOVED) 1947
TA-1-281	WATER TANK		(REMOVED) 1947
TA-1-282	WATER TANK		(REMOVED) 1947
TA-1-283	RETAINING WALL	N 95+00 E 65+00	
TA-1-284	BLDG. 284	N100+00 E 60+00	(WINGFOOT)
TA-1-285	BLDG. 285	N100+00 E 60+00	(WINGFOOT)
TA-1-286	TRANSFORMER STA.	N 97+50 E 65+00	
TA-1-287	GUARD TOWER		(REMOVED) 1949
TA-1-288	GUARD STATION	N100+00 E 62+50	(WAS 16-1001)
TA-1-289	OFFICE BUILDING		(NOT BUILT)
TA-1-290	SUBSTATION	N 95+00 E 65+00	

Figure TA-1-1: Structure Location Plan for TA-1 - Main Technical Area (1954 Drawing from the LANL Technical Area Structure Location Plans)

NO.	DATE	REVISIONS	BY	CHKD	GRP. LDR.	ENG. D. O.
9	7-1-57	REVISED TO STATUS OF 7-1-57	DDS	JAC		
8	11-8-56	REVISED TO FIELD CHECKED STATUS	NB	JAS		
7	8-22-56	REVISED TO STATUS OF 7-1-55	NB	JAS		
6	8-17-54	REDRAWN (DRAWING NO. ENG-R 112 ADDED)	LCW	JAS		

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-1 MAIN TECHNICAL AREA

CHECKED: DESIGNER — RECOMMENDED: GROUP LEADER — APPROVED: ENG. DEPT. OFFICE

DRAWN: LC WINKS — DATE: 8-17-54 — DRAWING NO.: ENG-R 112
SCALE: NONE — SHEET 1 OF 2

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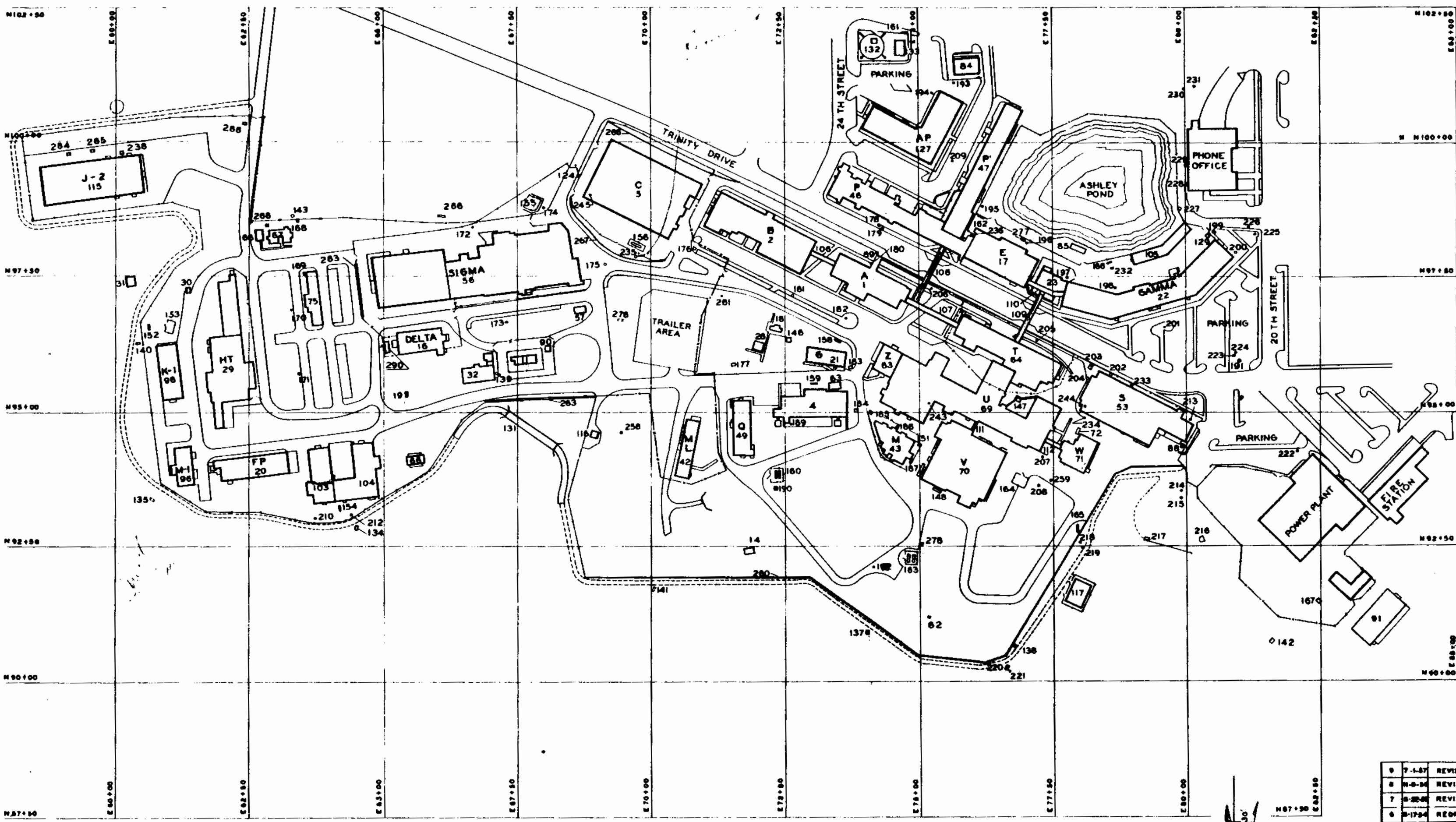

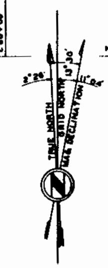

Figure TA-1-1: Structure Location Plan for TA-1 - Main Technical Area
(1954 Drawing from the LANL Technical Area Structure Location Plans)

NO.	DATE	REVISIONS	BY
9	7-1-57	REVISED TO STATUS OF 7-1-57	DDS
8	8-8-56	REVISED TO FIELD CHECKED STATUS	HB
7	8-22-55	REVISED TO STATUS OF 7-1-55	HB
6	8-17-54	REDRAWN TO STATUS OF 7-1-54, R-112 ADDED	LCW

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STRUCTURE LOCATION PLAN
TA-1 MAIN TECHNICAL AREA

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

DRAWN: LC WINKS DATE: 8-17-54
SCALE: 1" = 100' SHEET 2 OF 2
ENG- R 113

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TA-2 - OMEGA SITE

CURRENT OPERATIONS

The Omega West Reactor (OWR) is located in TA-2-1. This 8-MW research reactor is fueled by highly enriched uranium (93%) plate-type fuel elements and is water cooled. The reactor is used by approximately 25 Laboratory groups for such purposes as sample analysis by neutron activation, production of radioisotopes, and neutron scattering experiments.

POTENTIAL CERCLA/RCRA SITES

In September 1944, a power boiler was assembled at Omega Site--it produced the first sustained nuclear reaction in a controlled fashion at Los Alamos and was called the "Water Boiler." It was upgraded several times and was not defueled until 1974. Clementine, a fast reactor, was built in 1946 next to the Water Boiler. It was fueled with plutonium and cooled with mercury. The reactor was shut down after only a few years of operation. Subsequently, a substantial amount of decontamination and decommissioning work was conducted at TA-2. More information on past activities at TA-2 can be found in LASL (1947:12), Oppenheimer (1944), Williams et al. (1969), Hawkins (1983:104), Truslow (1983:312-313), and Elder and Knoell (1986).

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-2. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-2 is 8.3 (Appendix B).

FIGURES

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TABLE TA-2 - POTENTIAL CERCLA/RCRA SITES

TA2-1-CA-A/I-HW/RW (Reactors and associated facilities)

Background--A recent document states that the reactor vessel is contaminated with uranium, induced activity, and long-lived fission products. Gaseous waste transfer systems are moderately contaminated with fission products and the concrete biological radiation shields have low levels of induced activity (Balo and Warren 1986:57).

Some of the external structures of the water boiler, effluent stack lines, and delay tanks were recently decommissioned (Elder and Knoell 1986). Maximum allowable levels of radiation for surface soil after cleanup were nondetectable levels for gross alpha, 25 pCi/g for gross beta, and 5 microR/h external gamma if cesium-137 was present. Maximum levels for subsurface soil were 75 pCi/g, 75 pCi/g, and 20 microR/h, respectively. Contaminated material and soil were taken to TA-54 (Elder and Knoell 1986).

Local minor contamination was observed north of TA-2-19 during the 1986 survey. A truck staging area used during decommissioning was observed to have an average activity of 30 pCi/g, and 6 in. of topsoil was applied (Elder and Knoell 1986). Additional surveying indicated surface contamination with a maximum of 273 pCi/g behind TA-2-50.

The Clementine reactor, which was constructed in 1946 next to the water boiler, was shut down after only a few years of operation (Truslow and Smith 1983:312-313). By the middle of 1953, the dismantling of the reactor was essentially complete, and parts of the reactor had been taken to the contaminated waste pit. The mercury coolant was disposed of in Material Disposal Area C. The plutonium fuel is assumed to have been reprocessed.

After Clementine was decommissioned, the Omega West Reactor (OWR) was constructed in the same location. It is a light-water moderated and cooled system using aluminum-clad enriched uranium fuel elements. Criticality was achieved in August 1956 (Williams et al. 1969). The reactor is still in operation.

The reactor exhausts gaseous radionuclides out a stack on a mesa to the south. Associated with the OWR are spent fuel holding tanks, ion exchange cleanup basins, and other equipment contaminated with radionuclides. The CEARP files document spills that contaminated the inactive and active reactor areas.

Leakage from sumps and pipes has contaminated the surrounding soils. At TA-2 the following buildings are in use and are considered contaminated: the Omega Reactors, TA-2-1; stack gas valve, TA-2-19; equipment building, TA-2-44; and cooling tower, TA-2-49. Radionuclides include fission products and induced activity (Balo and Warren 1986).

A small "chem shack," TA-2-3, was located to the east of the main reactor building, TA-2-1. It was used for a variety of purposes involving radioactive material with areas of contamination reading up to 75 mR/h. The plumbing was believed to contain uranyl nitrate and the exhaust stack was suspected to be contaminated with perchloric acid (LASL 1971; Buckland 1971). In 1971 this building and its contents were moved to Area G, TA-54 (Blackwell and Enders 1971). The area is now occupied by building TA-2-63, the boiler house.

Undated engineering records indicate that the generator building, TA-2-2, was removed in 1948, storage building TA-2-5 was removed in 1949, and three hutments, TA-2-14, were removed in 1950. Diesel building TA-2-6 went to S Site in 1960.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I activities will be conducted to determine the extent of residual environmental contamination from past operations and to verify the adequacy of decontamination and decommissioning activities. The active facilities are covered by routine LANL operations.

TA2-2-CA/S/UST-A/I-HW/RW (Sumps, lines, and manholes)

Background--In 1950, a trap in the effluent line for the Water Boiler, located in a pit to the southeast of the reactor, was reported to have levels of 25 R/h (H Division 1950a). In 1954, a "drain trap" for the Water Boiler was mentioned. Water drained from the trap registered 100 R/h 1 meter from the surface (Montoya 1954). This is probably the same trap mentioned in 1950. In 1950, hot underground pipes (H Division 1950b) and a condensation sump (H Division 1950c) were indicated to be at Omega.

In 1971, a surge tank was reported to have run over (Hankins 1971). This was probably the effluent holding tank, TA-2-62, indicated in "A Survey of Liquid Waste Management Problems at the Los Alamos Scientific Laboratory," (LASL 1975).

During the recent LANL Phase I decontamination and decommissioning operation, obsolete structures and contaminated soil were removed to TA-54. The structures included TA-2-19 (the stack gas valve house), TA-2-32 (underground chamber), TA-2-62 (holding tank), and TA-2-48 (acid manhole). Effluent lines and associated delay tanks were also removed. Spotty cesium-137 contamination was observed in the area. Because of groundwater infiltration and the working depth below the surface, total decontamination was not undertaken. Residual radioactivity in the soil at the TA-2-48 location was 1,000 pCi/g at depths greater than 5 ft. A few locations in the surface layer (within 5 ft of the surface) were known to be slightly above the de minimus level but were within the concentration guide of 75 pCi/g (Elder and Knoell 1986).

In an area to the east of TA-2-48, two pieces of clay pipe, each 34 ft by 20 ft, were uncovered. The composition of the subsurface region suggested that a leach field might have existed around these pipes. Contamination by both alpha and beta/gamma was initially 2,000-4,000 pCi/g in spotty areas. Soil was removed until alluvial groundwater was reached 6 to 8 ft below the surface, and levels had dropped to 53-67 pCi/g of beta/gamma, with no alpha. Clean soil was used to fill to grade (Elder and Knoell 1986).

In an area east of TA-2-48 near the stream bed, contamination was detected and removed to 74 pCi/g beta/gamma and 68 pCi/g alpha. Again, the area was backfilled with clean soil (Elder and Knoell 1986).

An area that had served as a secondary pit during cleanup was decontaminated to soil levels of 40-87 pCi/g beta/gamma. In several areas, activity was detected during the 1986 cleanup near the southern stream bank, and a portion of the bank was removed, leaving levels of less than 50 pCi/g beta/gamma at the surface. Two areas behind TA-2-50 were also cleaned up, one of them by removing tubing.

In considering active areas at TA-2, the 1957 engineering drawing R114 indicates a salvage basin, TA-2-26, and equipment building, TA-2-44. The equipment building contains the main circulating pump for the OWR, several other pumps, and tanks for the deionizers. A fuel-transfer pool associated with the OWR is also there. All these sumps and tanks are contaminated. An underground tank is used as storage for emergency core spraying at the OWR. Piping connects the main OWR with the heat exchanger and cooling tower.

Three 1,200-gal. tanks store OWR system wastes. The tanks are buried under 4 ft of earth. An underground concrete pit contains the pumps and valve system (Williams et al. 1969).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I activities will be conducted to determine the extent of residual environmental contamination from past operations and to verify the adequacy of decontamination and decommissioning activities. The active facilities are covered by routine LANL operations.

TA2-3-CA/O-A/I-HW/RW (Effluents)

Background--Contaminated discharges from TA-2 have been reported (Kennedy 1957; Hankins 1961; Abrahams 1963:31; Williams et al. 1969). In 1954, soil samples were taken downstream from Omega. Beta and/or gamma radiation above background was detected at the points where fluid was leaving the site (H Division 1954:30). In 1958 soil samples in Omega Canyon showed gross gamma activity decreasing from the outfall to a point about 1.8 miles downstream (H Division 1958:10).

In 1961, mention was made that water was released while the demineralizer system at the OWR was being recharged. The major release in terms of activity was sodium-24 (Hankins 1961).

In 1963, coolant water containing induced short-lived activity was reported to be discharged to the stream bed. Several Ci of short-lived radionuclides, including chromium, zinc, and antimony, were also reported to be discharged periodically. About four times a year until 1961, materials with an average activity of about 12 microCi of cesium-137 and iodine-131 were cleaned from the trap of the stack and dumped on the alluvium in the canyon (Abrahams 1963:31).

A 1969 report on the OWR stated that until the liquid waste storage system was added in 1963, all radioactive liquid effluent from the deionizer and waste water from the system were discharged directly into the creek bed for more than 6 years, as indicated in the reference above. From 1963-1968, liquid effluents were held in the storage tanks until they decayed or were diluted. In 1968, liquids began to be transported to TA-50, the waste treatment plant (Williams et al. 1969).

In 1963, the coolant flow of about 3 gal./min from Omega was being discharged to Los Alamos Canyon. Samples of the coolant showed 4.5×10^{-4} microCi/cm^3 for sodium-24 and 9.4×10^{-4} microCi/cm^3 for manganese-56. Although these concentrations were approximately six times the recommended maximum permissible concentration value, stream flow was maintained only 5 to 10 ft from the discharge (Frechette 1963). These data agree with the U.S. Geological Survey report of Abrahams.

In February 1964, 125 gal. of slightly acidic liquid waste containing 2 mCi chromium-51, 0.43 mCi antimony-124, 0.2 mCi iron-59, and 0.2 mCi manganese-54 were reported to have been discharged from the OWR storage tanks to Los Alamos Canyon. How often this type of discharge occurred is not known (Frechette 1964).

In May 1964, 1,000 gal. of liquid from the resin bed regeneration was apparently discharged. It contained short-lived radionuclides and 2.5 mCi of manganese-54 (Dean 1964). Downstream from Omega and DP outfalls in Los Alamos Canyon, samples have been taken for radionuclides and chemicals. In 1969, a report stated, "At no time did analyses indicate concentrations approaching published radiological or chemical limits, with the exceptions of hexavalent chromium which is being discharged continuously in effluent water" (Kennedy 1969). In 1971, measurements indicated 100 ppm potassium dichromate in the secondary cooling water (Warner 1971).

In 1970, a report stated that water from the fuel handling pit for OWR was pumped to the creek through a concrete trench. Before decontamination, contamination as high as 30 mR/h was measured in the trench (Neeley and Hankins 1970). Cooling water discharged from the water boiler contained the short-lived radionuclides sodium-24, manganese-56, and copper-64 (Hankins 1970).

In 1972, water was reported to have been dumped into a floor drain that emptied into the creek. Radionuclides sodium-24, manganese-56, and copper-64 were identified (Hankins 1972).

Monitoring radioactivity downstream of Omega is done for radionuclides on a regular basis. In 1985, at a point 100 yd downstream from TA-2, cesium-137 levels were observed in water at or near background (LANL 1986:160). Some distance down Los Alamos Canyon from TA-2, cesium-137 in sediment was 6.2 ± 0.90 pCi/g, whereas up the canyon, concentrations measured 0.34 ± 0.09 pCi/g (LANL 1986).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination from past discharges will be determined during supplemental Phase I activities. The active outfalls are covered by routine LANL operations.

TA2-4-CA/ST-I-HW/RW (Septic tank)

Background--Engineering drawing ENG-R393 indicates that septic tank 43 took wastes from building 1. The overflow went to the canyon. A 1957 memo said this effluent was contaminated (Kennedy 1957). In 1967, septic tank sludge at Omega registered 350 dis/min/mL for strontium-90, 1,100 dis/min/mL for cesium-137, and 62 dis/min/mL for uranium (Fowler 1967). This sludge was removed to TA-54.

In the mid-1970s, the decision was made to connect the sanitary sewer system at Omega to the treatment plant at TA-41 (AEC 1973:2). In 1979, septic tank 43 and its associated drainage field were noted to be contaminated (Jordan 1975). However, during the LANL Phase I cleanup in 1986, water and sludge in TA-2-43 showed no contamination. The tank and a clay line draining the septic tank overflow to the stream were removed. Near the outfall of the TA-2-43 overflow pipe, a spot of approximately 4 mR/h was observed, and soil was removed down to 74 pCi/g beta/gamma and 68 pCi/g alpha. The area was then backfilled (Elder and Knoell 1986).

CERCLA Finding--Due to the status of activities (i.e., CEARP Phase V), a CERCLA finding under FFSDIF, PA, and PSI is not appropriate.

Planned Future Action--The adequacy of decontamination will be verified during CEARP Phase V.

TA2-5-CA-I-HW (Potassium dichromate drift)

Background--Potassium dichromate was used on the cooling tower at Omega. Measurements in 1971 indicated that 0.05 lb of hexavalent chromium per hour of operation of the cooling tower under normal loads was being lost because of drift loss in the cooling tower (Warner 1971).

During the 1987 CEARP field survey, one employee recalled that this loss of potassium dichromate "turned things green." When the heat exchangers were rebuilt and stainless steel was used rather than aluminum, there was no longer a need to use potassium dichromate, and the "greening" of the surrounding landscape went away.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Actions--A field survey will be conducted to measure the chromium in the environment during supplemental Phase I.

TA2-6-UST-A/I-PP (Fuel tanks)

Background--Undated engineering files indicate that TA-2-29, a 1,000-gal. fuel oil tank, was removed in 1959. Structure TA-2-67, also an underground fuel tank, was removed in 1950. An underground 560-gal. diesel tank (TA-2-1) is still present at TA-2.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active tank is covered by routine LANL operations.

TA2-7-CA-I-HW/RW (Burn pit)

Background--A 1945 memo recommended that drums be provided at the burning pit for trash that cannot be burned (Thompson 1945). The memo suggests that there was a burning area at Omega for combustibles, but its location is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action-An attempt will be made to locate the burning area during supplemental Phase I.

TA2-8-CA-I-HW (Storage of oil-filled equipment)

Background--Oil-filled equipment was stored outside of TA-2-1 for several years and leaking oil ran onto the pavement and into the stormwater drain. In 1985 the oil was found to contain PCBs. The area was decontaminated to 1 ppm PCBs.

CERCLA Finding--Due to the status of activities (i.e., CEARP Phase V), a CERCLA finding under FFSDIF, PA, and PSI is not appropriate.

Planned Future Action--The adequacy of decontamination will be verified during CEARP Phase V.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-2-1	OMEGA-1	MAIN BUILDING		N85+00 E115+00
TA-2-2	OMEGA-2		REMOVED 1948	
TA-2-3	OMEGA-3		REMOVED 1971	
TA-2-4	OMEGA-4	LABORATORY BUILDING		N82+50 E112+50
TA-2-5	OMEGA-5		REMOVED 1948	
TA-2-6	OMEGA-6		REMOVED 1960	
TA-2-7	OMEGA-7		REMOVED 1950	
TA-2-8	OMEGA-8	BLOWER HOUSE		N75+00 E117+50
TA-2-9	OMEGA-9	MAST		N75+00 E120+00
TA-2-10	OMEGA-10		REMOVED 1949	
TA-2-11	OMEGA-11		REMOVED 1949	
TA-2-12	OMEGA-12		REMOVED 1955	
TA-2-13	OMEGA-13		REMOVED 1950	
TA-2-14	OMEGA-14		REMOVED 1950	
TA-2-15	OMEGA-15		REMOVED 1948	
TA-2-16	OMEGA-16		REMOVED 1958	
TA-2-17	OMEGA-17		REMOVED 1950	
TA-2-18	OMEGA-18		REMOVED 1950	
TA-2-19	OMEGA-19	STACK GAS VALVE HOUSE		N85+00 E117+50
TA-2-20	OMEGA-20		REMOVED 1950	
TA-2-21	OMEGA-21	WATER LINE VALVE HOUSE		N85+00 E112+50
TA-2-22	OMEGA-22	EAST BRIDGE		N85+00 E117+50
TA-2-23	OMEGA-23	WEST BRIDGE		N85+00 E112+50
TA-2-24	OMEGA-24	RETAINING WALL	NORTH BANK	N85+00 E115+00
TA-2-25	OMEGA-25	RETAINING WALL	SOUTH BANK	N85+00 E112+50
TA-2-26	OMEGA-26	SALVAGE BASIN	ABANDONED 1953	N85+00 E115+00
TA-2-27	OMEGA-27	DROP INLET		N85+00 E112+50
TA-2-28	OMEGA-28	SURFACE INLET		N85+00 E112+50
TA-2-29	OMEGA-29		REMOVED 1950	
TA-2-30	OMEGA-30	BEAM TRAP		N85+00 E115+00
TA-2-31	OMEGA-31		REMOVED 1950	
TA-2-32	OMEGA-32	UNDERGROUND CHAMBER	ABANDONED 1971	N85+00 E115+00
TA-2-33	OMEGA-33	PIPE TRENCH	ABANDONED 1973	N85+00 E115+00
TA-2-34	OMEGA-34		REMOVED 1945	
TA-2-35	OMEGA-35	DRAINAGE BASIN		N85+00 E117+50
TA-2-36	OMEGA-36	DROP INLET		N85+00 E112+50
TA-2-37	OMEGA-37	ROCK CATCHER		N87+50 E115+00
TA-2-38	OMEGA-38	STREAM DEBRIS CATCHER		N85+00 E112+50
TA-2-39	OMEGA-39	STREAM DEBRIS CATCHER		N85+00 E117+50
TA-2-40	OMEGA-40	MANHOLE, GAS PRV		N85+00 E115+00
TA-2-41	OMEGA-41	RETAINING WALL		N85+00 E115+00
TA-2-42	OMEGA-42			
TA-2-43	OMEGA-43	TANK, SEPTIC		N85+00 E117+50
TA-2-44	OMEGA-44	EQUIPMENT BUILDING		N85+00 E112+50
TA-2-45	OMEGA-45		REMOVED 1960	
TA-2-46	OMEGA-46	TANK, SURGE		N85+00 E112+50
TA-2-47	OMEGA-47	MANHOLE, WATER		N85+00 E112+50
TA-2-48	OMEGA-48	MANHOLE, ACID		N85+00 E117+50
TA-2-49	OMEGA-49	COOLING TOWER		N85+00 E112+50
TA-2-50	OMEGA-50	STORAGE BUILDING		N85+00 E117+50
TA-2-51	OMEGA-51	SUBSTATION		N85+00 E112+5C
TA-2-52	OMEGA-52		REMOVED 1968	
TA-2-53	OMEGA-53	PIT, ACID		N85+00 E112+50
TA-2-54	OMEGA-54	TANK, ACID U.G		N85+00 E112+50
TA-2-55	OMEGA-55	TANK, ACID U.G.		N85+00 E112+00
TA-2-56	OMEGA-56	TANK, ACID U.G.		N85+00 E112+00
TA-2-57	OMEGA-57	VALVE HOUSE, WATER		N85+00 E112+50
TA-2-58	OMEGA-58	STACK MONITORING BUILDING		N75+00 E117+50
TA-2-59	OMEGA-59	TRANSFORMER STATION	NOT SHOWN	
TA-2-60	OMEGA-60	TRANSFORMER STATION	NOT SHOWN	
TA-2-61	OMEGA-61	METERING STATION	NOT SHOWN	
TA-2-62	OMEGA-62	EFFLUENT HOLDING TANK U.G.		N85+00 E117+50
TA-2-63	OMEGA-63	BOILER HOUSE		N85+00 E115+00
TA-2-64	OMEGA-64	MANHOLE, ACID	PROPOSED	
TA-2-65	OMEGA-65	MANHOLE, ACID	PROPOSED	
TA-2-66	OMEGA-66	COVERED LOADING DOCK	NOT SHOWN	
TA-2-67	OMEGA-67	TANK, FUEL	NOT SHOWN	
TA-2-68	OMEGA-68	TRAILER, LABORATORY	FORMERLY TA-0-728	N85+00 E112+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-1	ULR-1	MANHOLE	WATER	N85+00 E112+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV.	DATE	REVISION	BY	CKD	APP
17	8-19-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-27-83	HS	[illegible]	DR

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-2 OMEGA SITE

SEC CLASSIFICATION
CLASS: U
REVIEWER: [illegible]
DATE: 7-25-83

SUBMITTED: Neal Byers
RECOMMENDED: Damin Ray
APPROVED: [illegible]
DRAWN: [illegible]
CHECKED: [illegible]
DATE: 8-19-83
SHEET NO 1 OF 2
DRAWING NO ENG-R 5102

Figure TA-2-1: Structure Location Plan for TA-2: Omega Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

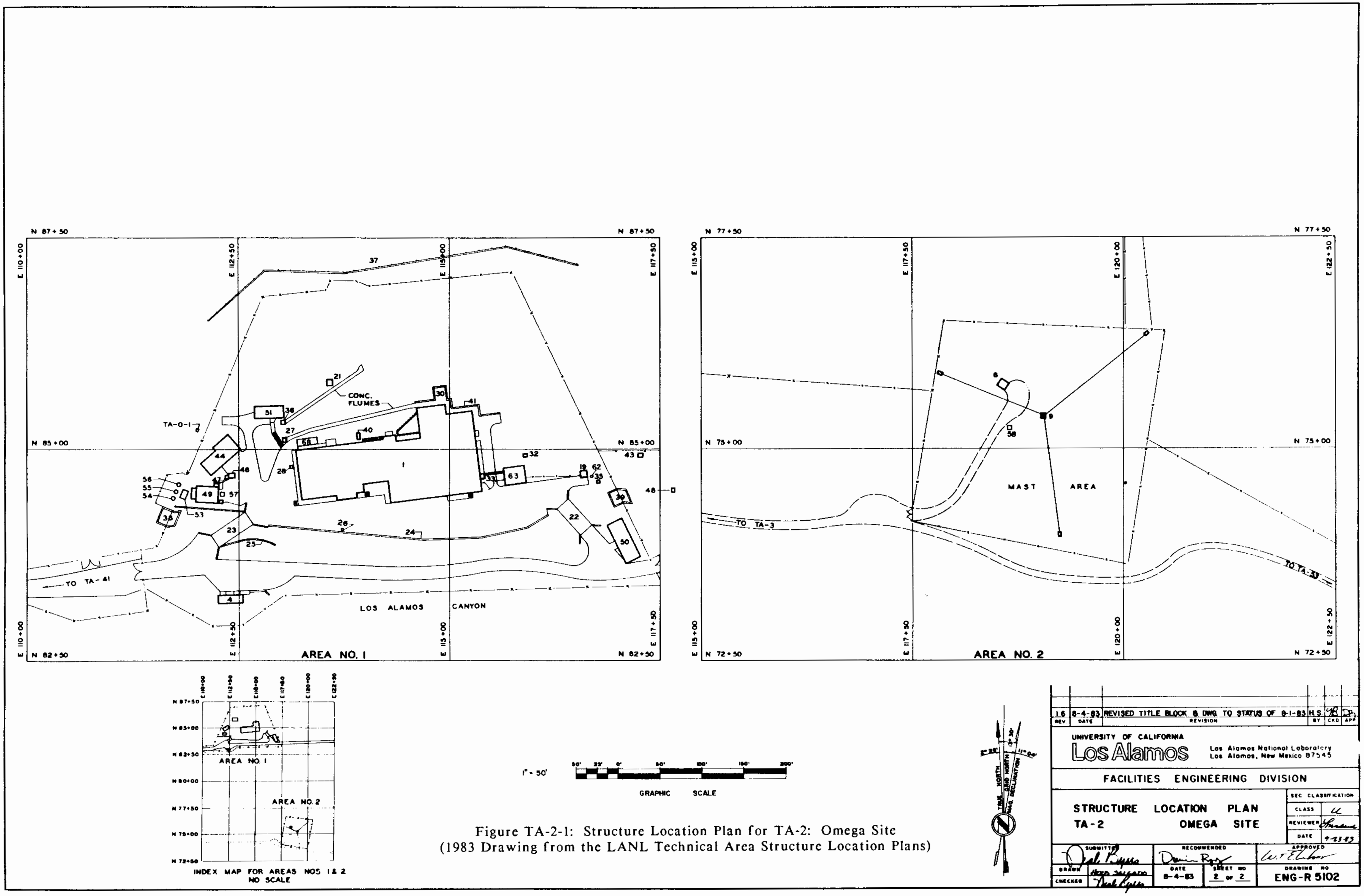

Figure TA-2-1: Structure Location Plan for TA-2: Omega Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-2-1	OMEGA-1	MAIN BUILDING		N85+00 E115+00
TA-2-2	OMEGA-2		REMOVED 1948	
TA-2-3	OMEGA-3		REMOVED 1971	
TA-2-4	OMEGA-4	LABORATORY BUILDING		N82+50 E112+50
TA-2-5	OMEGA-5		REMOVED 1948	
TA-2-6	OMEGA-6		REMOVED 1960	
TA-2-7	OMEGA-7		REMOVED 1950	
TA-2-8	OMEGA-8	BLOWER HOUSE		N75+00 E117+50
TA-2-9	OMEGA-9	MAST		N75+00 E120+00
TA-2-10	OMEGA-10		REMOVED 1949	
TA-2-11	OMEGA-11		REMOVED 1949	
TA-2-12	OMEGA-12		REMOVED 1955	
TA-2-13	OMEGA-13		REMOVED 1950	
TA-2-14	OMEGA-14		REMOVED 1950	
TA-2-15	OMEGA-15		REMOVED 1946	
TA-2-16	OMEGA-16		REMOVED 1958	
TA-2-17	OMEGA-17		REMOVED 1950	
TA-2-18	OMEGA-18		REMOVED 1950	
TA-2-19	OMEGA-19	STACK GAS VALVE HOUSE		N85+00 E117+50
TA-2-20	OMEGA-20		REMOVED 1950	
TA-2-21	OMEGA-21	WATER LINE VALVE HOUSE		N85+00 E112+50
TA-2-22	OMEGA-22	EAST BRIDGE		N85+00 E117+50
TA-2-23	OMEGA-23	WEST BRIDGE		N85+00 E112+50
TA-2-24	OMEGA-24	RETAINING WALL	NORTH BANK	N85+00 E115+00
TA-2-25	OMEGA-25	RETAINING WALL	SOUTH BANK	N85+00 E112+50
TA-2-26	OMEGA-26	SALVAGE BASIN	ABANDONED 1953	N85+00 E115+00
TA-2-27	OMEGA-27	DROP INLET		N85+00 E112+50
TA-2-28	OMEGA-28	SURFACE INLET		N85+00 E112+50
TA-2-29	OMEGA-29		FUEL, REMOVED 1950	
TA-2-30	OMEGA-30	BEAM TRAP		N85+00 E115+00
TA-2-31	OMEGA-31		REMOVED 1950	
TA-2-32	OMEGA-32	UNDERGROUND CHAMBER	DEMOLISHED 1971	
TA-2-33	OMEGA-33	PIPE TRENCH	ABANDONED 1973	N85+00 E115+00
TA-2-34	OMEGA-34		REMOVED 1945	
TA-2-35	OMEGA-35	DRAINAGE BASIN		N85+00 E117+50
TA-2-36	OMEGA-36	DROP INLET		N85+00 E112+50
TA-2-37	OMEGA-37	ROCK CATCHER		N87+50 E115+00
TA-2-38	OMEGA-38	STREAM DEBRIS CATCHER		N85+00 E112+50
TA-2-39	OMEGA-39	STREAM DEBRIS CATCHER		N85+00 E117+50
TA-2-40	OMEGA-40	MANHOLE	GAS P.R.V.	N85+00 E115+00
TA-2-41	OMEGA-41	RETAINING WALL		N85+00 E115+00
TA-2-42	OMEGA-42		CANCELLED	
TA-2-43	OMEGA-43	TANK	SEPTIC	N85+00 E117+50
TA-2-44	OMEGA-44	EQUIPMENT BUILDING		N85+00 E112+50
TA-2-45	OMEGA-45		REMOVED 1960	
TA-2-46	OMEGA-46	TANK	SURGE	N85+00 E112+50
TA-2-47	OMEGA-47	MANHOLE	WATER	N85+00 E112+50
TA-2-48	OMEGA-48	MANHOLE	ACID	N85+00 E117+50
TA-2-49	OMEGA-49	COOLING TOWER		N85+00 E112+50
TA-2-50	OMEGA-50	STORAGE BUILDING		N85+00 E117+50
TA-2-51	OMEGA-51	SUBSTATION		N85+00 E112+5C
TA-2-52	OMEGA-52		REMOVED 1968	
TA-2-53	OMEGA-53	PIT	ACID	N85+00 E112+50
TA-2-54	OMEGA-54	TANK	ACID, UNDERGROUND	N85+00 E112+50
TA-2-55	OMEGA-55	TANK	ACID, UNDERGROUND	N85+00 E112+00
TA-2-56	OMEGA-56	TANK	ACID, UNDERGROUND	N85+00 E112+00
TA-2-57	OMEGA-57	VALVE HOUSE		N85+00 E112+50
TA-2-58	OMEGA-58	STACK MONITORING BUILDING		N75+00 E117+50
TA-2-59	OMEGA-59	TRANSFORMER STATION		N75+00 E120+00
TA-2-60	OMEGA-60	TRANSFORMER STATION	SERIES LIGHTING	N85+00 E112+50
TA-2-61	OMEGA-61	METERING STATION	LOC. 2 SPANS SW OF OMEGA-60	
TA-2-62	OMEGA-62	EFFLUENT HOLDING TANK	(UNDERGROUND)	N85+00 E117+50
TA-2-63	OMEGA-63	UTILITY BUILDING		N85+00 E115+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-1	ULR-1	MANHOLE	WATER	N85+00 E112+50
TA-0-584	ULR-584	TRAILER, LABORATORY		N85+00 E115+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REVIEWER [signature]
CLASS U DATE

NO.	DATE	REVISIONS	BY	CHKD	GRP LDR.	EN D
16	4-12-77	REVISED DWG. NO. (FORMERLY R2408)	M.M.			
15	11-21-73	REVISED TO STATUS OF 11-21-74	B.H.			
14	1-12-73	REVISED TO STATUS OF 1-12-73	DAD			
13	12-18-70	REVISED TO STATUS OF 12-18-70	DAD			
12	8-5-69	REVISED TO STATUS OF 8-5-69	DAD			
11	10-13-65	REVISED TO STATUS OF 6-4-65	ERW			
10	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R114)	DDS			

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-2 OMEGA SITE

CHECKED: PROJ. ENG. — RECOMMENDED: GROUP LEADER — APPROVED: ENG. DEPT OFFICE
DESIGNER — DATE 8-15-61 — DRAWING NO. ENG-R 5102
DRAWN D.D. SIMES — SHEET NO. 1
SCALE NONE

Figure TA-2-2: Structure Location Plan for TA-2: Omega Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)

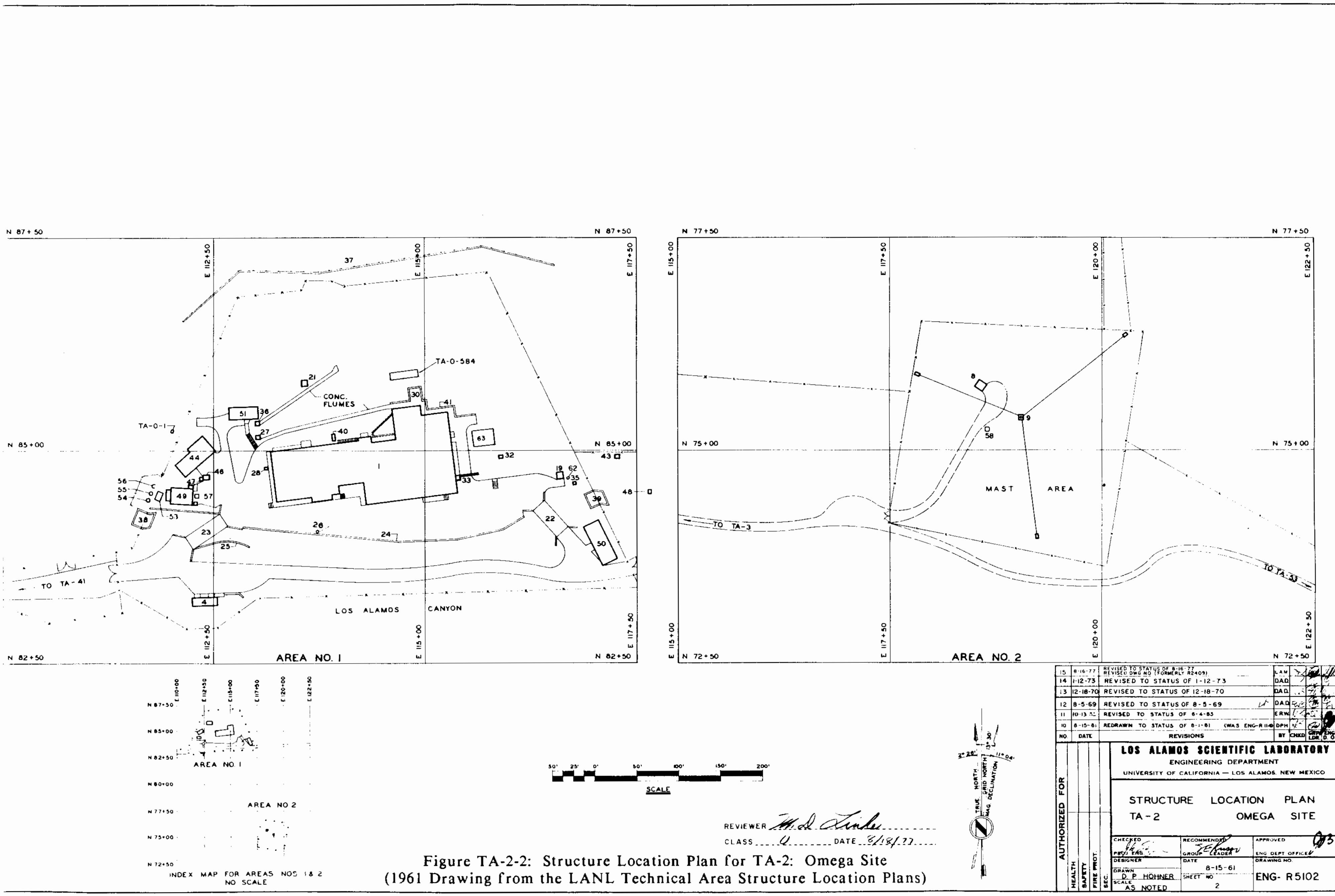

Figure TA-2-2: Structure Location Plan for TA-2: Omega Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)

TA-3 - SOUTH MESA

CURRENT OPERATIONS

The original South Mesa site developed during the war years was completely removed in 1949, and in the early 1950s construction began on a new site, TA-3, which finally replaced TA-1 (Persons 1950). TA-3 is the largest and most complex technical area in the Laboratory. Approximately one-half of the Laboratory's employees are stationed here. Only the major operations are discussed in this section.

The TA-3 power plant was constructed in 1950. Its three natural-gas fired boilers can produce 360,000 lb/h of 420-psi, 750-degree steam for heating and power generation. The plant provides power up to 20 MW electric and the essential heating needs of TA-3.

The CMR Building (SM-29) was constructed in the early 1950s and currently consists of eight wings housing groups primarily from the Chemical and Laser Sciences (CLS) Division and the Materials Science and Technology (MST) Division. Two additional wings were planned, tentatively to have been numbered Wings 6 and 8, but were never completed.

Wing 9 houses an irradiated-fuel examination facility in which reactor fuel rods are examined, including physical measurements, specimen cutting and preparation, and photomicrography. The other five technical wings (2, 3, 4, 5, and 7) house numerous and varied research and development and analytical chemical operations. Wings 2 and 4 house basic physical metallurgical research including the determination of thermochemical, physical, and mechanical properties, often at very high pressures, and the determination of crystal structures. Applied physical metallurgical research encompasses safety analyses, compatibility investigations, structural and mechanical property determinations, and production of new metastable alloy phases by splat cooling techniques. There is also a facility for heat treating and testing plutonium-238 oxide fuel spheres and samples. Substantial amounts of depleted uranium alloys and compounds are prepared here. In Wings 3, 5, and 7, analytical chemical services are furnished for the Laboratory. This work includes analysis of radioactive materials from research, production, and recycling operations.

In the main MEC Division shop (SM-39), materials such as plastics, steel, copper, aluminum, brass, magnesium, and carbides (tungsten and titanium) are machined for use in numerous Laboratory experiments and projects.

The Administration Building (SM-43) is the main site for Laboratory administrative activities, but it also houses several laboratories, technical offices, and production facilities. The Printing Plant (Group IS-10) and the photographic processing and printing facilities (Group IS-9) are here, as is the Laboratory Copy Center.

The Controlled Thermonuclear Research (CTR) Division, which is responsible for fusion power research and development, maintains several offices and laboratories in SM-43. Operational Security (OS) Division has several groups in this building and, with CRM-2 (Telecommunications Management), is involved in computer and telecommunications operations and security.

Many other activities are located in SM-43: Dosimetry and Measurements (HSE-1), graphics support offices for defense and weapons programs, the Analysis and Assessment (A) Division, and the Public Affairs Office.

SM-40 houses groups from many divisions, including Mechanical and Electronic Engineering (MEE), Earth and Space Sciences (ESS), and Physics (P).

The groups at the Sigma Complex develop and fabricate materials for Laboratory programs. The ceramics and powder metallurgy sections process uranium-238, uranium-235, and thorium-232 in the forms of carbides, oxides, nitrites, or hydrides. They also use powders of lead, nickel, tungsten, cadmium, antimony, bismuth, copper, and zirconium and barium oxides. Several sections perform a variety of metal processing steps on a number of materials, including uranium-235, uranium-238, thorium-232 and, on occasion, metal containers for tritium. The uranium can be hot rolled, warm and cold rolled, swaged, forged, drawn, or extruded. The foundry can melt and cast a large variety of metals including uranium-238, lead, copper, zinc, and brass. The plastics section provides plastic materials in the shapes and forms required. Resins, plastics, solvents, toxic inorganic salts, and curing agents are used. The area is well ventilated, and vapors are discharged to the atmosphere through stacks on the building. The electrochemistry section performs electropolishing and acid etching on uranium-238, uranium-235, and thorium-232 as well as on aluminum, steel, nickel, copper, chromium, silver, lead, and gold.

The Center for Materials Science, established in 1981, supports many programs to analyze, process, and fabricate plutonium and other critical and advanced materials. Most of the Center's research is directed toward behavior of materials under extreme conditions, such as high pressures, temperatures, and deformation rates.

The Van de Graaff Accelerator, now called the Ion Beam Facility, in SM-16 uses tritium, sulfur hexafluoride, and small quantities of carbon-14. Small amounts of these materials are discharged through hoods to the atmosphere.

Other divisions with facilities in TA-3 include Computing, Theoretical, Administrative Data Processing, Accounting, and Materials Management. The Bradbury Science Museum, the Wellness Center, the Study Center, Personnel, and the Cafeteria are also located in TA-3. The Center for Nonlinear Studies and the Center of National Security Studies are in the T-Division and Administrative Buildings, respectively. The Computing Division maintains computing and communications hardware and software in SM-132 that serve the entire Laboratory. The Pan Am company maintains a garage and gas station for government vehicles in this area, as well as shops and support facilities.

POTENTIAL CERCLA/RCRA SITES

The following tables present what is known about potential CERCLA/RCRA sites at this location. Table TA-3 lists potential CERCLA/RCRA sites for the active TA-3, and the 1940s TA-3. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-3. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-3 is 12.4 (Appendix B).

FIGURES

Figure TA-3-1: Structure Location Plan for TA-3 - South Mesa Site (1983)
Figure TA-3-2: Structure Location Plan for TA-3 - South Mesa Site (1955)

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TABLE TA-3 - POTENTIAL CERCLA/RCRA SITES

TA3-1-CA-A/I-HW/RW (Facilities)

Background--The following documents (several associated with Van de Graaff facility) provide background information on facility operations and materials handled at TA-1: Balo and Warren 1986; Ettinger 1982; Ferran 1965; H Division 1952a,b; 1953a,b,c,d; 1956a,b; 1959; 1962a,b; 1964; 1966; 1975; Howard 1978; Hyatt 1955; Mitchell 1960a,b; Persons 1950; Reider 1969; Robbins 1954a,b; Voelz 1953; Wing and Meissner 1969.

The CMR Laboratory, a large building which presently consists of seven wings, was designed as the major laboratory at Los Alamos for plutonium chemistry and metallurgy, and the investigation of the properties of other materials, including uranium, tritium, and other radionuclides. The building has been served by two independent exhaust air systems and numerous discharge stacks. In the 1960s the second stack in Wing #7 of the CMR building discharged up to 5.3×10^{-3} Ci of gross alpha annually. It was reported in 1971 that the CMR building had consistently produced the highest plutonium effluent content of any facility within the LASL complex (ENG 1971).

A vacuum pump repair shop is located in TA-3-30. In the 1950s it was the practice to take contaminated vacuum pump oil and dispose of it over a bank at the back of the building. Later, a pipe draining to this same location was installed. It has been estimated that 150-200 lb of mercury were disposed of in the environment with the oil. Other contaminants could include beryllium, tritium, transuranics. The area on the west end of the building was paved about two years ago. What happened to the drain line is not known (Ahlquist 1985).

ENG-R115 shows a carboy washing platform to the west of TA-3-31. It would be expected that the liquids had been discharged to the nearby arroyo, but information on this operation is lacking. ENG-R5103 shows that the platform was removed in 1980.

Beryllium work in the physics building, TA-3-40, was also carried out (Ferran 1962; Toca 1968; H Division 1956a), and beryllium exhaust systems were installed (H Division 1962). Details on how much beryllium was vented to the atmosphere from the physics building are lacking, but it appears there may have been no off-gas cleanup. For many years a printed circuit shop has been operated at TA-3-40. Chemicals used include hydrochloric acid, ferric chloride, nickel, copper, gold, and pyrophosphate solutions, fluoroborate, and lead-tin fluoroborates (Ferran 1964).

In the initial 1986 CEARP field survey, unmarked drums and capacitors were noted in a storage area south of TA-3-287. Oil residues on the ground were noted. Whether these residues contained PCBs is not known. The drums and capacitors were removed and construction is now taking place in this area. A great number of capacitors were stored outside near buildings TA-3-218 and TA-3-253; however, all the PCB-marked capacitors and many of the other capacitors have been removed from the area. The fenced area for building 282 formerly included a storage area for capacitors, transformers, and other electrical equipment. Some PCB-marked items were noted as leaking during the 1986 CEARP survey. After the initial survey, the PCB-containing capacitors were reported to have been shipped offsite for disposal. Several inches of soil throughout the entire storage site were removed in order to "clean up" the area. Many capacitors were moved to a field behind Building 282. These were reported to be PCB free. There are also unmarked drums stored in this area. Throughout the TA-3 area the initial 1986 CEARP field survey noted unmarked drums that appeared to be old. Several were leaking. Quite a few were either completely open or had open bung holes, and these appeared in general to contain an oily-looking material. The field survey saw a few unmarked transformers, two leaking transformers (one unmarked), and several out-of-service transformers with PCB labels. In a few areas, oil residues were noted.

The previous discussion concerned contaminated areas and buildings associated with Los Alamos National Laboratory activities. In addition to these facilities, Pan Am (formerly Zia) has activities and facilities located in TA-3 that may have led to the contamination. One of these facilities is a warehouse complex. Buildings include TA-3-446 and TA-3-383 for solvent storage. Building TA-3-381 is the major supply warehouse, and TA-3-1536 is used for offices. The area around 381 is used for outside storage. Oil spills have occurred in the complex. Near TA-3-382 is a drum and equipment storage area. The 1986 CEARP field survey saw evidence of small oil spills in the repair and storage areas. Additionally, the initial CEARP field survey observed unmarked drums (some leaking) around several Pan Am buildings. Some of these have now been removed.

Historically, chromate from drift loss during the early years of operation may be present in soils near the TA-3 power plant. During 1968, stoddard solvent from the Zia iron workers shop, and Drycid and caustic from the fitters operation in TA-3-38 were being disposed of in the ditch that traversed the main parking lot of the Administration Building. Steps were taken to discontinue this practice (Schulte 1968).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Potential environmental contamination from past activities will be evaluated during supplemental Phase I. Active facilities, including storage areas, are covered by routine LANL operations.

TA3-2-CA/ST-A/I-HW/RW (Septic systems)

Background--Septic tank TA-3-15 served the Van de Graaff complex according to ENG-R115. The Van de Graaff facility included a dark room and laboratory area where solvents and chemicals were handled. Small quantities of radionuclides, including tritium, may be present in liquids placed in the industrial drains (Ferran 1968). It would be assumed that in the early history of the complex, the industrial drains discharged to the septic tank. According to ENG-R115, by the mid-1950s this tank was no longer in use; ENG-R5103 indicates removal in 1964. However, ENG-E378 shows the septic tank as being tied into the industrial waste lines, according to a 1975 LASL report. Before connecting to the industrial waste line, the tank may have drained to the canyon on the south.

According to ENG-R115, the Van de Graaff also had a cesspool, TA-3-45, located slightly northwest of the septic tank. Details on this are lacking, but it probably received sanitary waste. ENG-R5103 notes that it was removed in 1964.

Tank TA-3-79, indicated by a marker sign, is an inactive septic tank located near TA-3-70. In 1972 it was reported free of radionuclide contamination (Miller 1972).

Septic tank TA-3-272 is shown on ENG-R5103 as being southeast of TA-3-271 (Pan Am's salvage building). In the 1972 laboratory survey, it was found free of contamination.

Septic tank TA-3-689 is shown in ENG-R5103 to be northeast of the "radio shack" building, 282. The present status of this tank and what building it served are not known.

A septic tank was observed east of building 130, the calibration building, during the 1986 field survey. This tank is active, with an overflow to a leach field (Pan Am 1986).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the extent of residual contamination associated with the inactive septic systems will be investigated. The active septic systems are covered by routine LANL operations.

TA3-3-CA/UST/SST-A/I-PP (Fuel storage tanks)

Background--The Van de Graaff facility has an associated underground gasoline fuel tank, TA-3-191.

The physics building, TA-3-40, had a fuel oil storage tank, TA-3-93, according to ENG-R115. According to ENG-R5103, the tank was removed in 1966.

The magnetic fusion building, TA-3-105, had three underground oil tanks: TA-3-107, -108, and -109, as shown on ENG-R115. These were filled with sand and abandoned in place in 1978, according to ENG-R5103. The 1987 CEARP field survey observed that a building is now located on top of this tank area.

During the 1960s-1970s period, a communications bunker, TA-3-219, with several associated antennas, was in use on Sigma Mesa. This facility is noted in ENG-R5103 as being abandoned in 1980. The bunker had a fuel tank, TA-3-318, associated with it. The tank was also abandoned in 1976.

TA-3-1255 is an underground fuel storage tank for the central alarm station, TA-3-440.

Several underground and aboveground petroleum product tanks are in service in Pan Am operations at TA-3. A small tank farm serves the asphalt plant and other operations. Tanks include one for leaded and one for unleaded gasoline, one for "conditioner" (thick oil), one for kerosene, two aboveground asphalt tanks (in a dirt containment area with dirt berm): TA-3-75 and -76, and two underground asphalt tanks (10,000 and 30,000 gallons): TA-3-78 and -355. The asphalt tanks are steam heated with steam from the nearby power plant. The area around the asphalt tanks is rather oily in some spots. Sometimes tanks are overfilled, resulting in spills. Pan Am operates a gasoline station, TA-3-36. Associated with the station are an underground diesel tank and two underground gasoline tanks. Pan Am operates a motor pool near its repair shop, TA-3-382, where an underground diesel and an underground gasoline tank are also located. To the northwest of TA-3-382 is the major Pan Am fuel tank farm. It includes five underground tanks: three for gasoline, one for diesel, and one for kerosene. Waste oils are drained into two underground recycling tanks at repair shop TA-3-382 (Zia 1986). An emergency fuel supply for the steam plant, fuel oil tanks TA-3-26 and -27, are located aboveground and are associated with pump house TA-3-57. There are two 150,000-gal. diesel tanks and one 250-gal. diesel tank at the power plant.

There is either a petroleum storage tank or some other type of storage tank located between the Van de Graaff and the road. The 1986 CEARP field survey observed what appears to be a filling pipe and a lifting hook for the tank.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with the inactive fuel storage tanks will be investigated during supplemental Phase I. The active tanks are covered by routine LANL operations.

TA3-4-S-A/I-PP (Oil sumps)

Background--In previous years an aboveground sump/containment area was located below tanks TA-3-63 and TA-3-64, which were recently removed. The 1987 CEARP field survey noted oil in this sump. TA-3-148 is listed in ENG-R5103 as a manhole oil sump abandoned in place in 1978.

A large underground sump, TA-3-550, is located under the oil storage tanks for TA-3-316. During the CEARP survey oily water was noted in this sump. Pan Am facilities at TA-3 also contain several oil catchment sumps. In the motor repair shop, TA-3-382, the floor drains are connected to grease/oil traps. Wastewater from vehicles that are washed/steam cleaned goes to a grease/oil trap. The other motor vehicle station, TA-3-36, also uses sumps.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with the inactive oil sumps will be investigated during supplemental Phase I. The active oil sumps are covered by routine LANL operations.

TA3-5-CA/S/UST/SST-A/I-HW/RW (Chemical waste sumps and tanks)

Background--In the "early days" of operation at TA-3-29, the CMR building experimental wings 2, 3, 4, 5, and 7 each had two concrete tanks with 10,800-gal. total capacity located in the basement. The tanks received liquid from acid drains, floor drains located within controlled areas, wash water from exhaust air ducts, and in some cases, liquid from perchloric acid scrubbers. The tanks are connected to the main acid sewer line. The 1987 CEARP field survey observed that, while this system is still in place, it is not in active use.

In September 1974 a pump test was conducted on the acid waste line and the flow capacity was exceeded. The waste backed up and overflowed from a manhole located south of the south parking lot of the CMR building. The overflow ran over a portion of the parking lot and street, and finally into a storm drain leading to upper Mortandad Canyon. An earthen dam was placed in the canyon to prevent extensive movement down canyon and the area was cleaned up. Residual contamination (with levels on the order of 15 nCi/g gross alpha at isolated areas) was reported in the area around the manhole below the clean earth backfill. More details are available in the references and memos in the CEARP files (Smith, Fowler, and Stafford 1977). Staff have reported, in the years succeeding the 1974 cleanup, occasional plutonium in the outfall area in concentrations slightly above background. In 1985 much of the old acid line in TA-3 was removed, and most of the contaminated soil where leaks had occurred was also removed. Residual contamination and the few areas of remaining line are discussed in Elder et al. (1986).

To serve Wing 9, a special building, TA-3-154, was constructed at the west end of the wing. This building contains two shielded/buried tanks on the north, which were used to contain high level waste, and two buried tanks on the south, used to contain low level waste (Milner 1975). The CEARP field survey observed that while TA-3-154 tanks are no longer in use, they are operational. It was indicated that while in operation, no unexplained changes in liquid levels were noted that might indicate tank leakage.

The liquid and compressed gas facility, TA-3-170, was designed to handle and store various gases required by the laboratory. In the early years of this facility's operation, the gas bottles were cleaned with caustic soda prior to repainting, and the effluent was discharged to a sump, which in turn discharged through a soil pipe to a "ditch wetlands area" (Environmental Surveillance n.d.). The CEARP field survey observed that all that remains is a hole in the floor covered with a board. The area where some of the liquid drained is the site of a new addition.

On the east side of TA-3-287 is a covered "well" in the ground. During the field survey the well's small lid was removed. A pipe running into the well and a screen with pebbles below were noted. The area around the well appears oily. An employee indicated that the well was used to discharge liquids from the air compression system.

In the Pan Am operations, a spray booth in TA-3-38 has off-gases treated by a wet scrubber. The scrubber water drains to a tank for recycling. Periodically the tank is drained to the floor drain. It is not known whether this drain connects to the sanitary system or to a storm sewer.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with the inactive chemical waste sumps and tanks will be investigated during supplemental Phase I. The active chemical waste sumps and tanks are covered by routine LANL operations.

TA3-6-CA/O-A/I-HW/RW (Outfalls)

Background--In the 1970s a 230-liter copper electroplating bath was in operation at TA-3-28. Rinse solutions are reported going to the industrial sewer to TA-50, whereas the spent plating baths and strip solutions were transported to TA-50 for treatment. Both the streams would be discharged in the TA-50 outfall after treatment (Voelz 1974).

In former years the industrial drains from the cryogenics building connected to the industrial sewer line that now runs to TA-50. After the work with tritium was discontinued, one of the buildings was connected to the sanitary sewer.

The electrochemistry section of TA-3-66 has always been used for electroplating, according to CEARP files. Rinse solution appears to have been routed for many years to the sanitary sewer (Voelz 1974). In 1960 floor drains in P-100 were noted to go to the sanitary sewer (Mitchell 1960). In 1961 it was reported that basement drains, sink drains, outside stairwell drains, and drains from the first floor trough (if pH was less than 6.2) went to a sump in Room H-8. First floor drains went to the sanitary sewer if pH was above 6.2 (Mitchell 1961).

Spent solutions from the dark room in building 66 discharge to the sanitary sewer. Through the years small quantities of solvents, acids, and perhaps some very small amounts of radionuclides have been discharged from building 66 to this sanitary sewer, which goes to the TA-3 sewer treatment plant.

TA-3-141 has a floor drain and, perhaps, other drains that connect to the roof drain and exit to the environment in a seepage area north of the building. Because uranium is handled in this section, the soils in the seepage area may contain uranium.

In 1972 the chilled water system at TA-3-66 was scheduled for scale removal using ammonium bifluoride solution. Leaks in the system resulted in discharge to the sewer, which ultimately led to a release of 600-700 lb of soluble fluoride into Sandia Canyon. The highest measured fluorine concentration in the stream's flow was reported as 48 ppm (Reinig and Voelz 1973).

The TA-3 power plant, with a capability of 20 MW electric was constructed in 1950. Corrosion inhibitors of the blended chromate-phosphate-zinc type were apparently used from 1950 to the mid-1970s. Chromate usage was 35.9 lb per day. Blowdown was 128,000 gal. per day and windage was less than 46,000 gal. per day (Reinig 1972). Another report indicates blowdown at 288,000 gal. per day with chromium levels in the hexavalent form of up to 34 ppm in this discharge (Zia 1972). The blowdown discharged to Sandia Canyon, and surface flow disappeared within 4 miles. Shaykin (1968) reports that "total chromate analyses of the stream before it disappears averages 10-15 ppm, half of which is estimated to be in the hexavalent or toxic form."

There are numerous cooling towers in TA-3 that have blowdown discharges to canyon outfalls. In 1971 the following cooling systems discharging to Sandia Canyon were noted: TA-3-187; TA-3-285; and TA-3-127. Chemicals added to the cooling tower water were noted as biodegradable and nontoxic (Miller 1971). According to several employees, cooling tower water for the tower serving TA-3-66 had chromium added during the early years of operation. Blowdown was discharged to Mortandad Canyon.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with past discharges and inactive outfalls will be determined during supplemental Phase I. The active outfalls are covered by routine LANL operations.

TA3-7-CA-I-HW (Firing sites)

Background--A small, indoor, high-pressure test area firing chamber was located in Room A-3J of TA-3-43 during the 1960s. It is assumed that off-gases were vented by a fan to the atmosphere.

Building TA-3-159 was previously used as an explosive-forming facility. Building TA-3-160 was used as the firing chamber for Building 159 experiments and is no longer in use. Building TA-3-161 is a bunker that was used to store helium for work in 159.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active facilities are covered by routine LANL operations.

TA3-8-SI-A/I-HW/RW/PP (Lagoons and pits)

Background--For clean-up of the chilled water system at TA-3-66, a 200,000-gal. earthen pit was constructed near TA-3-66 to receive rinse water containing dilute amounts of fluoride. The solution was neutralized to precipitate the fluoride from solution (Voelz 1972). Further details on the decommissioning of this pit are lacking.

A fenced, radioactive-posted lagoon is located toward the east on Sigma Mesa. The lagoon is plastic-lined with sand/bentonite/sand underlying the liner. Approximately 25,000 gal. of treated effluent from the TA-50 treatment plant was placed in the lagoon. Radionuclides other than tritium are present in pond sediments.

The 1986 CEARP field survey also noted a large pit farther out than the fenced lagoon on Sigma Mesa. There is evidence that this pit was lined at one time. It appears that it was used as the drilling mud pit for an experimental geothermal well located nearby. Residues from the drilling operation appear to have remained in the pit.

During the 1986 CEARP survey, the following information was reported: ". . . in area marked Asphalt and Sealer Accumulation Point found several inches of free standing liquid material disposed in the bottom of the unlined pit. Evidence also indicates that operational practice of dumping this material has apparently gone on for some length of time. Evidence indicates that the material seeps out onto the surface of areas covered with fill material." (Martz and Gonzales 1986).

The 1986 CEARP field survey observed that this pit is covered with soil; however, when the area is stepped on, asphalt-like material moves to the surface. This area is south of TA-3-271 near Sandia Canyon. Types and quantities of solvents and other petroleum products disposed of in this pit are not known. It is possible that similar pits line the edge of Sandia Canyon. When one pit became full, a new pit would be constructed in a slightly different area along the canyon edge.

Pan Am directs scrubber water from the asphalt plant into two concrete-lined holding ponds. Water is recycled to the scrubber except for a bleed stream used to wash down vehicles and equipment.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with the inactive lagoons and pits will be determined during supplemental Phase I. The active lagoon and pit systems are covered by routine LANL operations.

TA3-9-W-A/I-HW (Wells)

Background--In 1979 a well for a geothermal test was drilled to a depth of 2292 ft at the end of Sigma Mesa (Purtymun 1984).

Two test holes, TA-3-244 and -245, are noted on ENG-R5103 to be located near the Pan Am test rack (NTS tower) at TA-3-447.

There is no indication of residual environmental contamination of concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

TA3-10-OL/L-A/I-HW (Landfills)

Background--Several areas for storage of asphalt are located on Sigma Mesa near the asphalt batch plant. Petroleum products from ditch cleanup were also disposed of on Sigma Mesa.

Near the head of Sandia Canyon south of TA-3-70 and TA-3-271, there are evidences of disposal along the north canyon rim. Materials including concrete, building material, and approximately 20 ft of friable asbestos-coated pipe were noted during several CEARP field surveys.

A disturbed area located east of TA-3-41, with the land surface elevated above the natural terrain, was observed during a CEARP field survey. Concrete and other building debris appear to be buried at the site. Another disturbed area, with the land surface elevated above the natural terrain, was observed south of TA-3-66. The area along the north rim of Two-Mile Canyon between TA-3-40 and TA-4-16 has also received fill, including building material. A large soil fill area is located just south of the Two-Mile Canyon Bridge. Additionally, there are reports of a landfill just north of TA-3-16. The 1960s photos show a circular area in the soil northeast of TA-3-16. This was apparently an asphalt landing pad for President Kennedy's helicopter. A landfill also potentially exists in the area of the water tank west of TA-3-142. The CEARP field survey observed that the land has been filled in by the tank and that pieces of wire and other debris protrude from the soil. Some filling of upper Mortandad Canyon southeast of TA-3-29 has occurred. It is believed that most of the fill is soil material. Concrete debris was also noted near the new test rack building. Finally, soil disturbance in upper Sandia Canyon was noted.

During the 1986 CEARP field survey of the original South Mesa side, what appears to be a landfill was observed next to the South Mesa Fire Station. The surface of the land is higher here than the natural topography. Concrete and other building materials protrude from the fill. Because this is very close to the location of the original TA-3, it is possible that the combustible portions of TA-3 were burned and the concrete then pushed to form fill near the fire station.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with the inactive landfills will be investigated during supplemental Phase I. The active landfills are covered by routine LANL operations.

TA3-11-CA-I-HW/RW (Explosive manufacturing, testing, and firing sites)

Background--The original South Mesa site consisted of a group of temporary frame structures of extremely light construction, some prefabricated hutments, several small magazines, a few lightly fabricated test chambers, and a concrete explosives burning pad. The structure numbers were TA-3-1 for the main building, TA-3-2 for the production shop, TA-3-3, -4, -5, -6, and -7 for hutments, TA-3-8, -9, -10, and -11 for magazines, and TA-3-12 for the burn pit. The site was used to manufacture the test detonators. Less than half a pound of high explosive was involved in any one firing. Explosives included PETN and azide (McDonald 1945). The PETN was tested under various temperature conditions (Greisen 1945). Memos in the

CEARP files document what appear to be several firing areas as South Mesa, in use since 1943. The memos indicate that other units besides the detonators were fired. The facilities were abandoned and removed in 1949 after the detonator development program was moved to the new detonator laboratory on Two-Mile Mesa (LASL 1947:6-7).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A CEARP Phase I supplemental study will be conducted to determine the presence of environmental residuals associated with explosives manufacturing, testing, and firing.

TA3-12-CA-I-HW/RW (Burn pit)

Background--There were burning pits for both nonexplosive and explosive materials at South Mesa (Thompson 1945), but where these pits were located and how many there were are not known. The aerial photographs taken in the late 1940s show what appears to be the burn pit on East Jemez Road near where the trailer court is today.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A CEARP Phase I supplemental study will be conducted to determine the location of the burning pits and presence of environmental residuals.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT NO	MAP KEY
TA-3-1	SM-1		REMOVED 1949		
TA-3-2	SM-2		REMOVED 1949		
TA-3-3	SM-3		REMOVED 1949		
TA-3-4	SM-4		REMOVED 1949		
TA-3-5	SM-5		REMOVED 1949		
TA-3-6	SM-6		REMOVED 1949		
TA-3-7	SM-7		REMOVED 1949		
TA-3-8	SM-8		REMOVED 1949		
TA-3-9	SM-9		REMOVED 1949		
TA-3-10	SM-10		REMOVED 1949		
TA-3-11	SM-11		REMOVED 1949		
TA-3-12	SM-12		REMOVED 1949		
TA-3-13	SM-13		REMOVED 1949		
TA-3-14	SM-14		REMOVED 1949		
TA-3-15	SM-15		REMOVED 1964		
TA-3-16	SM-16	VAN DE GRAAFF LABORATORY		11	C-9
TA-3-17	SM-17	VAN DE GRAAFF CORRIDOR	INCORPORATED WITH SM-16		
TA-3-18	SM-18	VAN DE GRAAFF ACCEL BLDG	INCORPORATED WITH SM-16		
TA-3-19	SM-19		REMOVED 1966		
TA-3-20	SM-20		REMOVED 1964		
TA-3-21	SM-21	CYLINDER TANK STORAGE		11	C-8
TA-3-22	SM-22	STEAM PLANT		12	G-5
TA-3-23	SM-23	SWITCHGEAR STATION		12	G-4
TA-3-24	SM-24	WATER TREATMENT HOUSE		12	G-5
TA-3-25	SM-25	COOLING TOWER		12	G-5
TA-3-26	SM-26	TANK, FUEL		12	G-4
TA-3-27	SM-27	TANK, FUEL		12	G-4
TA-3-28	SM-28	OFFICE BUILDING		10	D-5
TA-3-29	SM-29	CMR LABORATORY		11	E-7
TA-3-30	SM-30	GENERAL WAREHOUSE		11	A-4
TA-3-31	SM-31	CHEMICAL WAREHOUSE		11	A-5
TA-3-32	SM-32	CRYOGENICS BLDG A		13	G-6
TA-3-33	SM-33	CRYOGENICS PASSAGEWAY	SM-32 TO SM-34	13	G-6
TA-3-34	SM-34	CRYOGENICS BLDG B		13	F-6
TA-3-35	SM-35	PRESS BUILDING		13	G-7
TA-3-36	SM-36	SERVICE STATION		10	B-4
TA-3-37	SM-37	ZIA MAINTENANCE STORAGE		10	B-3
TA-3-38	SM-38	ZIA MAINTENANCE SHOPS		10	C-3
TA-3-39	SM-39	TECH SHOPS		11	D-6
TA-3-40	SM-40	PHYSICS BUILDING		11	B-6
TA-3-41	SM-41	FIRE STATION NO. 1		10	E-2
TA-3-42	SM-42	GUARD HOUSE		11	D-6
TA-3-43	SM-43	ADMINISTRATION BLDG		10	D-4
TA-3-44	SM-44		REMOVED 1949		
TA-3-45	SM-45		REMOVED 1964		
TA-3-46	SM-46	TANK, FINAL SETTLING	SEWAGE PLANT	13	I-5
TA-3-47	SM-47	TRICKLING FILTER	SEWAGE PLANT	13	I-5
TA-3-48	SM-48	TANK, DOSING	SEWAGE PLANT	13	I-5
TA-3-49	SM-49	TANK, IMHOFF	SEWAGE PLANT	13	H-5
TA-3-50	SM-50	INLET STRUCTURE	SEWAGE PLANT	13	H-5
TA-3-51	SM-51		REMOVED 1964		
TA-3-52	SM-52		REMOVED 1964		
TA-3-53	SM-53	GUARD HOUSE	RELOCATED TO TA-49-1		
TA-3-54	SM-54		CANCELLED		
TA-3-55	SM-55	GAS HOUSE		12	G-5
TA-3-56	SM-56	UNIT SUBSTATION		16	G-5
TA-3-57	SM-57	OIL PUMP HOUSE		12	G-4
TA-3-58	SM-58	COOLING TOWER		12	G-5
TA-3-59	SM-59	SEWAGE LIFT STATION	SANITARY	14	E-2
TA-3-60	SM-60		REMOVED 1955		
TA-3-61	SM-61		REMOVED 1955		
TA-3-62	SM-62		REMOVED 1960		
TA-3-63	SM-63		REMOVED 1967		
TA-3-64	SM-64		REMOVED 1967		
TA-3-65	SM-65	SOURCE STORAGE BLDG		11	F-9
TA-3-66	SM-66	SIGMA BUILDING		13	H-7
TA-3-67	SM-67	GUARD HOUSE		13	H-7
TA-3-68	SM-68		REMOVED 1955		
TA-3-69	SM-69	UNIT SUBSTATION		16	G-5
TA-3-70	SM-70	OFFICE BUILDING	BATCH PLANT	12	H-3
TA-3-71	SM-71	STORAGE BUILDING	BATCH PLANT	12	G-3
TA-3-72	SM-72	BULKHEAD GRAVEL	BATCH PLANT	12	G-3
TA-3-73	SM-73	ASPHALTIC CONC PLANT	BATCH PLANT	12	G-3
TA-3-74	SM-74		REMOVED 1961		
TA-3-75	SM-75	TANK, ASPHALT 20,000 GAL	BATCH PLANT	12	G-3
TA-3-76	SM-76	TANK, ASPHALT 20,000 GAL	BATCH PLANT	12	G-3
TA-3-77	SM-77		REMOVED 1980		
TA-3-78	SM-78	TRUCK SCALE	BATCH PLANT	12	G-3
TA-3-79	SM-79	TANK, SEPTIC	BATCH PLANT	16	G-3
TA-3-80	SM-80	TRANSFORMER STATION	BATCH PLANT	16	G-3
TA-3-81	SM-81	SUBSTATION		14	E-2
TA-3-82	SM-82		REMOVED 1973		
TA-3-83	SM-83		REMOVED 1953		
TA-3-84	SM-84	GUARD HOUSE		11	F-7
TA-3-85	SM-85	MANHOLE, GAS		17	G-7
TA-3-86	SM-86	SUBSTATION		17	G-7
TA-3-87	SM-87	SWITCHGEAR STATION		17	G-6
TA-3-88	SM-88	SUBSTATION		17	G-6
TA-3-89	SM-89	GUARD HOUSE	REMOVED 1984		
TA-3-90	SM-90	MANHOLE, GAS		16	G-2
TA-3-91	SM-91	MANHOLE, WATER		16	G-2
TA-3-92	SM-92	MANHOLE, SANITARY		16	F-2
TA-3-93	SM-93		REMOVED 1966		
TA-3-94	SM-94	MANHOLE, WATER		14	B-4
TA-3-95	SM-95	MANHOLE, WATER		14	A-4
TA-3-96	SM-96		REMOVED 1963		
TA-3-97	SM-97	GUARD HOUSE		11	D-5
TA-3-98	SM-98	ROAD BLOCK	RELOCATED TO TA-15-209		
TA-3-99	SM-99		REMOVED 1965		
TA-3-100	SM-100	OFFICE BLDG.		10	C-4
TA-3-101	SM-101		REMOVED 1980		
TA-3-102	SM-102	TECH SHOPS ADDITION		11	D-7
TA-3-103	SM-103	RETAINING WALL		13	G-6
TA-3-104	SM-104	SUBSTATION		16	G-7
TA-3-105	SM-105	SHERWOOD BUILDING		10	D-4
TA-3-106	SM-106	PASSAGEWAY	INCORPORATED SM-105		
TA-3-107	SM-107	TANK, OIL UNDERGROUND	ABANDONED IN PLACE 1978		
TA-3-108	SM-108	TANK, OIL UNDERGROUND	ABANDONED IN PLACE 1978		
TA-3-109	SM-109	TANK, OIL UNDERGROUND	ABANDONED IN PLACE 1978		
TA-3-110	SM-110	STORAGE RACK		13	G-6
TA-3-111	SM-111	MANHOLE, WATER		15	D-5
TA-3-112	SM-112	MANHOLE, WATER		15	E-6
TA-3-113	SM-113	MANHOLE, WATER		15	E-6
TA-3-114	SM-114	MANHOLE, WATER		15	F-6
TA-3-115	SM-115	MANHOLE, WATER		15	E-6
TA-3-116	SM-116	MANHOLE, WATER		15	E-7
TA-3-117	SM-117	MANHOLE, WATER		15	F-7
TA-3-118	SM-118	MANHOLE, WATER		15	E-7
TA-3-119	SM-119	MANHOLE, WATER		15	E-7
TA-3-120	SM-120	MANHOLE, WATER		15	E-7
TA-3-121	SM-121	MANHOLE, GAS		15	F-6
TA-3-122	SM-122	SUBSTATION		10	D-4
TA-3-123	SM-123	OFFICE BUILDING		10	F-4
TA-3-124	SM-124		CANCELLED		
TA-3-125	SM-125		CANCELLED		
TA-3-126	SM-126		CANCELLED		
TA-3-127	SM-127	COOLING TOWER		13	I-7
TA-3-128	SM-128	PASSAGEWAY	SM-39 TO SM-102	11	D-7
TA-3-129	SM-129		REMOVED 1971		
TA-3-130	SM-130	CALIBRATION BUILDING		13	F-9
TA-3-131	SM-131		REMOVED 1957		
TA-3-132	SM-132	COMPUTER BUILDING		10	E-4
TA-3-133	SM-133		CANCELLED		
TA-3-134	SM-134		CANCELLED		
TA-3-135	SM-135		CANCELLED		
TA-3-136	SM-136		CANCELLED		
TA-3-137	SM-137		CANCELLED		
TA-3-138	SM-138		CANCELLED		
TA-3-139	SM-139		REMOVED 1970		
TA-3-140	SM-140	MANHOLE GAS		14	D-5
TA-3-141	SM-141	ROLLING MILL BUILDING		13	I-7
TA-3-142	SM-142	WAREHOUSE		10	A-3
TA-3-143	SM-143		CANCELLED		
TA-3-144	SM-144	SUBSTATION		16	G-4
TA-3-145	SM-145	SWITCHGEAR STATION		17	H-7
TA-3-146	SM-146	SUBSTATION		17	I-7
TA-3-147	SM-147	AIR PLENUM & FAN BLDG		13	I-7
TA-3-148	SM-148	MANHOLE, OIL SUMP	ABANDONED IN PLACE 1978	14	D-4
TA-3-149	SM-149	SWITCHGEAR STATION		15	D-5
TA-3-150	SM-150		REMOVED 1963		
TA-3-151	SM-151	VALVE BOX, WATER		17	G-6
TA-3-152	SM-152		CANCELLED		
TA-3-153	SM-153		CANCELLED		
TA-3-154	SM-154	HOT WASTE PUMP HOUSE		11	E-7
TA-3-155	SM-155	DOCK		13	G-6
TA-3-156	SM-156	COOLING TOWER		10	D-4
TA-3-157	SM-157		REMOVED 1984		
TA-3-158	SM-158	GAS MANIFOLD PLATFORM		13	I-7
TA-3-159	SM-159	FORMING BUILDING		13	I-7
TA-3-160	SM-160	FIRING POINT		13	I-7
TA-3-161	SM-161	MAGAZINE		13	I-7
TA-3-162	SM-162	MANIFOLD		13	G-6
TA-3-163	SM-163	PUMP HOUSE		10	D-4
TA-3-164	SM-164	SHOP STORAGE BUILDING		11	D-7
TA-3-165	SM-165	CONVERTER BUILDING		13	G-6
TA-3-166	SM-166	EFFLUENT PUMP PIT		13	I-5
TA-3-167	SM-167	SHIELD WALL		13	F-9
TA-3-168	SM-168		REMOVED 1982		
TA-3-169	SM-169	WAREHOUSE		13	I-7
TA-3-170	SM-170	LIQUID & COMPR GAS FAC		13	I-6
TA-3-171	SM-171		REMOVED 1982		
TA-3-172	SM-172		REMOVED 1983		
TA-3-173	SM-173		CANCELLED		
TA-3-174	SM-174	PUMP PIT, PROCESS WATER		13	I-7
TA-3-175	SM-175	MANIFOLD, GAS		13	I-7
TA-3-176	SM-176	SUBSTATION		17	I-7
TA-3-177	SM-177	STORAGE BUILDING	FORMERLY TA-10-20	11	F-9
TA-3-178	SM-178	TANK, ASPHALT 30,000 GAL	FORMERLY TA-49-66	12	G-3
TA-3-179	SM-179	STORAGE SHED		12	H-3
TA-3-180	SM-180	STAIRWAY		13	G-6
TA-3-181	SM-181	MANIFOLD		15	E-7
TA-3-182	SM-182	MANHOLE, WATER		17	H-6
TA-3-183	SM-183		REMOVED 1976		
TA-3-184	SM-184	OCCUPATIONAL HEALTH LAB	RENUMBERED TA-59-1		
TA-3-185	SM-185	MANIFOLD		13	H-7
TA-3-186	SM-186	MANIFOLD		13	H-7
TA-3-187	SM-187	COOLING TOWER		13	G-7
TA-3-188	SM-188	MANHOLE, SPRINKLER VALVE		17	I-7
TA-3-189	SM-189	MANIFOLD		11	C-9
TA-3-190	SM-190	SUBSTATION		11	C-8
TA-3-191	SM-191	TANK, FUEL		11	C-9
TA-3-192	SM-192	TANK, IMHOFF		13	I-5
TA-3-193	SM-193	TANK, DOSING		13	I-5
TA-3-194	SM-194	TRICKLING FILTER		13	I-5
TA-3-195	SM-195	SECONDARY CLARIFIER		13	I-5
TA-3-196	SM-196	SLUDGE DRYING BED		13	I-5
TA-3-197	SM-197	SLUDGE DRYING BED		13	I-5
TA-3-198	SM-198	SLUDGE DRYING BED		13	I-5
TA-3-199	SM-199	SLUDGE DRYING BED		13	I-5
TA-3-200	SM-200	OFFICE BUILDING		10	E-4

Figure TA-3-1: Structure Location Plan for TA-3 - South Mesa Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

REV.	DATE	REVISION	BY	CKD.	APP.
27	1-20-86	REVISED TO STATUS OF 1-17-86	NB		
26	9-27-83	REDRAWN & REVISED TO STATUS OF 6-15-83	ADS		

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TA-3 SOUTH MESA SITE

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08-NOV-83 KE15308
ALAMOS2 LEVEL=1

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT NO	MAP KEY
TA-3-201	SM-201		REMOVED 1965		
TA-3-202	SM-202	PASSAGEWAY	SM-132 TO SM-200	10	E-4
TA-3-203	SM-203	PASSAGEWAY	SM-123 TO SM-200	10	F-4
TA-3-204	SM-204	FIELD OFFICE	RELOCATED TO TA-0-194		
TA-3-205	SM-205	MANIFOLD		13	H-7
TA-3-206	SM-206	EQUIPMENT BUILDING		11	C-6
TA-3-207	SM-207	J. ROBERT OPPENHEIMER STUDY CENTER		10	E-3
TA-3-208	SM-208	EQUIPMENT BUILDING		11	C-8
TA-3-209	SM-209		REMOVED 1982		
TA-3-210	SM-210		CANCELLED		
TA-3-211	SM-211	RETAINING WALL		12	G-3
TA-3-212	SM-212	TANK, CEMENT SILO	BATCH PLANT	12	G-3
TA-3-213	SM-213	RETAINING WALL	BATCH PLANT	11	D-9
TA-3-214	SM-214	PASSAGEWAY	SM-40 TO SM-215	11	B-6
TA-3-215	SM-215	PHYSICS ANALYTICAL CENTR		11	B-6
TA-3-216	SM-216	WEAPONS TEST SUPPORT FAC		11	E-5
TA-3-217	SM-217	FLAGPOLE		10	D-4
TA-3-218	SM-218	MAGNETIC ENERGY&STORAGE		11	C-6
TA-3-219	SM-219	HIGH FREQUENCY RADIO FAC	ABANDONED 1980		
TA-3-220	SM-220	MANHOLE, GAS		16	G-5
TA-3-221	SM-221	PASSAGEWAY	SM-43 TO SM-200	10	E-4
TA-3-222	SM-222	PASSAGEWAY	SM-43 TO SM-207	10	E-4
TA-3-223	SM-223	UTILITIES CONTROL CENTER		13	H-5
TA-3-224	SM-224	STORAGE SHED		10	B-4
TA-3-225	SM-225	STORAGE SHED		12	G-3
TA-3-226	SM-226	GREENHOUSE		12	H-3
TA-3-227	SM-227	PIPE TRENCH		15	C-6
TA-3-228	SM-228	SERVICE SUPPORT BLDG		11	C-6
TA-3-229	SM-229	SUBSTATION		15	C-6
TA-3-230	SM-230	RELAY BUILDING		12	G-4
TA-3-231	SM-231	RADIO TOWER		12	G-4
TA-3-232	SM-232	SUBSTATION, 115 KV		16	G-4
TA-3-233	SM-233	SUBSTATION, 115 KV		16	G-4
TA-3-234	SM-234		REMOVED 1972		
TA-3-235	SM-235	WAREHOUSE BUILDING		12	H-2
TA-3-236	SM-236	STORAGE BUILDING		12	H-3
TA-3-237	SM-237	TANK, FUEL	RENUMBERED TA-59-6		
TA-3-238	SM-238	COOLING TOWER	RENUMBERED TA-59-10		
TA-3-239	SM-239	TANK, SEPTIC	RENUMBERED TA-59-4		
TA-3-240	SM-240	DISTRIBUTION BOX	RENUMBERED TA-59-5		
TA-3-241	SM-241	MANHOLE, WATER		15	F-7
TA-3-242	SM-242	MANHOLE, EFFLUENT		16	G-5
TA-3-243	SM-243		REMOVED 1981		
TA-3-244	SM-244	TEST HOLE		10	B-2
TA-3-245	SM-245	TEST HOLE		10	B-2
TA-3-246	SM-246	CONTROL BUILDING, CABLE		10	B-3
TA-3-247	SM-247	RAM BUILDING		10	B-3
TA-3-248	SM-248		REMOVED 1974		
TA-3-249	SM-249		REMOVED 1981		
TA-3-250	SM-250	SUBSTATION, STREET LTG		16	F-3
TA-3-251	SM-251	VALVE HOUSE, WATER		12	G-5
TA-3-252	SM-252	CABLE STORAGE SHED		10	D-4
TA-3-253	SM-253	ELECTRON PROTOTYPE LAB		11	C-6
TA-3-254	SM-254	PASSAGEWAY	SM-218 TO SM-253	11	C-6
TA-3-255	SM-255	OFFICE BUILDING		11	C-6
TA-3-256	SM-256	TRNSFORMER RECTIFIER PAD		15	C-6
TA-3-257	SM-257	OFFICE BUILDING	RELOCATED TO TA-53-44		
TA-3-258	SM-258	OFFICE BUILDING	RELOCATED TO TA-53-45		
TA-3-259	SM-259	OFFICE BUILDING	RELOCATED TO TA-53-46		
TA-3-260	SM-260	OFFICE BUILDING	RELOCATED TO TA-53-47		
TA-3-261	SM-261	OTOWI BUILDING		10	D-3
TA-3-262	SM-262				
TA-3-263	SM-263				
TA-3-264	SM-264				
TA-3-265	SM-265	SEWAGE LIFT STATION		17	H-5
TA-3-266	SM-266	TANK, WATER	RENUMBERED TA-59-14		
TA-3-267	SM-267	FILL VALVE BOX, WATER	RENUMBERED TA-59-15		
TA-3-268	SM-268	PUMPING STATION	RENUMBERED TA-0-1157		
TA-3-269	SM-269	UNIT SUBSTATION	RENUMBERED TA-0-1158		
TA-3-270	SM-270	TANK, WATER	RENUMBERED TA-0-1159		
TA-3-271	SM-271	SALVAGE & SURPLUS BLDG		12	I-3
TA-3-272	SM-272	TANK, SEPTIC		16	I-3
TA-3-273	SM-273		CANCELLED		
TA-3-274	SM-274		REMOVED 1976		
TA-3-275	SM-275		REMOVED 1976		
TA-3-276	SM-276		REMOVED 1976		
TA-3-277	SM-277	STORAGE BLDG		13	G-6
TA-3-278	SM-278	MANIFOLD		13	H-6

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT NO	MAP KEY
TA-3-279	SM-279		REMOVED 1967		
TA-3-280	SM-280	MANHOLE, GAS		16	G-2
TA-3-281	SM-281	MANHOLE, WATER		15	C-5
TA-3-282	SM-282	SHOP BLDG		12	I-2
TA-3-283	SM-283		CANCELLED		
TA-3-284	SM-284		REMOVED 1967		
TA-3-285	SM-285	TOWER, COOLING		12	H-5
TA-3-286	SM-286		REMOVED 1977		
TA-3-287	SM-287	LAB & OFFICE BLDG		10	D-4
TA-3-288	SM-288	PASSAGEWAY	SM-43 TO SM-287	10	D-4
TA-3-289	SM-289		REMOVED 1981		
TA-3-290	SM-290	TRANSFORMER STATION	PAD MOUNTED	14	D-4
TA-3-291	SM-291	TRANSFORMER STATION	NE. OF SM-357		
TA-3-292	SM-292	TRANSFORMER STATION	POLE MOUNTED	16	I-2
TA-3-293	SM-293	TRANSFORMER STATION	POLE MOUNTED	16	H-2
TA-3-294	SM-294	TRANSFORMER STATION	POLE MOUNTED	16	H-2
TA-3-295	SM-295		REMOVED 1969		
TA-3-296	SM-296	TRANSFORMER STATION	POLE MOUNTED	14	F-2
TA-3-297	SM-297	TRANSFORMER STATION	POLE MOUNTED	14	D-2
TA-3-298	SM-298	TRANSFORMER STATION	POLE MOUNTED	14	A-3
TA-3-299	SM-299	TRANSFORMER STATION	POLE MOUNTED	16	F-3
TA-3-300	SM-300		REMOVED 1969		
TA-3-301	SM-301	TRANSFORMER STATION	POLE MOUNTED	17	H-5
TA-3-302	SM-302	TRANSFORMER STATION	POLE MOUNTED	17	I-5
TA-3-303	SM-303	TRANSFORMER STATION	POLE MOUNTED	15	F-9
TA-3-304	SM-304	TRANSFORMER STATION	POLE MOUNTED	17	G-9
TA-3-305	SM-305	TRANSFORMER STATION	POLE MOUNTED	17	G-9
TA-3-306	SM-306	TRANSFORMER STATION	RENUMBERED TA-59-51		
TA-3-307	SM-307	TRANSFORMER STATION	E. OF SM-381		
TA-3-308	SM-308		CANCELLED		
TA-3-309	SM-309		CANCELLED		
TA-3-310	SM-310		CANCELLED		
TA-3-311	SM-311		CANCELLED		
TA-3-312	SM-312		CANCELLED		
TA-3-313	SM-313		CANCELLED		
TA-3-314	SM-314		CANCELLED		
TA-3-315	SM-315		CANCELLED		
TA-3-316	SM-316	HIGH VOLTAGE TEST FAC		11	E-9
TA-3-317	SM-317	GRAPHITE FLOUR STOR BLDG		13	I-7
TA-3-318	SM-318	TANK, FUEL	ABANDONED 1980		
TA-3-319	SM-319	MANHOLE, WATER		16	G-5
TA-3-320	SM-320	MANHOLE, WATER	RENUMBERED TA-59-13		
TA-3-321	SM-321		CANCELLED		
TA-3-322	SM-322	SUPPLY BUILDING		11	C-6
TA-3-323	SM-323		CANCELLED		
TA-3-324	SM-324	MANIFOLD		11	D-6
TA-3-325	SM-325	MANHOLE, WATER		16	H-5
TA-3-326	SM-326	MANHOLE, WATER		16	H-5
TA-3-327	SM-327	MOTOR CONTROL CENTER PAD		12	H-5
TA-3-328	SM-328	POWER CENTER	REMOVED 1984		
TA-3-329	SM-329	HOSE HOUSE		13	G-6
TA-3-330	SM-330		REMOVED 1976		
TA-3-331	SM-331	PASSAGEWAY	SM-200 TO SM-332	10	E-5
TA-3-332	SM-332	OFFICE BLDG		10	E-5
TA-3-333	SM-333	STORAGE SHED	NOT SHOWN		
TA-3-334	SM-334	EQUIPMENT SHELTER		13	I-5
TA-3-335	SM-335	TANK STORAGE, ASPHALT		12	G-3
TA-3-336	SM-336	TANK STORAGE, EFFLUENT		12	H-5
TA-3-337	SM-337	TRANSFORMER STATION	POLE MOUNTED	16	H-3
TA-3-338	SM-338		REMOVED 1981		
TA-3-339	SM-339	MANHOLE, ELECTRICAL	NOT SHOWN		
TA-3-340	SM-340	EQUIPMENT PAD		10	D-4
TA-3-341	SM-341		REMOVED 1980		
TA-3-342	SM-342		REMOVED 1980		
TA-3-343	SM-343		REMOVED 1980		
TA-3-344	SM-344		REMOVED 1980		
TA-3-345	SM-345		REMOVED 1980		
TA-3-346	SM-346	UNIT SUBSTATION		15	E-9
TA-3-347	SM-347		CANCELLED		
TA-3-348	SM-348		CANCELLED		
TA-3-349	SM-349		CANCELLED		
TA-3-350	SM-350		CANCELLED		
TA-3-351	SM-351		REMOVED 1964		
TA-3-352	SM-352		CANCELLED		
TA-3-353	SM-353		CANCELLED		
TA-3-354	SM-354		CANCELLED		
TA-3-355	SM-355	TRANSFORMER STATION	POLE MOUNTED	16	I-2
TA-3-356	SM-356	TRANSFORMER STATION	POLE MOUNTED	16	J-3

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT NO	MAP KEY
TA-3-357	SM-357	TRANSFORMER STATION	POLE MOUNTED	16	K-3
TA-3-358	SM-358		CANCELLED		
TA-3-359	SM-359		REMOVED 1977		
TA-3-360	SM-360		CANCELLED		
TA-3-361	SM-361	GAS METERING STATION		17	E-9
TA-3-362	SM-362		CANCELLED		
TA-3-363	SM-363	MANHOLE, WATER		16	G-5
TA-3-364	SM-364	MANIFOLD	REMOVED 1984		
TA-3-365	SM-365	MANHOLE, WATER ARV		15	B-7
TA-3-366	SM-366	TRANSFORMER PAD ISOLATN	PAD MOUNTED	16	F-4
TA-3-367	SM-367	UNIT SUBSTATION		15	E-6
TA-3-368	SM-368		REMOVED 1980		
TA-3-369	SM-369	RETAINING WALL		11	E-6
TA-3-370	SM-370		REMOVED 1984		
TA-3-371	SM-371	RETAINING WALL		10	D-4
TA-3-372	SM-372	RETAINING WALL		10	D-4
TA-3-373	SM-373	GUARD STATION		11	D-5
TA-3-374	SM-374	DRUM STORAGE SHED		10	A-5
TA-3-375	SM-375		CANCELLED		
TA-3-376	SM-376		REMOVED 1984		
TA-3-377	SM-377	SUBSTATION	RENUMBERED TA-59-7		
TA-3-378	SM-378		CANCELLED		
TA-3-379	SM-379	LEAD POURG&PAINT STD FAC		10	B-3
TA-3-380	SM-380		CANCELLED		
TA-3-381	SM-381	WAREHOUSE		13	K-7
TA-3-382	SM-382	MOBILE EQUIP REPAIR SHOP		13	J-7
TA-3-383	SM-383	STORAGE BUILDING		13	K-7
TA-3-384	SM-384	CAPACITOR STATION		15	D-6
TA-3-385	SM-385		REMOVED 1978		
TA-3-386	SM-386	GUARD STATION		11	E-8
TA-3-387	SM-387		CANCELLED		
TA-3-388	SM-388	MANHOLE, WATER		14	E-4
TA-3-389	SM-389		CANCELLED		
TA-3-390	SM-390	MODULAR OFFICE BUILDING		11	E-5
TA-3-391	SM-391	MODULAR OFFICE BUILDING		11	E-6
TA-3-392	SM-392		CANCELLED		
TA-3-393	SM-393		CANCELLED		
TA-3-394	SM-394		CANCELLED		
TA-3-395	SM-395		CANCELLED		
TA-3-396	SM-396		CANCELLED		
TA-3-397	SM-397		CANCELLED		
TA-3-398	SM-398		CANCELLED		
TA-3-399	SM-399		CANCELLED		
TA-3-400	SM-400	MODULAR OFFICE BUILDING		10	C-4

REV.	DATE	REVISION	BY	CKD.	APP.
28	1-21-86	REVISED TO STATUS OF 1-17-86	NB		
27	12-9-83	REDRAWN & REVISED TO STATUS OF 6-15-83	ADS		

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Figure TA-3-1: Structure Location Plan for TA-3 - South Mesa Site (1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT NO	MAP KEY
TA-3-401	SM-401	MODULAR OFFICE BUILDING		10	C-4
TA-3-402	SM-402	MODULAR OFFICE BUILDING		10	D-4
TA-3-403	SM-403	MODULAR OFFICE BUILDING		10	D-3
TA-3-404	SM-404	OFFICE BUILDING	RELOCATED TO TA-53-43		
TA-3-405	SM-405		CANCELLED		
TA-3-406	SM-406	MODULAR OFFICE BUILDING		11	C-5
TA-3-407	SM-407		CANCELLED		
TA-3-408	SM-408		CANCELLED		
TA-3-409	SM-409	OCC MEDICAL FACILITY		11	C-5
TA-3-410	SM-410	OFFICE FACILITY		11	F-5
TA-3-411	SM-411		CANCELLED		
TA-3-412	SM-412	SUMP&LIFT STA INSTALLATN	RENUMBERED TA-59-8		
TA-3-413	SM-413		CANCELLED		
TA-3-414	SM-414		CANCELLED		
TA-3-415	SM-415		CANCELLED		
TA-3-416	SM-416		CANCELLED		
TA-3-417	SM-417		CANCELLED		
TA-3-418	SM-418		CANCELLED		
TA-3-419	SM-419		CANCELLED		
TA-3-420	SM-420	CONSTRUCTN OFFICE SHACK	RELOCATED TO TA-0-1002		
TA-3-421	SM-421		REMOVED 1980		
TA-3-422	SM-422	GENERAL OFFICE BUILDING		11	D-5
TA-3-423	SM-423		REMOVED 1980		
TA-3-424	SM-424	GUARD STATION		11	F-7
TA-3-425	SM-425	ZIA OFFICE BUILDING		10	C-4
TA-3-426	SM-426		CANCELLED		
TA-3-427	SM-427	MANHOLE, WATER		15	E-6
TA-3-428	SM-428	POWER PEDESTAL, ELEC		14	D-4
TA-3-429	SM-429	SMES FACILITY		13	G-6
TA-3-430	SM-430		CANCELLED		
TA-3-431	SM-431	TRANSFORMER STATION	POLE MOUNTED	16	H-3
TA-3-432	SM-432	SUBSTATION		17	G-6
TA-3-433	SM-433	MODULAR OFFICE BUILDING	RENUMBERED TA-59-2		
TA-3-434	SM-434	MANHOLE, SEWER	NOT SHOWN		
TA-3-435	SM-435	MANHOLE, SEWER		14	F-4
TA-3-436	SM-436	MANHOLE, STEAM		14	F-4
TA-3-437	SM-437	MANHOLE, STEAM		14	E-4
TA-3-438	SM-438	TRANSFORMER STATION	RENUMBERED TA-59-52		
TA-3-439	SM-439	OFFICE BLDG	RENUMBERED TA-59-3		
TA-3-440	SM-440	CENTRAL ALARM STATION		11	E-8
TA-3-441	SM-441		CANCELLED		
TA-3-442	SM-442	MANHOLE, SANITARY		15	C-6
TA-3-443	SM-443	UNIVERSITY HOUSE		10	F-3
TA-3-444	SM-444	ELECTRICAL POWER FEEDER		15	C-6
TA-3-445	SM-445	TRANSFORMER STATION	RENUMBERED TA-59-16		
TA-3-446	SM-446	STORAGE SHED		13	K-7
TA-3-447	SM-447	NTS TOWER		10	B-2
TA-3-448	SM-448		CANCELLED		
TA-3-449	SM-449		CANCELLED		
TA-3-450	SM-450		CANCELLED		
TA-3-451	SM-451	MICRO MACHINING FACILITY		13	H-7
TA-3-452	SM-452	CREDIT UNION BRANCH		10	D-4
TA-3-453	SM-453		CANCELLED		
TA-3-454	SM-454		CANCELLED		
TA-3-455	SM-455		CANCELLED		
TA-3-456	SM-456	TRANSPORTABLE OFF BLDG	FORMERLY TA-0-1214	11	E-6
TA-3-457	SM-457				
TA-3-458	SM-458				
TA-3-459	SM-459				
TA-3-460	SM-460	TRANSPORTABLE OFF BLDG	FORMERLY TA-0-1037	11	B-6
TA-3-461	SM-461	TRANSPORTABLE OFF BLDG	FORMERLY TA-0-1050	11	B-7
TA-3-462	SM-462	TRANSPORTABLE OFF BLDG	FORMERLY TA-0-1180	11	B-6
TA-3-463	SM-463	TRANSPORTABLE OFF BLDG		10	A-4
TA-3-464	SM-464		REMOVED 1984		
TA-3-465	SM-465				
TA-3-466	SM-466	GUARD STATION	STATION #303	11	D-8
TA-3-467	SM-467	TRANSPORTABLE OFF BLDG	FORMERLY TA-0-1182	11	C-6
TA-3-468	SM-468	TRANSPORTABLE OFF BLDG	FORMERLY TA-0-1186	11	D-8
TA-3-469	SM-469	TRANSPORTABLE OFF BLDG	FORMERLY TA-0-1191	10	E-5
TA-3-470	SM-470	TRANSPORTABLE OFF BLDG	FORMERLY TA-0-1204	11	D-8
TA-3-471	SM-471	TRANSPORTABLE OFF BLDG	FORMERLY TA-0-1213	10	E-5
TA-3-472	SM-472	TRANSPORTABLE OFF BLDG	FORMERLY TA-0-1215	11	C-7
TA-3-473	SM-473	TRANSPORTABLE OFF BLDG	FORMERLY TA-0-1216	11	B-7
TA-3-474	SM-474	TRANSPORTABLE OFF BLDG	FORMERLY TA-0-1217	11	E-8
TA-3-475	SM-475				
TA-3-476	SM-476	STORAGE BLDG.	FORMERLY TA-0-401	13	I-6
TA-3-477	SM-477	STORAGE SHED	FORMERLY TA-0-463	11	E-9
TA-3-478	SM-478	STORAGE SHED	FORMERLY TA-0-467	12	H-3

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT NO	MAP KEY
TA-3-479	SM-479	STORAGE SHED	FORMERLY TA-0-468	12	H-3
TA-3-480	SM-480	TRANSPORTABLE OFFICE BLDG		13	F-6
TA-3-481	SM-481	TRANSPORTABLE OFFICE BLDG		13	F-5
TA-3-482	SM-482	TRANSPORTABLE OFFICE BLDG		13	G-5
TA-3-483	SM-483	TRANSPORTABLE OFFICE BLDG		13	G-5
TA-3-484	SM-484	TRANSPORTAINER	FORMERLY TA-0-1189	10	E-4
TA-3-485	SM-485	TRANSPORTAINER	FORMERLY TA-0-1190	10	E-4
TA-3-486	SM-486				
TA-3-487	SM-487				
TA-3-488	SM-488				
TA-3-489	SM-489				
TA-3-490	SM-490	RECEPTION CENTER		10	D-4
TA-3-491	SM-491				
TA-3-492	SM-492	RETAINING WALL	LANL PLAQUE	10	F-2
TA-3-493	SM-493				
TA-3-494	SM-494	GEOCHEMISTRY ANAL. FAC.		11	B-6
TA-3-495	SM-495	TRANSPORTABLE OFF. BLDG.		11	E-8
TA-3-496	SM-496	TRANSPORTABLE OFF. BLDG.		11	E-8
TA-3-497	SM-497	TRANSPORTABLE OFF. BLDG.		11	C-7
TA-3-498	SM-498				
TA-3-499	SM-499				
TA-3-500	SM-500	TRAILER, OFFICE		13	H-6
TA-3-501	SM-501				
TA-3-502	SM-502				
TA-3-503	SM-503				
TA-3-504	SM-504				
TA-3-505	SM-505				
TA-3-506	SM-506				
TA-3-507	SM-507				
TA-3-508	SM-508				
TA-3-509	SM-509				
TA-3-510	SM-510				
TA-3-511	SM-511				
TA-3-512	SM-512				
TA-3-513	SM-513				
TA-3-514	SM-514				
TA-3-515	SM-515				
TA-3-516	SM-516				
TA-3-517	SM-517				
TA-3-518	SM-518				
TA-3-519	SM-519				
TA-3-520	SM-520				
TA-3-521	SM-521				
TA-3-522	SM-522				
TA-3-523	SM-523				
TA-3-524	SM-524				
TA-3-525	SM-525				
TA-3-526	SM-526				
TA-3-527	SM-527				
TA-3-528	SM-528				
TA-3-529	SM-529				
TA-3-530	SM-530				
TA-3-531	SM-531				
TA-3-532	SM-532				
TA-3-533	SM-533				
TA-3-534	SM-534				
TA-3-535	SM-535				
TA-3-536	SM-536				
TA-3-537	SM-537				
TA-3-538	SM-538				
TA-3-539	SM-539				
TA-3-540	SM-540				
TA-3-541	SM-541				
TA-3-542	SM-542				
TA-3-543	SM-543				
TA-3-544	SM-544				
TA-3-545	SM-545				
TA-3-546	SM-546				
TA-3-547	SM-547				
TA-3-548	SM-548				
TA-3-549	SM-549				
TA-3-550	SM-550	OIL CONTAINMENT PIT		15	E-9
TA-3-551	SM-551				
TA-3-552	SM-552				
TA-3-553	SM-553				
TA-3-554	SM-554				
TA-3-555	SM-555				
TA-3-556	SM-556				

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT. NO.	MAP KEY
TA-3-557	SM-557				
TA-3-558	SM-558				
TA-3-559	SM-559				
TA-3-560	SM-560				
TA-3-561	SM-561				
TA-3-562	SM-562				
TA-3-563	SM-563				
TA-3-564	SM-564				
TA-3-565	SM-565				
TA-3-566	SM-566				
TA-3-567	SM-567				
TA-3-568	SM-568				
TA-3-569	SM-569				
TA-3-570	SM-570				
TA-3-571	SM-571				
TA-3-572	SM-572				
TA-3-573	SM-573				
TA-3-574	SM-574				
TA-3-575	SM-575				
TA-3-576	SM-576				
TA-3-577	SM-577				
TA-3-578	SM-578				
TA-3-579	SM-579				
TA-3-580	SM-580				
TA-3-581	SM-581				
TA-3-582	SM-582				
TA-3-583	SM-583				
TA-3-584	SM-584				
TA-3-585	SM-585				
TA-3-586	SM-586				
TA-3-587	SM-587				
TA-3-588	SM-588				
TA-3-589	SM-589				
TA-3-590	SM-590				
TA-3-591	SM-591				
TA-3-592	SM-592				
TA-3-593	SM-593				
TA-3-594	SM-594				
TA-3-595	SM-595				
TA-3-596	SM-596				
TA-3-597	SM-597				
TA-3-598	SM-598				
TA-3-599	SM-599				
TA-3-600	SM-600	MANHOLE, SANITARY		17	I-5

REV.	DATE	REVISION	BY	CKD.	APP.
24	1-22-86	REVISED TO STATUS OF 1-17-86	NB		
24	9-27-83	REDRAWN & REVISED TO STATUS OF 6-15-83	HS		

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UNIVERSITY OF CALIFORNIA
Los Alamos
LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW ML ICO 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-3 SOUTH MESA SITE

SEC. CLASSIFICATION — CLASS. — REVIEWER — DATE 1-6-83

SUBMITTED — RECOMMENDED — APPROVED

DRAWN: RDS | CHECKED | DATE: 9-27-83 | SHEET NO. 3 OF 17 | DRAWING NO. ENG-R5103

1349

Figure TA-3-1: Structure Location Plan for TA-3 - South Mesa Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT NO.	MAP KEY
TA-3-601	SM-601	MANHOLE, SANITARY		17	I - 5
TA-3-602	SM-602	MANHOLE, SANITARY		17	H - 5
TA-3-603	SM-603	MANHOLE, SANITARY		17	H - 5
TA-3-604	SM-604	MANHOLE, SANITARY		17	H - 6
TA-3-605	SM-605	MANHOLE, SANITARY		17	H - 6
TA-3-606	SM-606	MANHOLE, SANITARY		17	G - 5
TA-3-607	SM-607		REMOVED 1984		
TA-3-608	SM-608	MANHOLE, SANITARY		17	G - 5
TA-3-609	SM-609	MANHOLE, SANITARY		17	G - 5
TA-3-610	SM-610	MANHOLE, SANITARY		17	F - 5
TA-3-611	SM-611	MANHOLE, SANITARY		15	F - 5
TA-3-612	SM-612	MANHOLE, SANITARY		15	F - 5
TA-3-613	SM-613	MANHOLE, SANITARY		15	F - 6
TA-3-614	SM-614	MANHOLE, SANITARY		15	E - 5
TA-3-615	SM-615	MANHOLE, SANITARY		14	E - 5
TA-3-616	SM-616	MANHOLE, SANITARY		14	E - 5
TA-3-617	SM-617	MANHOLE, SANITARY		15	E - 5
TA-3-618	SM-618	MANHOLE, SANITARY		15	D - 5
TA-3-619	SM-619	MANHOLE, SANITARY		15	D - 6
TA-3-620	SM-620	MANHOLE, SANITARY		15	D - 6
TA-3-621	SM-621	MANHOLE, SANITARY		14	D - 5
TA-3-622	SM-622		REMOVED 1961		
TA-3-623	SM-623		REMOVED 1961		
TA-3-624	SM-624	MANHOLE, SANITARY		14	D - 4
TA-3-625	SM-625	MANHOLE, SANITARY		14	C - 4
TA-3-626	SM-626	MANHOLE, SANITARY		14	C - 4
TA-3-627	SM-627	MANHOLE, SANITARY		14	B - 4
TA-3-628	SM-628	MANHOLE, SANITARY		14	B - 4
TA-3-629	SM-629	MANHOLE, SANITARY		14	B - 4
TA-3-630	SM-630	MANHOLE, SANITARY		14	A - 4
TA-3-631	SM-631	MANHOLE, SANITARY		14	A - 4
TA-3-632	SM-632		REMOVED 1980		
TA-3-633	SM-633		REMOVED 1980		
TA-3-634	SM-634	MANHOLE, SANITARY		14	D - 2
TA-3-635	SM-635	MANHOLE, SANITARY		15	F - 6
TA-3-636	SM-636	MANHOLE, SANITARY		15	E - 6
TA-3-637	SM-637	MANHOLE, SANITARY		15	E - 6
TA-3-638	SM-638	MANHOLE, SANITARY		15	E - 6
TA-3-639	SM-639	MANHOLE, SANITARY		15	F - 6
TA-3-640	SM-640	MANHOLE, SANITARY		15	E - 6
TA-3-641	SM-641	MANHOLE, SANITARY		15	F - 7
TA-3-642	SM-642	MANHOLE, SANITARY		15	E - 7
TA-3-643	SM-643	MANHOLE, SANITARY		15	E - 7
TA-3-644	SM-644	MANHOLE, SANITARY		15	F - 7
TA-3-645	SM-645	MANHOLE, SANITARY		15	E - 7
TA-3-646	SM-646	MANHOLE, SANITARY		15	E - 7
TA-3-647	SM-647	MANHOLE, SANITARY		15	E - 7
TA-3-648	SM-648	MANHOLE, SANITARY		15	F - 8
TA-3-649	SM-649	MANHOLE, SANITARY		15	E - 8
TA-3-650	SM-650	MANHOLE, SANITARY		15	D - 8
TA-3-651	SM-651	MANHOLE, SANITARY		15	D - 8
TA-3-652	SM-652		REMOVED 1964		
TA-3-653	SM-653	MANHOLE, SANITARY		15	D - 8
TA-3-654	SM-654	MANHOLE, SANITARY		15	C - 7
TA-3-655	SM-655	MANHOLE, SANITARY		15	C - 7
TA-3-656	SM-656	MANHOLE, SANITARY		15	C - 6
TA-3-657	SM-657	MANHOLE, SANITARY		15	C - 6
TA-3-658	SM-658	MANHOLE, SANITARY		15	C - 6
TA-3-659	SM-659	MANHOLE, SANITARY		15	C - 6
TA-3-660	SM-660	MANHOLE, SANITARY		15	C - 5
TA-3-661	SM-661	MANHOLE, SANITARY		15	C - 5
TA-3-662	SM-662	MANHOLE, SANITARY		15	B - 5
TA-3-663	SM-663	MANHOLE, SANITARY		17	H - 6
TA-3-664	SM-664	MANHOLE, SANITARY		17	G - 7
TA-3-665	SM-665	MANHOLE, SANITARY		17	G - 6
TA-3-666	SM-666	MANHOLE, SANITARY		17	G - 6
TA-3-667	SM-667	MANHOLE, SANITARY		14	D - 4
TA-3-668	SM-668	MANHOLE, GREASE TRAP		14	C - 4
TA-3-669	SM-669	MANHOLE, SANITARY		17	H - 6
TA-3-670	SM-670	MANHOLE, SANITARY		17	H - 7
TA-3-671	SM-671	MANHOLE, SANITARY		17	H - 7
TA-3-672	SM-672	MANHOLE, SANITARY		17	I - 7
TA-3-673	SM-673		REMOVED 1965		
TA-3-674	SM-674	MANHOLE, SANITARY		15	D - 9
TA-3-675	SM-675	ENTRANCE BOX, SANITARY		17	H - 5
TA-3-676	SM-676	JUNCTION BOX, SANITARY		17	H - 6
TA-3-677	SM-677	SPLITTER BOX, SANITARY		17	H - 5
TA-3-678	SM-678	JUNCTION BOX, SANITARY		17	H - 5

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT NO.	MAP KEY
TA-3-679	SM-679	JUNCTION BOX, SANITARY		17	I - 5
TA-3-680	SM-680	MANHOLE, SANITARY		14	F - 5
TA-3-681	SM-681	MANHOLE, SANITARY		14	F - 4
TA-3-682	SM-682	MANHOLE, SANITARY		14	E - 4
TA-3-683	SM-683	MANHOLE, DRAINAGE		16	G - 5
TA-3-684	SM-684	MANHOLE, SANITARY		15	B - 6
TA-3-685	SM-685	MANHOLE, SANITARY		15	C - 7
TA-3-686	SM-686	MANHOLE, SANITARY		14	D - 4
TA-3-687	SM-687	MANHOLE, SANITARY		14	D - 4
TA-3-688	SM-688	MANHOLE, SANITARY		14	D - 4
TA-3-689	SM-689	TANK, SEPTIC		16	I - 2
TA-3-690	SM-690	MANHOLE, SANITARY		16	H - 2
TA-3-691	SM-691	MANHOLE, SANITARY		16	H - 3
TA-3-692	SM-692	MANHOLE, SANITARY		16	H - 3
TA-3-693	SM-693	SEWAGE PUMP STATION		16	H - 4
TA-3-694	SM-694	MANHOLE, SANITARY		14	E - 4
TA-3-695	SM-695	MANHOLE, SANITARY		14	D - 3
TA-3-696	SM-696	MANHOLE, SANITARY		14	D - 3
TA-3-697	SM-697	MANHOLE, SANITARY		14	D - 3
TA-3-698	SM-698				
TA-3-699	SM-699				
TA-3-700	SM-700		REMOVED 1982		
TA-3-701	SM-701		REMOVED 1982		
TA-3-702	SM-702	MANHOLE, ACID	ABANDONED 1982	14	F - 2
TA-3-703	SM-703		REMOVED 1985		
TA-3-704	SM-704		REMOVED 1985		
TA-3-705	SM-705		REMOVED 1985		
TA-3-706	SM-706		REMOVED 1985		
TA-3-707	SM-707	MANHOLE, ACID	ABANDONED 1982	14	F - 5
TA-3-708	SM-708	MANHOLE, ACID	ABANDONED 1982	15	F - 5
TA-3-709	SM-709		REMOVED 1983		
TA-3-710	SM-710		REMOVED 1983		
TA-3-711	SM-711		REMOVED 1983		
TA-3-712	SM-712		REMOVED 1983		
TA-3-713	SM-713		REMOVED 1983		
TA-3-714	SM-714		REMOVED 1983		
TA-3-715	SM-715		REMOVED 1983		
TA-3-716	SM-716		REMOVED 1983		
TA-3-717	SM-717		REMOVED 1983		
TA-3-718	SM-718		REMOVED 1983		
TA-3-719	SM-719	MANHOLE, ACID	ABANDONED 1982	15	F - 6
TA-3-720	SM-720	MANHOLE, ACID	ABANDONED 1982	15	F - 6
TA-3-721	SM-721	MANHOLE, ACID	ABANDONED 1982	15	E - 6
TA-3-722	SM-722	MANHOLE, ACID	ABANDONED 1982	15	F - 7
TA-3-723	SM-723	MANHOLE, ACID	ABANDONED 1982	15	F - 7
TA-3-724	SM-724	MANHOLE, ACID	ABANDONED 1982	15	E - 7
TA-3-725	SM-725	MANHOLE, ACID	ABANDONED 1982	15	F - 7
TA-3-726	SM-726		REMOVED 1983		
TA-3-727	SM-727		REMOVED 1983		
TA-3-728	SM-728		REMOVED 1983		
TA-3-729	SM-729		REMOVED 1983		
TA-3-730	SM-730		REMOVED 1983		
TA-3-731	SM-731		CANCELLED		
TA-3-732	SM-732		REMOVED 1984		
TA-3-733	SM-733		REMOVED 1984		
TA-3-734	SM-734		REMOVED 1984		
TA-3-735	SM-735		REMOVED 1983		
TA-3-736	SM-736		REMOVED 1983		
TA-3-737	SM-737	MANHOLE, ACID	ABANDONED 1983	15	C - 9
TA-3-738	SM-738		REMOVED 198[illegible]		
TA-3-739	SM-739		REMOVED 1983		
TA-3-740	SM-740	MANHOLE, TELEPHONE		15	F - 9
TA-3-741	SM-741		CANCELLED		
TA-3-742	SM-742	MANHOLE, SANITARY		14	E - 3
TA-3-743	SM-743		CANCELLED		
TA-3-744	SM-744		CANCELLED		
TA-3-745	SM-745		CANCELLED		
TA-3-746	SM-746		CANCELLED		
TA-3-747	SM-747				
TA-3-748	SM-748	MANHOLE, ACID		15	D - 8
TA-3-749	SM-749	MANHOLE, ACID		15	E - 8
TA-3-750	SM-750	MANHOLE, ACID		15	F - 8
TA-3-751	SM-751				
TA-3-752	SM-752				
TA-3-753	SM-753	MANHOLE, ACID		15	F - 7
TA-3-754	SM-754	MANHOLE, ACID		15	F - 7
TA-3-755	SM-755	MANHOLE, ACID		17	F - 7
TA-3-756	SM-756	MANHOLE, ACID		15	F - 9

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT NO.	MAP KEY
TA-3-757	SM-757	MANHOLE, ACID		17	F - 9
TA-3-758	SM-758	MANHOLE, ACID		17	G - 9
TA-3-759	SM-759	MANHOLE, ACID		15	F - 9
TA-3-760	SM-760	MANHOLE, ACID		15	E - 9
TA-3-761	SM-761	MANHOLE, ACID		15	D - 9
TA-3-762	SM-762	MANHOLE, ACID		15	D - 9
TA-3-763	SM-763	MANHOLE, ACID		15	C - 9
TA-3-764	SM-764	MANHOLE, ACID		17	F - 6
TA-3-765	SM-765	MANHOLE, ACID		15	E - 6
TA-3-766	SM-766	MANHOLE, ACID		15	E - 6
TA-3-767	SM-767	MANHOLE, ACID		17	G - 7
TA-3-768	SM-768	MANHOLE, ACID		17	G - 7
TA-3-769	SM-769	MANHOLE, ACID		17	H - 7
TA-3-770	SM-770	MANHOLE, ACID		15	E - 6
TA-3-771	SM-771	MANHOLE, ACID		17	H - 8
TA-3-772	SM-772	MANHOLE, ACID		17	H - 8
TA-3-773	SM-773	MANHOLE, ACID		17	H - 7
TA-3-774	SM-774	MANHOLE, ACID		15	D - 7
TA-3-775	SM-775	MANHOLE, ACID		15	E - 7
TA-3-776	SM-776	MANHOLE, ACID		15	E - 7
TA-3-777	SM-777	MANHOLE, ACID		15	D - 7
TA-3-778	SM-778	MANHOLE, ACID		15	E - 6
TA-3-779	SM-779	MANHOLE, ACID		17	H - 7
TA-3-780	SM-780	MANHOLE, ACID		17	H - 7
TA-3-781	SM-781	MANHOLE, ACID		17	I - 7
TA-3-782	SM-782				
TA-3-783	SM-783				
TA-3-784	SM-784				
TA-3-785	SM-785				
TA-3-786	SM-786				
TA-3-787	SM-787				
TA-3-788	SM-788				
TA-3-789	SM-789				
TA-3-790	SM-790				
TA-3-791	SM-791				
TA-3-792	SM-792				
TA-3-793	SM-793				
TA-3-794	SM-794				
TA-3-795	SM-795				
TA-3-796	SM-796				
TA-3-797	SM-797				
TA-3-798	SM-798				
TA-3-799	SM-799				
TA-3-800	SM-800	MANHOLE, ELECTRICAL		16	G - 4

REV.	DATE	REVISION	BY	CKD.	APP.
26	1-23-86	REVISED TO STATUS OF 1-17-86	ALC		
25	9-27-83	REDRAWN & REVISED TO STATUS OF 6-15-83	ADS		

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INDEX SHEET
STRUCTURE LOCATION PLAN
TA-3 SOUTH MESA SITE

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DRAWN: ADS — CHECKED — DATE: 9-27-83 — SHEET NO. 4 OF 17 — DRAWING NO. ENG-R5103

08-NOV-83 KE15311
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-30 X 21

Figure TA-3-1: Structure Location Plan for TA-3 - South Mesa Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT NO.	MAP KEY
TA-3-801	SM-801	MANHOLE, ELECTRICAL		16	F - 5
TA-3-802	SM-802	MANHOLE, ELECTRICAL		17	F - 5
TA-3-803	SM-803	MANHOLE, ELECTRICAL		15	F - 5
TA-3-804	SM-804				
TA-3-805	SM-805	MANHOLE, ELECTRICAL		15	E - 5
TA-3-806	SM-806	MANHOLE, ELECTRICAL		15	E - 5
TA-3-807	SM-807	MANHOLE, ELECTRICAL		14	E - 5
TA-3-808	SM-808	MANHOLE, ELECTRICAL		14	D - 4
TA-3-809	SM-809	MANHOLE, ELECTRICAL		15	D - 6
TA-3-810	SM-810	MANHOLE, ELECTRICAL		15	D - 6
TA-3-811	SM-811	MANHOLE, ELECTRICAL		15	D - 7
TA-3-812	SM-812	MANHOLE, ELECTRICAL		15	D - 5
TA-3-813	SM-813	MANHOLE, ELECTRICAL		15	C - 5
TA-3-814	SM-814	MANHOLE, ELECTRICAL		15	C - 6
TA-3-815	SM-815	MANHOLE, ELECTRICAL		15	C - 6
TA-3-816	SM-816	MANHOLE, ELECTRICAL		15	C - 7
TA-3-817	SM-817	MANHOLE, ELECTRICAL		15	C - 8
TA-3-818	SM-818	MANHOLE, ELECTRICAL		15	C - 8
TA-3-819	SM-819	MANHOLE, ELECTRICAL		14	C - 5
TA-3-820	SM-820	MANHOLE, ELECTRICAL		14	C - 5
TA-3-821	SM-821	MANHOLE, ELECTRICAL		14	D - 4
TA-3-822	SM-822	MANHOLE, ELECTRICAL		14	C - 4
TA-3-823	SM-823	MANHOLE, ELECTRICAL		14	C - 4
TA-3-824	SM-824	MANHOLE, ELECTRICAL		14	B - 4
TA-3-825	SM-825		REMOVED 1982		
TA-3-826	SM-826	MANHOLE, ELECTRICAL		14	B - 4
TA-3-827	SM-827	MANHOLE, ELECTRICAL		14	B - 4
TA-3-828	SM-828	MANHOLE, ELECTRICAL		14	A - 4
TA-3-829	SM-829	MANHOLE, ELECTRICAL		14	A - 4
TA-3-830	SM-830	MANHOLE, ELECTRICAL	N.W. OF SM-30		
TA-3-831	SM-831		REMOVED 1984		
TA-3-832	SM-832	MANHOLE, ELECTRICAL		14	C - 2
TA-3-833	SM-833	MANHOLE, ELECTRICAL		14	D - 2
TA-3-834	SM-834	MANHOLE, ELECTRICAL		14	D - 2
TA-3-835	SM-835	MANHOLE, ELECTRICAL		14	E - 2
TA-3-836	SM-836	MANHOLE, ELECTRICAL		14	F - 2
TA-3-837	SM-837		REMOVED 1964		
TA-3-838	SM-838	MANHOLE, ELECTRICAL		16	F - 2
TA-3-839	SM-839	MANHOLE, ELECTRICAL		16	F - 1
TA-3-840	SM-840	MANHOLE, ELECTRICAL		16	F - 2
TA-3-841	SM-841	MANHOLE, ELECTRICAL		16	F - 3
TA-3-842	SM-842	MANHOLE, TELEPHONE		16	F - 4
TA-3-843	SM-843	MANHOLE, ELECTRICAL		17	F - 6
TA-3-844	SM-844	MANHOLE, ELECTRICAL		17	G - 6
TA-3-845	SM-845	MANHOLE, ELECTRICAL		17	G - 6
TA-3-846	SM-846	MANHOLE, ELECTRICAL		17	G - 7
TA-3-847	SM-847	MANHOLE, ELECTRICAL		17	G - 7
TA-3-848	SM-848	MANHOLE, ELECTRICAL		17	F - 6
TA-3-849	SM-849	MANHOLE, ELECTRICAL		17	F - 7
TA-3-850	SM-850	MANHOLE, ELECTRICAL		15	F - 7
TA-3-851	SM-851	MANHOLE, ELECTRICAL		17	F - 7
TA-3-852	SM-852	MANHOLE, ELECTRICAL		17	F - 7
TA-3-853	SM-853	MANHOLE, ELECTRICAL		17	F - 8
TA-3-854	SM-854	MANHOLE, ELECTRICAL		17	F - 8
TA-3-855	SM-855	MANHOLE, ELECTRICAL		17	F - 9
TA-3-856	SM-856	MANHOLE, ELECTRICAL		15	F - 6
TA-3-857	SM-857	MANHOLE, ELECTRICAL		17	G - 6
TA-3-858	SM-858	MANHOLE, ELECTRICAL	ABANDONED 1977	17	G - 6
TA-3-859	SM-859	MANHOLE, ELECTRICAL		17	G - 6
TA-3-860	SM-860	MANHOLE, ELECTRICAL		15	E - 6
TA-3-861	SM-861	MANHOLE, ELECTRICAL		17	G - 6
TA-3-862	SM-862	MANHOLE, ELECTRICAL		17	G - 6
TA-3-863	SM-863	MANHOLE, ELECTRICAL		17	H - 6
TA-3-864	SM-864	MANHOLE, ELECTRICAL		17	G - 7
TA-3-865	SM-865	MANHOLE, ELECTRICAL		17	H - 7
TA-3-866	SM-866	MANHOLE, ELECTRICAL		17	H - 7
TA-3-867	SM-867	MANHOLE, ELECTRICAL		17	H - 6
TA-3-868	SM-868	MANHOLE, ELECTRICAL		17	I - 6
TA-3-869	SM-869	MANHOLE, ELECTRICAL		17	I - 7
TA-3-870	SM-870	MANHOLE, ELECTRICAL		17	I - 7
TA-3-871	SM-871				
TA-3-872	SM-872				
TA-3-873	SM-873	MANHOLE, ELECTRICAL		14	E - 5
TA-3-874	SM-874	MANHOLE, ELECTRICAL		14	E - 4
TA-3-875	SM-875	MANHOLE, ELECTRICAL	ABANDONED 1968	14	E - 4
TA-3-876	SM-876	MANHOLE, ELECTRICAL		17	I - 7
TA-3-877	SM-877	MANHOLE, ELECTRICAL		15	C - 6
TA-3-878	SM-878	MANHOLE, ELECTRICAL	NOT SHOWN		

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR. LOCATION SHT NO.	MAP KEY
TA-3-879	SM-879	MANHOLE, ELECTRICAL	NOT SHOWN		
TA-3-880	SM-880	MANHOLE, ELECTRICAL		14	F - 2
TA-3-881	SM-881	MANHOLE, ELECTRICAL		14	F - 2
TA-3-882	SM-882	MANHOLE, ELECTRICAL		14	E - 2
TA-3-883	SM-883	MANHOLE, ELECTRICAL		14	D - 2
TA-3-884	SM-884	MANHOLE, ELECTRICAL		16	G - 4
TA-3-885	SM-885	MANHOLE, ELECTRICAL		16	G - 4
TA-3-886	SM-886	MANHOLE, ELECTRICAL		16	G - 4
TA-3-887	SM-887	MANHOLE, ELECTRICAL		16	G - 4
TA-3-888	SM-888	MANHOLE, ELECTRICAL		14	E - 4
TA-3-889	SM-889	MANHOLE, STREET LIGHTING		14	F - 4
TA-3-890	SM-890	MANHOLE, ELECTRICAL		14	E - 4
TA-3-891	SM-891	MANHOLE, ELECTRICAL		14	F - 4
TA-3-892	SM-892	MANHOLE, ELECTRICAL		14	F - 4
TA-3-893	SM-893	MANHOLE, ELECTRICAL		14	D - 6
TA-3-894	SM-894	MANHOLE, ELECTRICAL		15	D - 7
TA-3-895	SM-895	MANHOLE, ELECTRICAL		15	D - 8
TA-3-896	SM-896	MANHOLE, ELECTRICAL		15	E - 8
TA-3-897	SM-897	MANHOLE, ELECTRICAL		15	F - 9
TA-3-898	SM-898	MANHOLE, ELECTRICAL		17	G - 9
TA-3-899	SM-899	MANHOLE, ELECTRICAL		15	E - 6

NOTE: TA-3-900 THRU TA-3-999
CANNOT BE USED FOR
STRUCTURE NUMBER ASSIGNMENT.

TA-3-1000	SM-1000	MANHOLE, STEAM		16	F - 5
TA-3-1001	SM-1001	MANHOLE, STEAM		17	F - 5
TA-3-1002	SM-1002	MANHOLE, STEAM		17	G - 6
TA-3-1003	SM-1003	MANHOLE, STEAM		17	G - 6
TA-3-1004	SM-1004	MANHOLE, STEAM		15	F - 5
TA-3-1005	SM-1005	MANHOLE, STEAM		15	F - 6
TA-3-1006	SM-1006	MANHOLE, STEAM		15	E - 5
TA-3-1007	SM-1007	MANHOLE, STEAM		15	D - 5
TA-3-1008	SM-1008	MANHOLE, STEAM		15	D - 5
TA-3-1009	SM-1009	MANHOLE, STEAM		15	C - 5
TA-3-1010	SM-1010	MANHOLE, STEAM		14	C - 5
TA-3-1011	SM-1011	MANHOLE, STEAM		15	C - 5
TA-3-1012	SM-1012	MANHOLE, STEAM		15	B - 5
TA-3-1013	SM-1013	MANHOLE, STEAM		14	B - 4
TA-3-1014	SM-1014	MANHOLE, STEAM		14	B - 4
TA-3-1015	SM-1015	MANHOLE, STEAM		14	C - 4
TA-3-1016	SM-1016	MANHOLE, STEAM		15	C - 6
TA-3-1017	SM-1017	MANHOLE, STEAM		15	C - 6
TA-3-1018	SM-1018	MANHOLE, STEAM		15	C - 7
TA-3-1019	SM-1019	MANHOLE, STEAM		15	C - 8
TA-3-1020	SM-1020	MANHOLE, STEAM		15	D - 8
TA-3-1021	SM-1021	MANHOLE, STEAM		15	D - 8
TA-3-1022	SM-1022	MANHOLE, STEAM		16	F - 4
TA-3-1023	SM-1023	MANHOLE, STEAM	ABANDONED 1977		
TA-3-1024	SM-1024	MANHOLE, STEAM		16	F - 3
TA-3-1025	SM-1025	MANHOLE, STEAM		16	F - 3
TA-3-1026	SM-1026	MANHOLE, STEAM		16	F - 2
TA-3-1027	SM-1027	MANHOLE, STEAM		16	F - 2
TA-3-1028	SM-1028	MANHOLE, STEAM		14	F - 2
TA-3-1029	SM-1029	MANHOLE, STEAM		16	G - 1
TA-3-1030	SM-1030	MANHOLE, STEAM		17	G - 6
TA-3-1031	SM-1031	MANHOLE, STEAM		16	G - 3
TA-3-1032	SM-1032	MANHOLE, STEAM		14	C - 5
TA-3-1033	SM-1033	MANHOLE, STEAM		17	G - 6
TA-3-1034	SM-1034	MANHOLE, STEAM		17	H - 6
TA-3-1035	SM-1035	MANHOLE, STEAM		17	H - 7
TA-3-1036	SM-1036	MANHOLE, STEAM		17	H - 7
TA-3-1037	SM-1037	MANHOLE, STEAM	ABANDONED 1977		
TA-3-1038	SM-1038	MANHOLE, STEAM		14	E - 4
TA-3-1039	SM-1039	MANHOLE, STEAM		14	E - 4
TA-3-1040	SM-1040	MANHOLE, STEAM		14	F - 4
TA-3-1041	SM-1041	MANHOLE, STEAM		14	F - 4
TA-3-1042	SM-1042	MANHOLE, STEAM		15	C - 6
TA-3-1043	SM-1043	MANHOLE, STEAM		15	E - 5
TA-3-1044	SM-1044	MANHOLE, STEAM		17	H - 5
TA-3-1045	SM-1045	MANHOLE, STEAM		14	C - 4
TA-3-1046	SM-1046	MANHOLE, STEAM		14	D - 4
TA-3-1047	SM-1047	MANHOLE, STEAM		15	F - 8
TA-3-1048	SM-1048	MANHOLE, STEAM		14	C - 3
TA-3-1049	SM-1049	MANHOLE, STEAM		15	C - 5
TA-3-1050	SM-1050	MANHOLE, STEAM		14	C - 2

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT NO.	MAP KEY
TA-3-1051	SM-1051	MANHOLE, STEAM		14	E - 4
TA-3-1052	SM-1052	MANHOLE, STEAM		15	F - 8
TA-3-1053	SM-1053	MANHOLE, STEAM		15	D - 5
TA-3-1054	SM-1054				
TA-3-1055	SM-1055				
TA-3-1056	SM-1056				
TA-3-1057	SM-1057				
TA-3-1058	SM-1058				
TA-3-1059	SM-1059				
TA-3-1060	SM-1060				
TA-3-1061	SM-1061				
TA-3-1062	SM-1062				
TA-3-1063	SM-1063				
TA-3-1064	SM-1064				
TA-3-1065	SM-1065				
TA-3-1066	SM-1066				
TA-3-1067	SM-1067				
TA-3-1068	SM-1068				
TA-3-1069	SM-1069				
TA-3-1070	SM-1070				
TA-3-1071	SM-1071				
TA-3-1072	SM-1072				
TA-3-1073	SM-1073				
TA-3-1074	SM-1074				
TA-3-1075	SM-1075				
TA-3-1076	SM-1076				
TA-3-1077	SM-1077				
TA-3-1078	SM-1078				
TA-3-1079	SM-1079				
TA-3-1080	SM-1080				
TA-3-1081	SM-1081				
TA-3-1082	SM-1082				
TA-3-1083	SM-1083				
TA-3-1084	SM-1084				
TA-3-1085	SM-1085				
TA-3-1086	SM-1086				
TA-3-1087	SM-1087				
TA-3-1088	SM-1088				
TA-3-1089	SM-1089				
TA-3-1090	SM-1090				
TA-3-1091	SM-1091				
TA-3-1092	SM-1092				
TA-3-1093	SM-1093				
TA-3-1094	SM-1094				

REV.	DATE	REVISION	BY	CKD.	APP.
3	1-24-86	REVISED TO STATUS OF 1-17-86	MB		
2	9-27-83	REDRAWN & REVISED TO STATUS OF 6-15-83	RDS		

MF

UNIVERSITY OF CALIFORNIA
Los Alamos
LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-3 SOUTH MESA SITE

SEC. CLASSIFICATION
CLASS. U
REVIEWER
DATE

SUBMITTED | RECOMMENDED | APPROVED

DRAWN RDS
CHECKED
DATE 9-27-83
SHEET NO. 5 OF 17
DRAWING NO. ENG-R5103

02-NOV-83 KE15324
ALAMOS2 LEVEL=1

ALIGN AND SCALE -30 X 21

Figure TA-3-1: Structure Location Plan for TA-3 - South Mesa Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR. LOCATION SHT NO.	MAP KEY
TA-3-1095	SM-1095				
TA-3-1096	SM-1096				
TA-3-1097	SM-1097				
TA-3-1098	SM-1098				
TA-3-1099	SM-1099				
TA-3-1100	SM-1100				
TA-3-1101	SM-1101		CANCELLED		
TA-3-1102	SM-1102	MANHOLE, TELEPHONE		16	K-3
TA-3-1103	SM-1103	MANHOLE, TELEPHONE		16	I-2
TA-3-1104	SM-1104	MANHOLE, TELEPHONE		16	H-2
TA-3-1105	SM-1105	MANHOLE, TELEPHONE		16	G-2
TA-3-1106	SM-1106	MANHOLE, TELEPHONE		16	F-2
TA-3-1107	SM-1107	MANHOLE, TELEPHONE		16	F-3
TA-3-1108	SM-1108	MANHOLE, TELEPHONE		16	G-4
TA-3-1109	SM-1109	MANHOLE, TELEPHONE		16	F-5
TA-3-1110	SM-1110	MANHOLE, TELEPHONE		17	F-5
TA-3-1111	SM-1111	MANHOLE, TELEPHONE		15	F-5
TA-3-1112	SM-1112	MANHOLE, TELEPHONE		15	E-5
TA-3-1113	SM-1113	MANHOLE, TELEPHONE		15	E-5
TA-3-1114	SM-1114	MANHOLE, TELEPHONE		14	E-5
TA-3-1115	SM-1115	MANHOLE, TELEPHONE		14	E-5
TA-3-1116	SM-1116	MANHOLE, TELEPHONE		14	E-4
TA-3-1117	SM-1117	MANHOLE, TELEPHONE		14	E-4
TA-3-1118	SM-1118	MANHOLE, TELEPHONE		15	D-5
TA-3-1119	SM-1119	MANHOLE, TELEPHONE		15	D-5
TA-3-1120	SM-1120	MANHOLE, TELEPHONE		15	C-5
TA-3-1121	SM-1121	MANHOLE, TELEPHONE		15	C-6
TA-3-1122	SM-1122	MANHOLE, TELEPHONE		15	C-6
TA-3-1123	SM-1123	MANHOLE, TELEPHONE		15	C-7
TA-3-1124	SM-1124	MANHOLE, TELEPHONE		15	C-8
TA-3-1125	SM-1125	MANHOLE, TELEPHONE		15	C-8
TA-3-1126	SM-1126	MANHOLE, TELEPHONE		14	C-5
TA-3-1127	SM-1127	MANHOLE, TELEPHONE		14	C-4
TA-3-1128	SM-1128	MANHOLE, TELEPHONE		14	C-4
TA-3-1129	SM-1129	MANHOLE, TELEPHONE		14	B-4
TA-3-1130	SM-1130		REMOVED 1982		
TA-3-1131	SM-1131	MANHOLE, TELEPHONE		14	B-4
TA-3-1132	SM-1132	MANHOLE, TELEPHONE		14	A-4
TA-3-1133	SM-1133	MANHOLE, TELEPHONE	W. OF SM-1132		
TA-3-1134	SM-1134	MANHOLE, TELEPHONE		14	B-4
TA-3-1135	SM-1135	MANHOLE, TELEPHONE		14	A-4
TA-3-1136	SM-1136	MANHOLE, TELEPHONE		17	F-6
TA-3-1137	SM-1137	MANHOLE, TELEPHONE		17	G-6
TA-3-1138	SM-1138	MANHOLE, TELEPHONE		17	G-6
TA-3-1139	SM-1139	MANHOLE, TELEPHONE		17	G-7
TA-3-1140	SM-1140	MANHOLE, TELEPHONE		17	G-7
TA-3-1141	SM-1141	MANHOLE, TELEPHONE		17	G-6
TA-3-1142	SM-1142	MANHOLE, TELEPHONE		17	H-6
TA-3-1143	SM-1143	MANHOLE, TELEPHONE		17	H-7
TA-3-1144	SM-1144	MANHOLE, TELEPHONE		17	H-6
TA-3-1145	SM-1145	MANHOLE, TELEPHONE		17	I-6
TA-3-1146	SM-1146	MANHOLE, TELEPHONE		17	I-7
TA-3-1147	SM-1147	MANHOLE, TELEPHONE		17	I-7
TA-3-1148	SM-1148	MANHOLE, TELEPHONE		17	F-6
TA-3-1149	SM-1149	MANHOLE, TELEPHONE		17	F-7
TA-3-1150	SM-1150	MANHOLE, TELEPHONE		15	F-7
TA-3-1151	SM-1151	MANHOLE, TELEPHONE		15	E-7
TA-3-1152	SM-1152	MANHOLE, TELEPHONE		17	F-7
TA-3-1153	SM-1153	MANHOLE, TELEPHONE		17	F-7
TA-3-1154	SM-1154	MANHOLE, TELEPHONE		17	F-8
TA-3-1155	SM-1155	MANHOLE, TELEPHONE		17	F-8
TA-3-1156	SM-1156	MANHOLE, TELEPHONE		17	F-9
TA-3-1157	SM-1157	MANHOLE, TELEPHONE		14	C-3
TA-3-1158	SM-1158	MANHOLE, TELEPHONE		14	C-2
TA-3-1159	SM-1159	MANHOLE, TELEPHONE		14	D-2
TA-3-1160	SM-1160	MANHOLE, TELEPHONE		14	D-2
TA-3-1161	SM-1161	MANHOLE, TELEPHONE		14	E-2
TA-3-1162	SM-1162	MANHOLE, TELEPHONE		14	E-2
TA-3-1163	SM-1163	MANHOLE, TELEPHONE		14	F-2
TA-3-1164	SM-1164	MANHOLE, TELEPHONE		16	F-2
TA-3-1165	SM-1165	MANHOLE, TELEPHONE		16	F-2
TA-3-1166	SM-1166	MANHOLE, TELEPHONE		16	F-1
TA-3-1167	SM-1167	NTS RACK ASSEMBLY BLDG	REMOVED 1981		
TA-3-1168	SM-1168	MANHOLE, SANITARY		16	G-5
TA-3-1169	SM-1169	MANHOLE, DRAINAGE		16	G-5
TA-3-1170	SM-1170	MANIFOLD	RENUMBERED TA-59-9		
TA-3-1171	SM-1171	MANHOLE, TELEPHONE		17	H-7
TA-3-1172	SM-1172	MANHOLE, ELECTRICAL		14	C-4

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR. LOCATION SHT. NO.	MAP KEY
TA-3-1173	SM-1173	MANHOLE, STORM DRAINAGE		15	D-8
TA-3-1174	SM-1174	MANHOLE, STORM DRAIN		15	E-8
TA-3-1175	SM-1175	CATCH BASIN		14	A-2
TA-3-1176	SM-1176	ELECTRICAL DISCONNECT PE		17	I-7
TA-3-1177	SM-1177		REMOVED 1981		
TA-3-1178	SM-1178				
TA-3-1179	SM-1179	TRANSFORMER STATION	PAD MOUNTED	14	B-2
TA-3-1180	SM-1180	MANHOLE, TELEPHONE		14	C-2
TA-3-1181	SM-1181	MANHOLE, TELEPHONE		14	C-3
TA-3-1182	SM-1182	MANHOLE, TELEPHONE		14	C-4
TA-3-1183	SM-1183	MANHOLE, TELEPHONE		14	C-4
TA-3-1184	SM-1184	MANHOLE, TELEPHONE		14	C-5
TA-3-1185	SM-1185	MANHOLE, TELEPHONE		14	C-5
TA-3-1186	SM-1186		CANCELLED		
TA-3-1187	SM-1187	TRANSFORMER STATION	POLE MOUNTED	15	F-9
TA-3-1188	SM-1188	CAPACITOR STATION		16	G-4
TA-3-1189	SM-1189		CANCELLED		
TA-3-1190	SM-1190	SUBSTATION		15	E-6
TA-3-1191	SM-1191	SUBSTATION		15	F-6
TA-3-1192	SM-1192	SUBSTATION		15	E-7
TA-3-1193	SM-1193	SUBSTATION		15	E-7
TA-3-1194	SM-1194	SUBSTATION		15	E-7
TA-3-1195	SM-1195	SUBSTATION		15	F-7
TA-3-1196	SM-1196	SWITCHING STATION, ELEC		15	E-6
TA-3-1197	SM-1197				
TA-3-1198	SM-1198				
TA-3-1199	SM-1199				
TA-3-1200	SM-1200	MANHOLE, ELECTRICAL		15	F-6
TA-3-1201	SM-1201	MANHOLE, ELECTRICAL		15	F-7
TA-3-1202	SM-1202	TRANSFORMER STATION	PAD MOUNTED	15	B-6
TA-3-1203	SM-1203	MANHOLE, ELECTRICAL		17	G-9
TA-3-1204	SM-1204	TRANSFORMER STATION	POLE MOUNTED	17	H-5
TA-3-1205	SM-1205	MANHOLE, ELECTRICAL		16	G-4
TA-3-1206	SM-1206		CANCELLED		
TA-3-1207	SM-1207	MANHOLE, ELECTRICAL		15	D-6
TA-3-1208	SM-1208	MANHOLE, ELECTRICAL		14	E-4
TA-3-1209	SM-1209	SWITCHBOARD		14	D-5
TA-3-1210	SM-1210	TRANSFORMER STATION	PAD MOUNTED	17	J-7
TA-3-1211	SM-1211	MANHOLE, TELEPHONE		14	E-4
TA-3-1212	SM-1212	MANHOLE, TELEPHONE		14	D-2
TA-3-1213	SM-1213	MANHOLE, TELEPHONE		14	E-2
TA-3-1214	SM-1214	MANHOLE, TELEPHONE		16	F-2
TA-3-1215	SM-1215	MANHOLE, TELEPHONE		16	G-1
TA-3-1216	SM-1216		CANCELLED		
TA-3-1217	SM-1217		CANCELLED		
TA-3-1218	SM-1218	MANHOLE, WATER		14	E-3
TA-3-1219	SM-1219		CANCELLED		
TA-3-1220	SM-1220	CONCRETE PAD		11	C-6
TA-3-1221	SM-1221		CANCELLED		
TA-3-1222	SM-1222		CANCELLED		
TA-3-1223	SM-1223		CANCELLED		
TA-3-1224	SM-1224		CANCELLED		
TA-3-1225	SM-1225		REMOVED 1985		
TA-3-1226	SM-1226				
TA-3-1227	SM-1227	MANHOLE, TELEPHONE		17	F-9
TA-3-1228	SM-1228	STORAGE SHED		11	E-9
TA-3-1229	SM-1229	STORAGE SHED		11	E-9
TA-3-1230	SM-1230	CONCRETE PAD		11	C-6
TA-3-1231	SM-1231	CONCRETE PIERS		11	C-6
TA-3-1232	SM-1232	STORAGE SHED	NOT SHOWN		
TA-3-1233	SM-1233	STORAGE SHED		10	B-4
TA-3-1234	SM-1234	STORAGE SHED	NOT SHOWN		
TA-3-1235	SM-1235	STORAGE SHED	NOT SHOWN		
TA-3-1236	SM-1236	UTILITY SHED	NOT SHOWN		
TA-3-1237	SM-1237	UTILITY SHED	NOT SHOWN		
TA-3-1238	SM-1238	UTILITY SHED	NOT SHOWN		
TA-3-1239	SM-1239	STORAGE SHED	NOT SHOWN		
TA-3-1240	SM-1240	STORAGE SHED	NOT SHOWN		
TA-3-1241	SM-1241	STORAGE SHED	NOT SHOWN		
TA-3-1242	SM-1242				
TA-3-1243	SM-1243				
TA-3-1244	SM-1244				
TA-3-1245	SM-1245				
TA-3-1246	SM-1246				
TA-3-1247	SM-1247				
TA-3-1248	SM-1248				
TA-3-1249	SM-1249				
TA-3-1250	SM-1250				

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT NO.	MAP KEY
TA-3-1251	SM-1251	MANHOLE, ELECTRICAL		15	E-8
TA-3-1252	SM-1252	MANHOLE, TELEPHONE		15	C-6
TA-3-1253	SM-1253	MANHOLE, TELEPHONE		15	C-8
TA-3-1254	SM-1254	MANHOLE, TELEPHONE	NOT SHOWN		
TA-3-1255	SM-1255	UNDERGROUND STORAGE TANK		15	E-8
TA-3-1256	SM-1256	TRANSFORMER STATION	PAD MOUNTED	15	E-8
TA-3-1257	SM-1257	MANHOLE, ELECTRICAL		15	B-5
TA-3-1258	SM-1258	MANHOLE, ELECTRICAL		15	B-5
TA-3-1259	SM-1259	MANHOLE, ELECTRICAL		15	A-5
TA-3-1260	SM-1260	MANHOLE, ELECTRICAL		15	A-5
TA-3-1261	SM-1261	MANHOLE, SANITARY		17	K-7
TA-3-1262	SM-1262	MANHOLE, SANITARY		17	J-6
TA-3-1263	SM-1263	MANHOLE, SANITARY		17	J-6
TA-3-1264	SM-1264	UNLOADING STATION		13	H-8
TA-3-1265	SM-1265	UNLOADING STATION	NOT SHOWN		
TA-3-1266	SM-1266	DEWAR SHED	NOT SHOWN		
TA-3-1267	SM-1267	TRANSFORMER STATION	PAD MOUNTED	16	H-5
TA-3-1268	SM-1268		REMOVED 1985		
TA-3-1269	SM-1269	STORAGE SHED		11	B-5
TA-3-1270	SM-1270	TRANSFORMER STATION	PAD MOUNTED	15	C-6
TA-3-1271	SM-1271	MANHOLE, ELECTRICAL		17	F-5
TA-3-1272	SM-1272	MANHOLE, ELECTRICAL		17	G-5
TA-3-1273	SM-1273		REMOVED 1983		
TA-3-1274	SM-1274	SWITCHING STATION		14	D-4
TA-3-1275	SM-1275	SWITCHING STATION		14	D-4
TA-3-1276	SM-1276	TRANSFORMER STATION	POLE MOUNTED	17	J-7
TA-3-1277	SM-1277	SWITCHING STATION		15	E-6
TA-3-1278	SM-1278	SWITCHING STATION		15	E-6
TA-3-1279	SM-1279	SWITCHING STATION		15	D-6
TA-3-1280	SM-1280	SWITCHING STATION		15	D-7
TA-3-1281	SM-1281	SWITCHING STATION		15	F-6
TA-3-1282	SM-1282	SWITCHING STATION		15	F-6
TA-3-1283	SM-1283	SWITCHING STATION		15	F-7
TA-3-1284	SM-1284	SWITCHING STATION		15	F-7
TA-3-1285	SM-1285	SWITCHING STATION		15	E-8
TA-3-1286	SM-1286	SWITCHING STATION		17	G-6
TA-3-1287	SM-1287	SWITCHING STATION		17	F-5
TA-3-1288	SM-1288	SWITCHING STATION		17	F-5
TA-3-1289	SM-1289	SWITCHING STATION		14	F-4
TA-3-1290	SM-1290	SWITCHING STATION		14	F-4
TA-3-1291	SM-1291	SWITCHING STATION		14	E-4
TA-3-1292	SM-1292	SWITCHING STATION		14	E-4
TA-3-1293	SM-1293	SWITCHING STATION		14	E-4
TA-3-1294	SM-1294	SWITCHING STATION		14	E-4

REV.	DATE	REVISION	BY	CHD.	APP.
1	1-27-86	REVISED TO STATUS OF 1-17-86	ALC		
0	9-27-83	ADDED NEW INDEX SHEET	ADS		

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Los Alamos
LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-3 SOUTH MESA SITE

SEC. CLASSIFICATION
CLASS. U
REVIEWER
DATE 12-6-83

SUBMITTED / RECOMMENDED / APPROVED

DRAWN ADS
CHECKED
DATE 9-27-83
SHEET NO. 6 OF 17
DRAWING NO. ENG-R5103

02-NOV-83 KE15325
ALAMOS2 LEVEL=1
ALIGN AND SCALE
-30 X 21

Figure TA-3-1: Structure Location Plan for TA-3 - South Mesa Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR. LOCATION SHT NO.	MAP KEY
TA-3-1295	SM-1295	SWITCHING STATION		14	E-4
TA-3-1296	SM-1296	SWITCHING STATION		14	E-4
TA-3-1297	SM-1297	SWITCHING STATION		15	C-7
TA-3-1298	SM-1298				
TA-3-1299	SM-1299				
TA-3-1300	SM-1300	SWITCHING STATION		17	G-7
TA-3-1301	SM-1301	SWITCHING STATION		17	G-7
TA-3-1302	SM-1302	SWITCHING STATION		17	H-7
TA-3-1303	SM-1303	SWITCHING STATION		17	G-6
TA-3-1304	SM-1304	SWITCHING STATION		17	H-6
TA-3-1305	SM-1305				
TA-3-1306	SM-1306	SWITCHING STATION		17	I-6
TA-3-1307	SM-1307	SWITCHING STATION		17	I-7
TA-3-1308	SM-1308				
TA-3-1309	SM-1309	SWITCHING STATION		15	C-5
TA-3-1310	SM-1310	SWITCHING STATION		15	C-7
TA-3-1311	SM-1311	SWITCHING STATION		15	C-6
TA-3-1312	SM-1312	SWITCHING STATION		15	C-7
TA-3-1313	SM-1313	SWITCHING STATION		15	C-8
TA-3-1314	SM-1314	SWITCHING STATION		15	D-7
TA-3-1315	SM-1315	SWITCHING STATION		16	F-3
TA-3-1316	SM-1316	SWITCHING STATION		16	G-2
TA-3-1317	SM-1317				
TA-3-1318	SM-1318				
TA-3-1319	SM-1319	SWITCHING STATION		14	C-3
TA-3-1320	SM-1320	SWITCHING STATION		14	C-4
TA-3-1321	SM-1321	SWITCHING STATION		14	C-4
TA-3-1322	SM-1322	SWITCHING STATION		14	B-4
TA-3-1323	SM-1323				
TA-3-1324	SM-1324				
TA-3-1325	SM-1325				
TA-3-1326	SM-1326	SWITCHING STATION		15	C-5
TA-3-1327	SM-1327	SWITCHING STATION		15	D-5
TA-3-1328	SM-1328				
TA-3-1329	SM-1329	SWITCHING STATION		14	E-4
TA-3-1330	SM-1330	SWITCHING STATION		14	F-4
TA-3-1331	SM-1331				
TA-3-1332	SM-1332	SWITCHING STATION		16	F-3
TA-3-1333	SM-1333	SWITCHING STATION		16	G-3
TA-3-1334	SM-1334	SWITCHING STATION		16	J-3
TA-3-1335	SM-1335	SWITCHING STATION	NW OF SM-30		
TA-3-1336	SM-1336	SWITCHING STATION		17	F-9
TA-3-1337	SM-1337	SWITCHING STATION		17	F-9
TA-3-1338	SM-1338				
TA-3-1339	SM-1339	SWITCHING STATION		14	B-2
TA-3-1340	SM-1340				
TA-3-1341	SM-1341	SWITCHING STATION		14	B-2
TA-3-1342	SM-1342				
TA-3-1343	SM-1343	SWITCHING STATION		17	J-7
TA-3-1344	SM-1344	SWITCHING STATION		15	C-8
TA-3-1345	SM-1345	SWITCHING STATION		14	C-5
TA-3-1346	SM-1346				
TA-3-1347	SM-1347				
TA-3-1348	SM-1348				
TA-3-1349	SM-1349				
TA-3-1350	SM-1350	MANHOLE, ELECTRICAL	NOT SHOWN		
TA-3-1351	SM-1351	MANHOLE, ELECTRICAL	NOT SHOWN		
TA-3-1352	SM-1352	MANHOLE, ELECTRICAL		17	I-6
TA-3-1353	SM-1353	TRANSPORTABLE OFF. BLDG.		11	E-8
TA-3-1354	SM-1354	MANHOLE, ELECTRICAL		16	F-4
TA-3-1355	SM-1355	MANHOLE, ELECTRICAL		16	F-4
TA-3-1356	SM-1356	MANHOLE, ELECTRICAL		17	G-7
TA-3-1357	SM-1357	MANHOLE, ELECTRICAL		17	H-7
TA-3-1358	SM-1358	MANHOLE, ELECTRICAL		17	H-7
TA-3-1359	SM-1359	MANHOLE, ELECTRICAL		17	H-6
TA-3-1360	SM-1360	MANHOLE, ELECTRICAL		17	I-6
TA-3-1361	SM-1361				
TA-3-1362	SM-1362	MANHOLE, ELECTRICAL		14	C-2
TA-3-1363	SM-1363	MANHOLE, ELECTRICAL		14	B-2
TA-3-1364	SM-1364	MANHOLE, ELECTRICAL		14	B-2
TA-3-1365	SM-1365	MANHOLE, ELECTRICAL		16	G-3
TA-3-1366	SM-1366	MANHOLE, ELECTRICAL		16	H-3
TA-3-1367	SM-1367				
TA-3-1368	SM-1368				
TA-3-1369	SM-1369				
TA-3-1370	SM-1370				
TA-3-1371	SM-1371				
TA-3-1372	SM-1372	MANHOLE, ELECTRICAL		17	F-7

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR. LOCATION SHT NO.	MAP KEY
TA-3-1373	SM-1373				
TA-3-1374	SM-1374				
TA-3-1375	SM-1375				
TA-3-1376	SM-1376				
TA-3-1377	SM-1377				
TA-3-1378	SM-1378				
TA-3-1379	SM-1379				
TA-3-1380	SM-1380				
TA-3-1381	SM-1381				
TA-3-1382	SM-1382				
TA-3-1383	SM-1383				
TA-3-1384	SM-1384				
TA-3-1385	SM-1385				
TA-3-1386	SM-1386				
TA-3-1387	SM-1387				
TA-3-1388	SM-1388				
TA-3-1389	SM-1389				
TA-3-1390	SM-1390	MANHOLE, ELECTRICAL		17	J-7
TA-3-1391	SM-1391				
TA-3-1392	SM-1392				
TA-3-1393	SM-1393				
TA-3-1394	SM-1394				
TA-3-1395	SM-1395				
TA-3-1396	SM-1396				
TA-3-1397	SM-1397				
TA-3-1398	SM-1398				
TA-3-1399	SM-1399				
TA-3-1400	SM-1400				
TA-3-1401	SM-1401				
TA-3-1402	SM-1402				
TA-3-1403	SM-1403				
TA-3-1404	SM-1404				
TA-3-1405	SM-1405				
TA-3-1406	SM-1406				
TA-3-1407	SM-1407				
TA-3-1408	SM-1408				
TA-3-1409	SM-1409				
TA-3-1410	SM-1410				
TA-3-1411	SM-1411				
TA-3-1412	SM-1412				
TA-3-1413	SM-1413				
TA-3-1414	SM-1414				
TA-3-1415	SM-1415				
TA-3-1416	SM-1416				
TA-3-1417	SM-1417				
TA-3-1418	SM-1418				
TA-3-1419	SM-1419				
TA-3-1420	SM-1420				
TA-3-1421	SM-1421				
TA-3-1422	SM-1422				
TA-3-1423	SM-1423				
TA-3-1424	SM-1424				
TA-3-1425	SM-1425				
TA-3-1426	SM-1426				
TA-3-1427	SM-1427				
TA-3-1428	SM-1428				
TA-3-1429	SM-1429				
TA-3-1430	SM-1430				
TA-3-1431	SM-1431				
TA-3-1432	SM-1432				
TA-3-1433	SM-1433				
TA-3-1434	SM-1434				
TA-3-1435	SM-1435				
TA-3-1436	SM-1436				
TA-3-1437	SM-1437				
TA-3-1438	SM-1438				
TA-3-1439	SM-1439				
TA-3-1440	SM-1440				
TA-3-1441	SM-1441				
TA-3-1442	SM-1442				
TA-3-1443	SM-1443				
TA-3-1444	SM-1444				
TA-3-1445	SM-1445				
TA-3-1446	SM-1446				
TA-3-1447	SM-1447				
TA-3-1448	SM-1448				
TA-3-1449	SM-1449				
TA-3-1450	SM-1450				

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR. LOCATION SHT. NO.	MAP KEY
TA-3-1459	SM-1459	MANHOLE, FIRE PROTECTION		14	C-3
TA-3-1460	SM-1460				
TA-3-1461	SM-1461				
TA-3-1462	SM-1462				
TA-3-1463	SM-1463				
TA-3-1464	SM-1464	SWITCHING STATION		15	E-6
TA-3-1465	SM-1465				
TA-3-1466	SM-1466				
TA-3-1467	SM-1467				
TA-3-1468	SM-1468				
TA-3-1469	SM-1469				
TA-3-1470	SM-1470	TRANSFORMER STATION		16	G-2
TA-3-1471	SM-1471				
TA-3-1472	SM-1472				
TA-3-1473	SM-1473	MANHOLE, WATER	NOT SHOWN		
TA-3-1474	SM-1474	MANHOLE, WATER	NOT SHOWN		
TA-3-1475	SM-1475	MANHOLE, WATER	NOT SHOWN		
TA-3-1476	SM-1476	MANHOLE, WATER	NOT SHOWN		
TA-3-1477	SM-1477				
TA-3-1478	SM-1478				
TA-3-1479	SM-1479	TRANSFORMER STATION	W. OF SM-463		
TA-3-1480	SM-1480	TRANSFORMER STATION		16	I-2
TA-3-1481	SM-1481	TRANSFORMER STATION		15	D-7
TA-3-1482	SM-1482	TRANSFORMER STATION	PAD MOUNTED	17	G-5
TA-3-1483	SM-1483	TEST TOWER		10	B-3
TA-3-1484	SM-1484	TANK, SEPTIC		17	F-9
TA-3-1485	SM-1485				
TA-3-1486	SM-1486				
TA-3-1487	SM-1487	MANHOLE, TELEPHONE		14	D-5
TA-3-1488	SM-1488	MANHOLE, TELEPHONE		14	D-5
TA-3-1489	SM-1489	MANHOLE, TELEPHONE		14	E-5
TA-3-1490	SM-1490	MANHOLE, TELEPHONE		14	F-5
TA-3-1491	SM-1491	MANHOLE, TELEPHONE		17	F-5
TA-3-1492	SM-1492	MANHOLE, TELEPHONE		14	E-4
TA-3-1493	SM-1493	MANHOLE, TELEPHONE		14	E-4
TA-3-1494	SM-1494	MORGAN BLDG.		12	G-3
TA-3-1495	SM-1495	TRANSPORTABLE OFF. BLDG.		10	C-4
TA-3-1496	SM-1496	TRANSPORTABLE OFF. BLDG.		10	C-4
TA-3-1497	SM-1497				
TA-3-1498	SM-1498				
TA-3-1499	SM-1499				
TA-3-1500	SM-1500	TRAILER, OFFICE	FORMERLY TA-0-198	10	B-3
TA-3-1501	SM-1501	TRAILER, STORAGE	FORMERLY TA-0-266	12	H-3
TA-3-1502	SM-1502	TRAILER, CHANGE HOUSE	FORMERLY TA-0-267	11	F-9

REV.	DATE	REVISION	BY	CKD.	APP.
1	1-28-86	REVISED TO STATUS OF 1-17-86	NB		
0	9-27-83	REDRAWN & REVISED TO STATUS OF 6-15-83	ADS		

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INDEX SHEET
STRUCTURE LOCATION PLAN
TA-3 SOUTH MESA SITE

SEC. CLASSIFICATION
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REVIEWER
DATE 12-6-83

SUBMITTED
RECOMMENDED
APPROVED

DRAWN ADS
CHECKED
DATE 9-27-83
SHEET NO. 7 OF 17
DRAWING NO. ENG-R5103

21-NOV-83 KEI5913
ALAMOS2 LEVEL=1
ALIGN AND SCALE
-30 X 21

Figure TA-3-1: Structure Location Plan for TA-3 - South Mesa Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR LOCATION SHT. NO.	MAP KEY
TA-3-1503	SM-1503	TRAILER, CHANGE HOUSE	FORMERLY TA-0-268	11	F - 9
TA-3-1504	SM-1504	TRAILER, OFFICE	FORMERLY TA-0-305	11	E - 9
TA-3-1505	SM-1505	TRAILER, OFFICE	FORMERLY TA-0-482	11	E - 9
TA-3-1506	SM-1506	TRAILER, OFFICE	FORMERLY TA-0-501	11	B - 6
TA-3-1507	SM-1507	TRAILER, OFFICE	FORMERLY TA-0-512	11	B - 6
TA-3-1508	SM-1508	TRAILER, LABORATORY	FORMERLY TA-0-519	11	A - 6
TA-3-1509	SM-1509		CANCELLED		
TA-3-1510	SM-1510	TRAILER, OFFICE	FORMERLY TA-0-534	10	D - 4
TA-3-1511	SM-1511	TRAILER, OFFICE	FORMERLY TA-0-310	11	D - 7
TA-3-1512	SM-1512	TRAILER, STORAGE	FORMERLY TA-0-573	11	A - 6
TA-3-1513	SM-1513	TRAILER, OFFICE	FORMERLY TA-0-592	11	F - 9
TA-3-1514	SM-1514	TRAILER, OFFICE	FORMERLY TA-0-595	11	E - 9
TA-3-1515	SM-1515	TRAILER, OFFICE	FORMERLY TA-0-653	13	G - 6
TA-3-1516	SM-1516	TRAILER, OFFICE	FORMERLY TA-0-667	11	C - 6
TA-3-1517	SM-1517	TRAILER, LABORATORY	FORMERLY TA-0-675	11	B - 5
TA-3-1518	SM-1518	TRAILER, OFFICE	FORMERLY TA-0-679	10	C - 4
TA-3-1519	SM-1519	TRAILER, OFFICE	FORMERLY TA-0-697	11	C - 5
TA-3-1520	SM-1520	TRAILER, OFFICE	FORMERLY TA-0-705	11	D - 7
TA-3-1521	SM-1521	TRAILER, CRAFTS	FORMERLY TA-0-706	10	B - 3
TA-3-1522	SM-1522	TRAILER, OFFICE	FORMERLY TA-0-716	11	E - 9
TA-3-1523	SM-1523	TRAILER, STORAGE	FORMERLY TA-0-721	11	C - 6
TA-3-1524	SM-1524	TRAILER, OFFICE	FORMERLY TA-0-723	13	I - 7
TA-3-1525	SM-1525	TRAILER, OFFICE	FORMERLY TA-0-725	13	I - 7
TA-3-1526	SM-1526	TRAILER, CRAFTS	FORMERLY TA-0-729	10	B - 3
TA-3-1527	SM-1527	TRAILER, OFFICE	FORMERLY TA-0-734	11	D - 8
TA-3-1528	SM-1528				
TA-3-1529	SM-1529				
TA-3-1530	SM-1530	TRAILER, OFFICE	FORMERLY TA-0-744	11	B - 6
TA-3-1531	SM-1531	TRAILER, OFFICE	FORMERLY TA-0-747	11	E - 6
TA-3-1532	SM-1532	TRAILER, OFFICE	FORMERLY TA-0-753	13	I - 6
TA-3-1533	SM-1533	TRAILER, OFFICE	FORMERLY TA-0-757	11	C - 7
TA-3-1534	SM-1534	TRAILER, OFFICE	FORMERLY TA-0-654	11	C - 7
TA-3-1535	SM-1535	TRAILER, OFFICE	FORMERLY TA-0-739	12	G - 5
TA-3-1536	SM-1536	TRAILER, OFFICE		13	J - 7
TA-3-1537	SM-1537	TRAILER, OFFICE		11	D - 8
TA-3-1538	SM-1538	TRAILER, OFFICE	FORMERLY TA-35-231	11	E - 9
TA-3-1539	SM-1539	TRAILER, OFFICE		11	E - 8
TA-3-1540	SM-1540	TRAILER, OFFICE		11	B - 5
TA-3-1541	SM-1541	TRAILER, OFFICE		11	A - 5
TA-3-1542	SM-1542	TRAILER, OFFICE		11	C - 6
TA-3-1543	SM-1543	TRAILER, OFFICE		10	E - 4
TA-3-1544	SM-1544	TRAILER, OFFICE		13	G - 5
TA-3-1545	SM-1545	TRAILER, OFFICE		13	G - 5
TA-3-1546	SM-1546	TRAILER, OFFICE		11	E - 6
TA-3-1547	SM-1547		CANCELLED		
TA-3-1548	SM-1548		CANCELLED		
TA-3-1549	SM-1549	TRAILER, OFFICE		11	E - 5
TA-3-1550	SM-1550	TRAILER, OFFICE		11	E - 5
TA-3-1551	SM-1551		CANCELLED		
TA-3-1552	SM-1552	TRAILER, OFFICE		13	G - 5
TA-3-1553	SM-1553	TRAILER, OFFICE		10	E - 3
TA-3-1554	SM-1554	TRAILER, OFFICE		10	F - 4
TA-3-1555	SM-1555				
TA-3-1556	SM-1556				
TA-3-1557	SM-1557				
TA-3-1558	SM-1558		CANCELLED		
TA-3-1559	SM-1559	TRANSPORTABLE OFF. BLDG.		10	D - 5
TA-3-1560	SM-1560		CANCELLED		
TA-3-1561	SM-1561	GUARD STATION	FORMERLY TA-18-187	11	E - 5
TA-3-1562	SM-1562	TRAILER, CRAFTS	NOT SHOWN		
TA-3-1563	SM-1563				
TA-3-1564	SM-1564	TRAILER, OFFICE		11	C - 7
TA-3-1565	SM-1565	TRAILER, OFFICE		10	E - 4
TA-3-1566	SM-1566	TRANSPORTABLE OFF. BLDG.		10	D - 5
TA-3-1567	SM-1567	TRAILER, OFFICE		13	G - 6
TA-3-1568	SM-1568	TRAILER, OFFICE		10	B - 3
TA-3-1569	SM-1569	TRAILER, OFFICE		10	C - 4
TA-3-1570	SM-1570	TRAILER, OFFICE		13	G - 6
TA-3-1571	SM-1571	TRAILER, OFFICE		13	G - 6
TA-3-1572	SM-1572				
TA-3-1573	SM-1573	TRAILER, OFFICE		11	E - 6
TA-3-1574	SM-1574	TRAILER, OFFICE		11	E - 6
TA-3-1575	SM-1575				
TA-3-1576	SM-1576				
TA-3-1577	SM-1577				
TA-3-1578	SM-1578	TRAILER, OFFICE		11	B - 7
TA-3-1579	SM-1579	TRAILER, OFFICE		11	E - 6
TA-3-1580	SM-1580				

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR. LOCATION SHT. NO.	MAP KEY
TA-3-1581	SM-1581				
TA-3-1582	SM-1582				
TA-3-1583	SM-1583				
TA-3-1584	SM-1584				
TA-3-1585	SM-1585				
TA-3-1586	SM-1586				
TA-3-1587	SM-1587				
TA-3-1588	SM-1588				
TA-3-1589	SM-1589				
TA-3-1590	SM-1590				
TA-3-1591	SM-1591				
TA-3-1592	SM-1592				
TA-3-1593	SM-1593				
TA-3-1594	SM-1594				
TA-3-1595	SM-1595				
TA-3-1596	SM-1596				
TA-3-1597	SM-1597				
TA-3-1598	SM-1598				
TA-3-1599	SM-1599				
TA-3-1600	SM-1600				
TA-3-1601	SM-1601				
TA-3-1602	SM-1602				
TA-3-1603	SM-1603				
TA-3-1604	SM-1604				
TA-3-1605	SM-1605				
TA-3-1606	SM-1606				
TA-3-1607	SM-1607	TRANSFORMER STATION	PAD MOUNTED	17	G - 5
TA-3-1608	SM-1608	TRANSFORMER STATION	PAD MOUNTED	14	E - 4
TA-3-1609	SM-1609				
TA-3-1610	SM-1610	GUARD STATION		11	D - 6
TA-3-1611	SM-1611	TRANSFORMER STATION		14	C - 5
TA-3-1612	SM-1612				
TA-3-1613	SM-1613	TRANSPORTABLE OFF. BLDG.		10	C - 5
TA-3-1614	SM-1614	GUARD POST		11	F - 6
TA-3-1615	SM-1615	GUARD POST		11	D - 8
TA-3-1616	SM-1616	TRANSPORTABLE OFF. BLDG.		10	F - 3
TA-3-1617	SM-1617	TRANSPORTABLE OFF. BLDG.		10	F - 3
TA-3-1618	SM-1618		CANCELLED		
TA-3-1619	SM-1619		CANCELLED		
TA-3-1620	SM-1620		CANCELLED		
TA-3-1621	SM-1621		CANCELLED		
TA-3-1622	SM-1622				
TA-3-1623	SM-1623				
TA-3-1624	SM-1624	TRANSFORMER STATION	PAD MOUNTED	17	G - 5
TA-3-1625	SM-1625	TRANSFORMER STATION	PAD MOUNTED	17	G - 5
TA-3-1626	SM-1626	TRANSFORMER STATION	PAD MOUNTED	14	E - 3
TA-3-1627	SM-1627				
TA-3-1628	SM-1628				
TA-3-1629	SM-1629				
TA-3-1630	SM-1630	MANHOLE, TELEPHONE		17	F - 6
TA-3-1631	SM-1631	MANHOLE, TELEPHONE		17	F - 7
TA-3-1632	SM-1632	MANHOLE, TELEPHONE		17	F - 7
TA-3-1633	SM-1633	MANHOLE, TELEPHONE		17	F - 8
TA-3-1634	SM-1634	MANHOLE, TELEPHONE		17	F - 8
TA-3-1635	SM-1635				
TA-3-1636	SM-1636				
TA-3-1637	SM-1637	TRANSFORMER STATION	PAD MOUNTED	17	G - 6
TA-3-1638	SM-1638	MANHOLE, SANITARY		14	E - 3
TA-3-1639	SM-1639	MANHOLE, SANITARY		14	F - 3
TA-3-1640	SM-1640	CLUB 1663 FITNESS TRACK	W. OF SM-1663		
TA-3-1641	SM-1641		CANCELLED		
TA-3-1642	SM-1642	STORAGE SHED		11	D - 5
TA-3-1643	SM-1643				
TA-3-1644	SM-1644				
TA-3-1645	SM-1645				
TA-3-1646	SM-1646				
TA-3-1647	SM-1647				
TA-3-1648	SM-1648	STORAGE SHED		11	E - 6
TA-3-1649	SM-1649				
TA-3-1650	SM-1650				
TA-3-1651	SM-1651				
TA-3-1652	SM-1652				
TA-3-1653	SM-1653				
TA-3-1654	SM-1654				
TA-3-1655	SM-1655				
TA-3-1656	SM-1656				
TA-3-1657	SM-1657				
TA-3-1658	SM-1658				

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STR. LOCATION SHT. NO.	MAP KEY
TA-3-1659	SM-1659				
TA-3-1660	SM-1660				
TA-3-1661	SM-1661				
TA-3-1662	SM-1662				
TA-3-1663	SM-1663	WELLNESS CENTER	CLUB 1663	10	A - 3
TA-3-1664	SM-1664				
TA-3-1665	SM-1665				
TA-3-1666	SM-1666				
TA-3-1667	SM-1667	SEEPAGE PIT		17	F - 9
TA-3-1668	SM-1668				
TA-3-1669	SM-1669				
TA-3-1670	SM-1670				
TA-3-1671	SM-1671				
TA-3-1672	SM-1672				
TA-3-1673	SM-1673				
TA-3-1674	SM-1674				
TA-3-1675	SM-1675				
TA-3-1676	SM-1676				
TA-3-1677	SM-1677				
TA-3-1678	SM-1678				
TA-3-1679	SM-1679				
TA-3-1680	SM-1680				
TA-3-1681	SM-1681				
TA-3-1682	SM-1682				
TA-3-1683	SM-1683				
TA-3-1684	SM-1684				
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TA-3-1686	SM-1686				
TA-3-1687	SM-1687				
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TA-3-1691	SM-1691				
TA-3-1692	SM-1692				
TA-3-1693	SM-1693				
TA-3-1694	SM-1694				
TA-3-1695	SM-1695				
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TA-3-1697	SM-1697				
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TA-3-1699	SM-1699				
TA-3-1700	SM-1700				
TA-3-1701	SM-1701				
TA-3-1702	SM-1702				

REV.	DATE	REVISION	BY	CKD.	APP.
1	1-29-86	REVISED TO STATUS OF 1-17-86	ALC		
0	9-27-83	ADDED NEW INDEX SHEET			

NF

UNIVERSITY OF CALIFORNIA
Los Alamos
LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-3 SOUTH MESA SITE

SEC. CLASSIFICATION — CLASS. U — REVIEWER — DATE 12-16-83

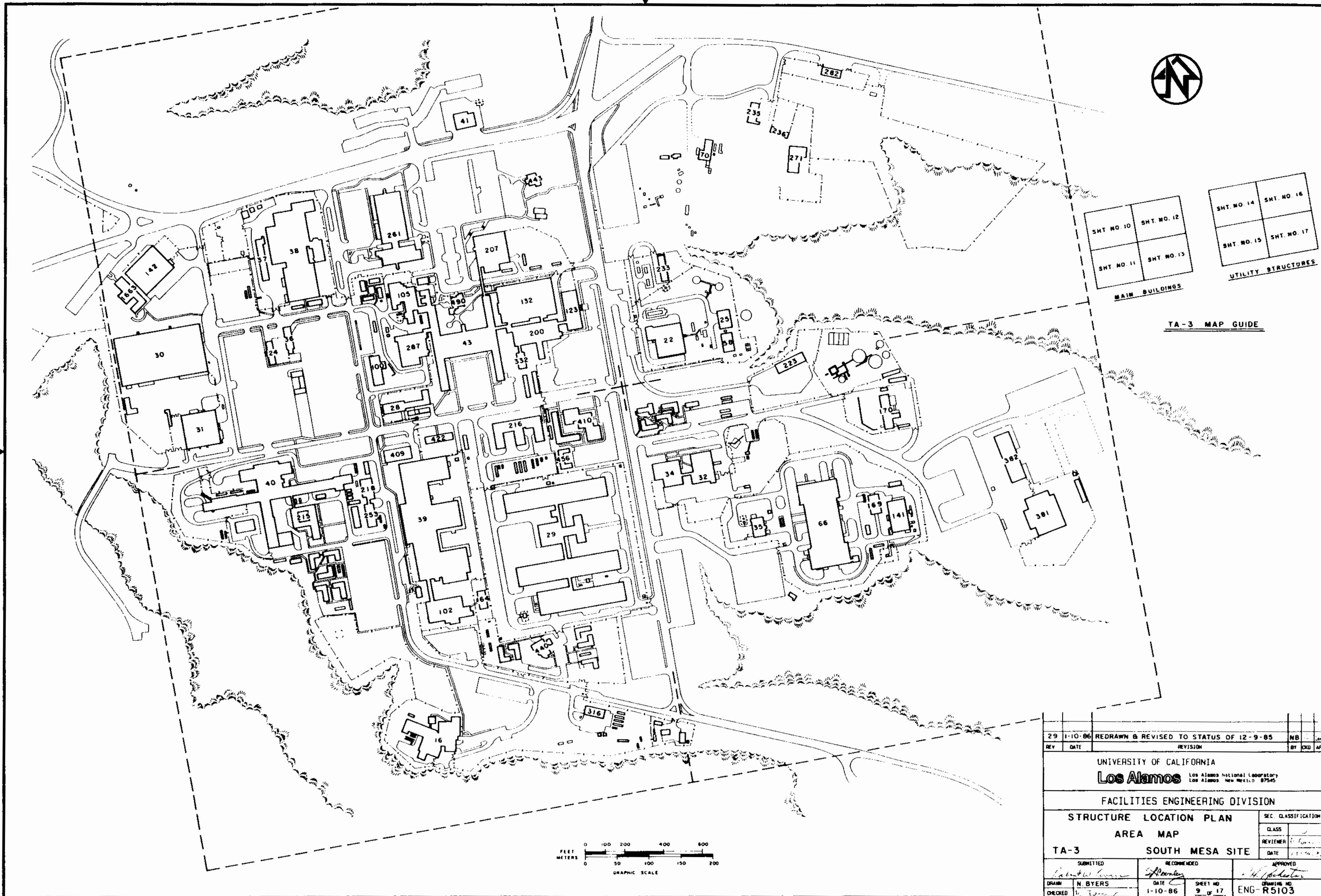
SUBMITTED — RECOMMENDED — APPROVED

DRAWN RDS — CHECKED — DATE — SHEET NO. 8 OF 17 — DRAWING NO. ENG-R5103

02-NOV-83 KEI5514
ALAMOS2 LEVEL=1

ALIGN AND SCALE
-30 X 21

Figure TA-3-1: Structure Location Plan for TA-3 - South Mesa Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)



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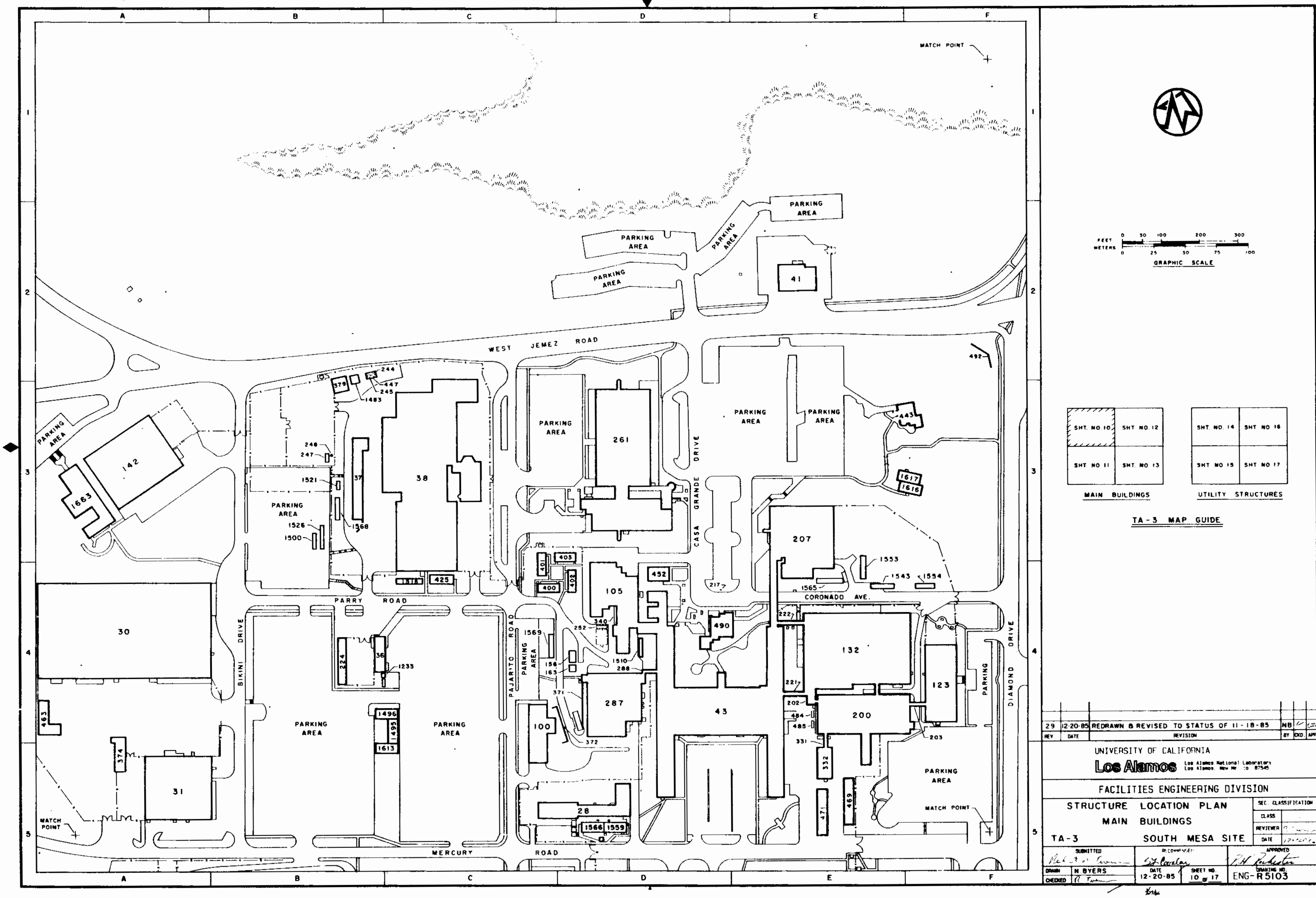

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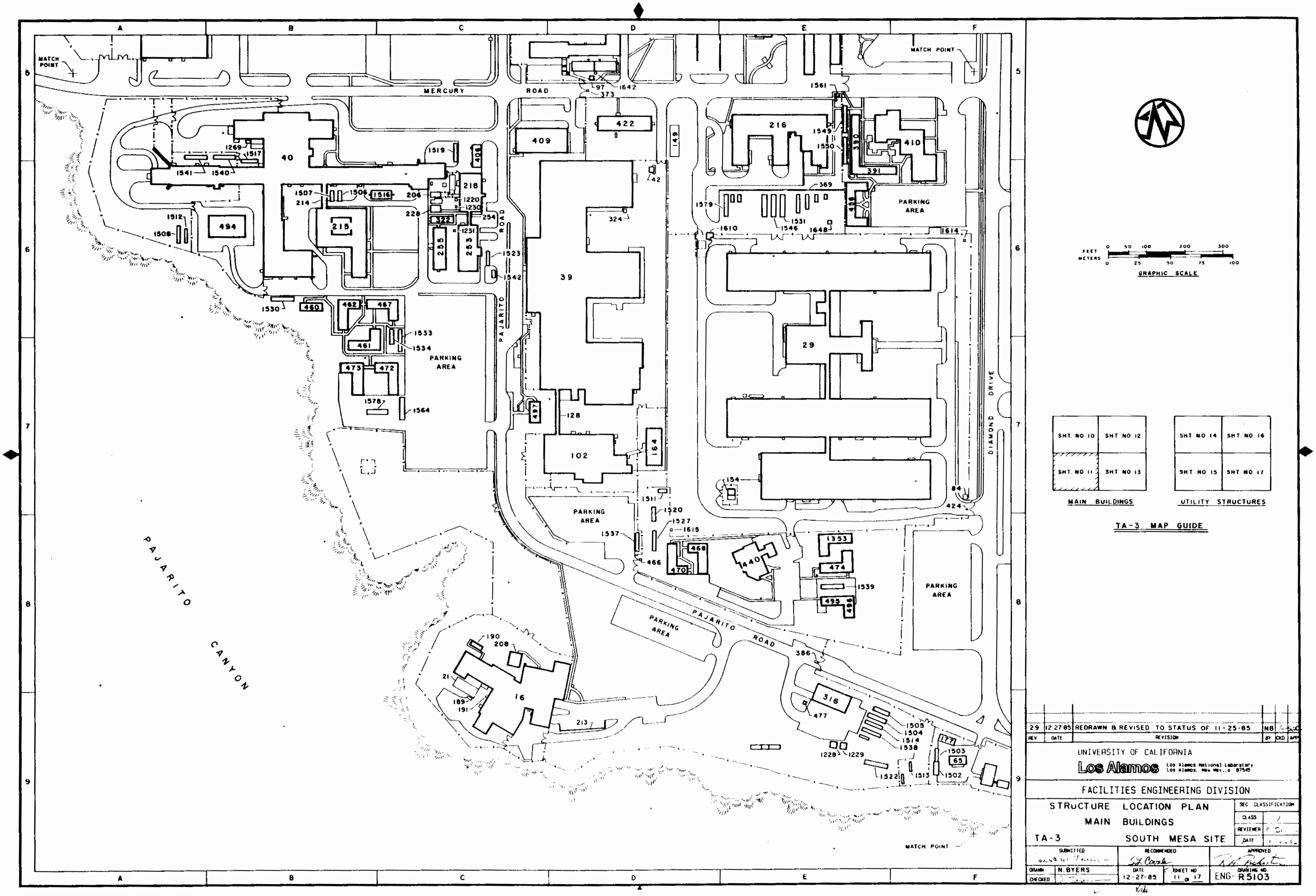

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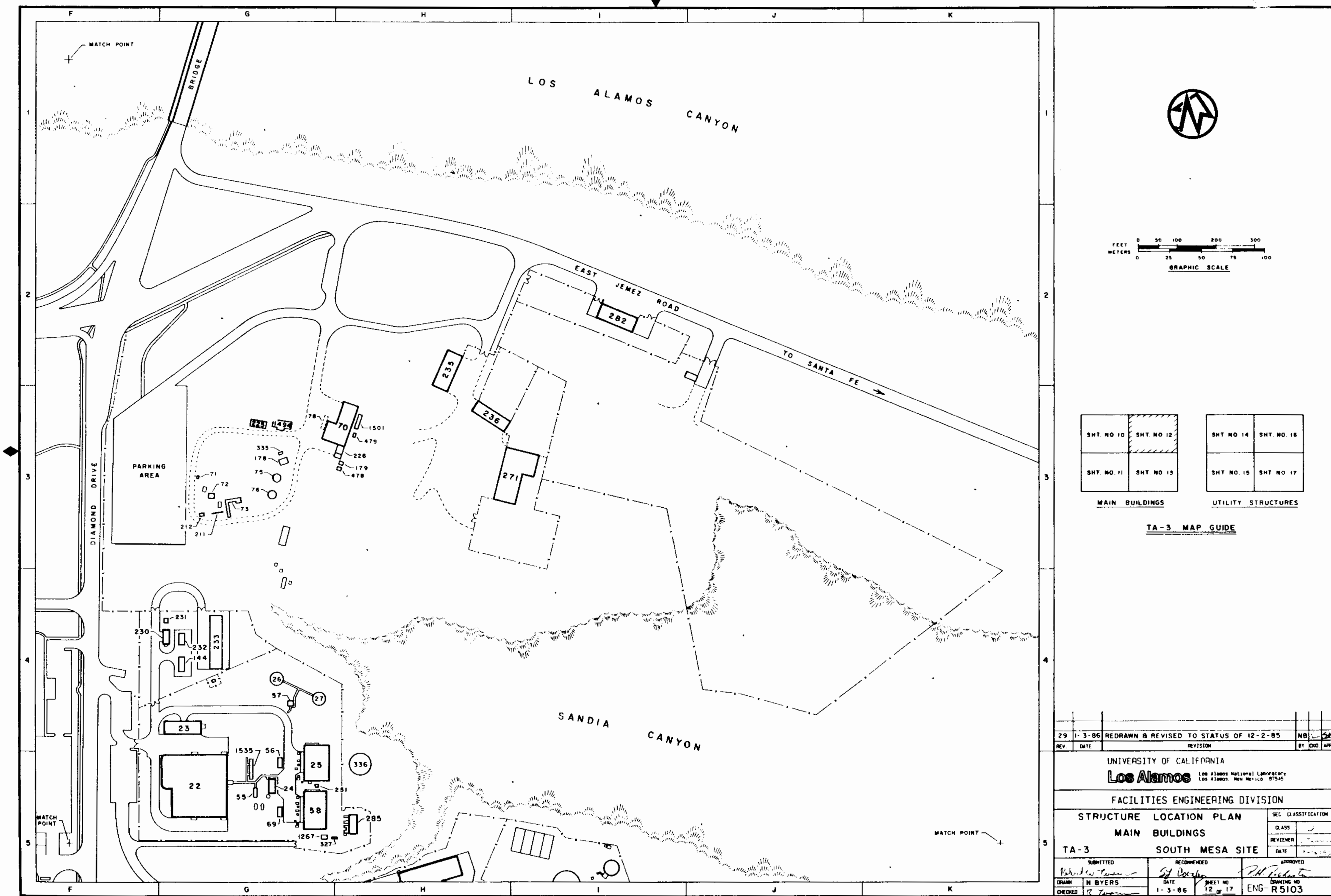

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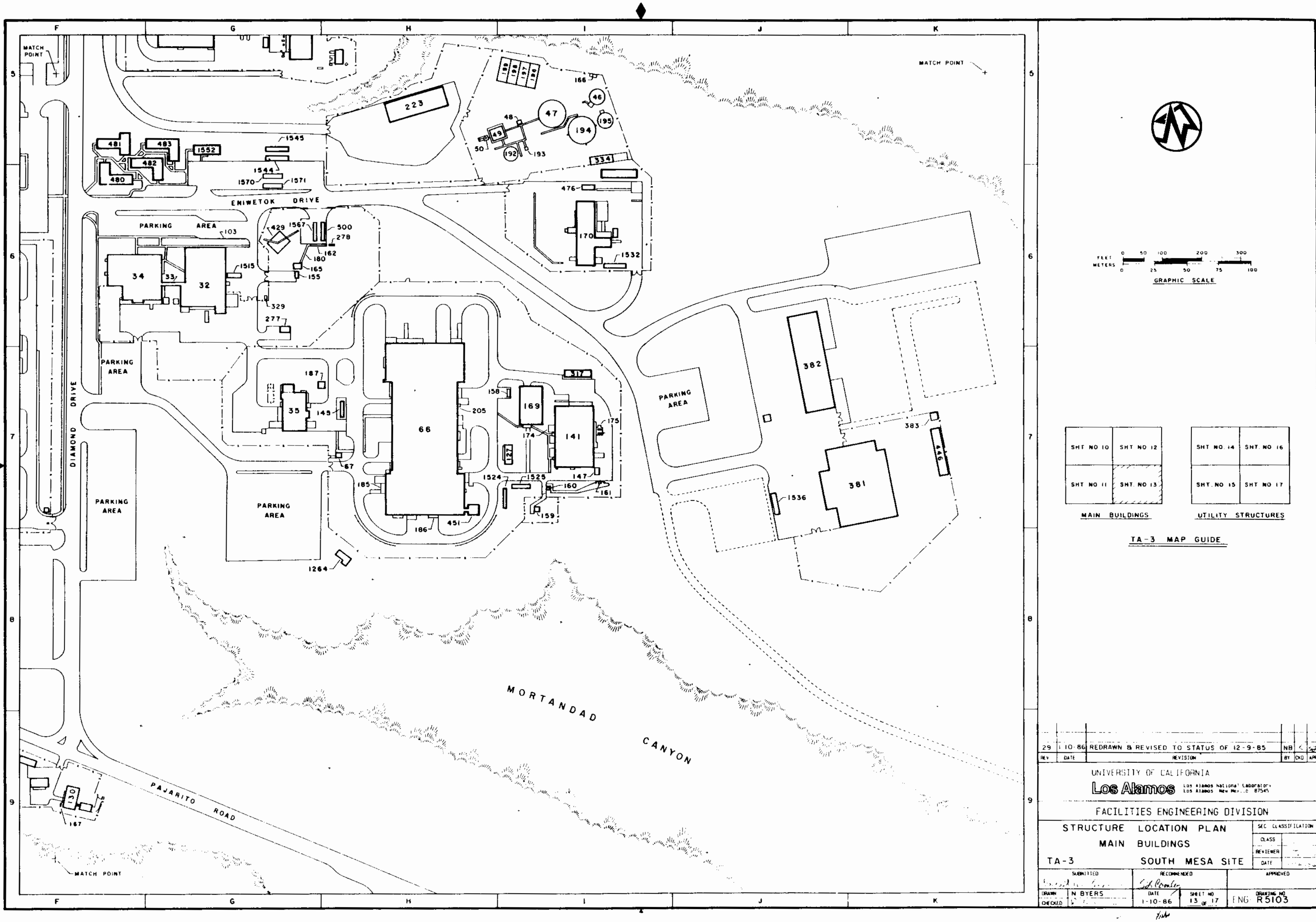

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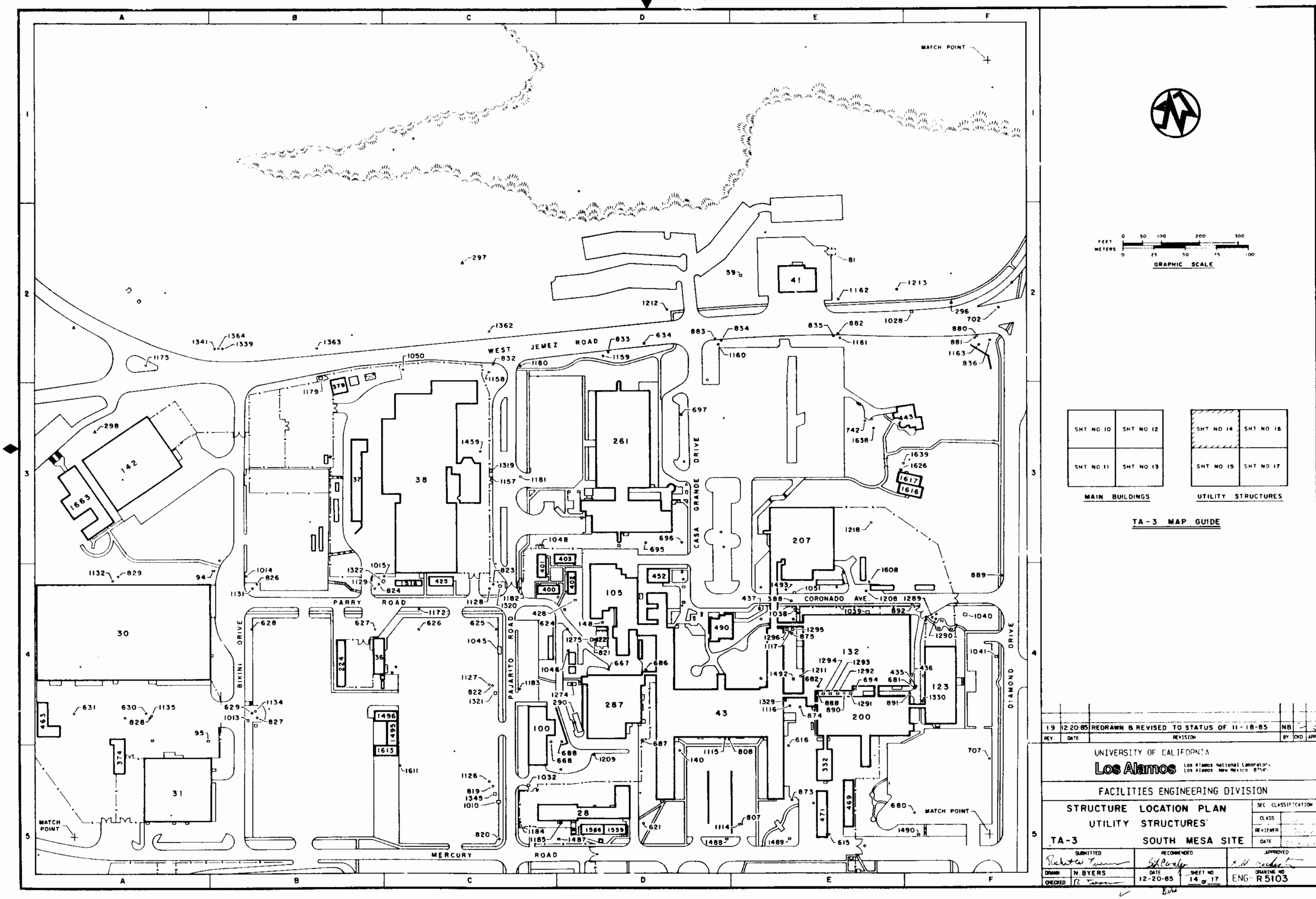

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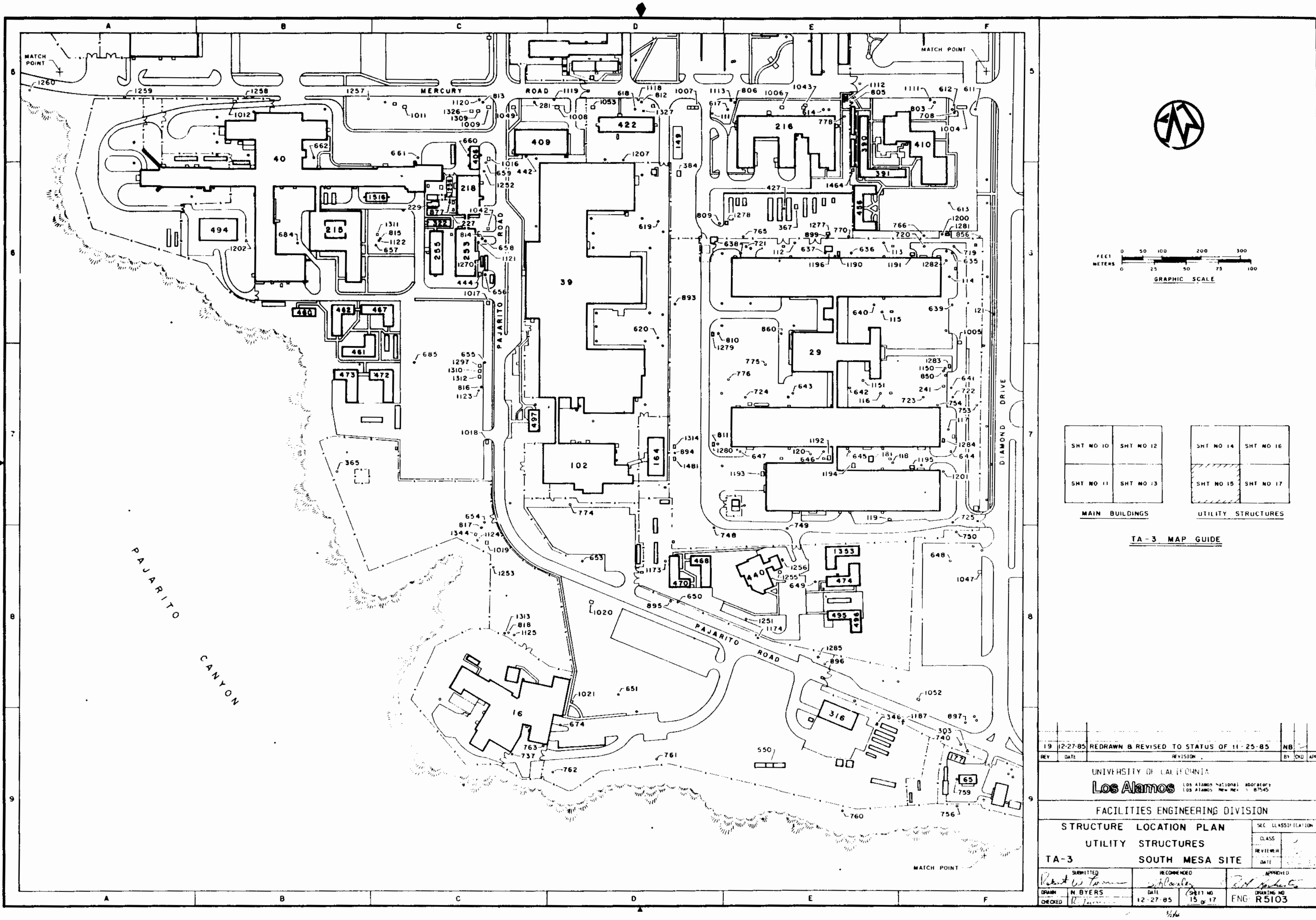

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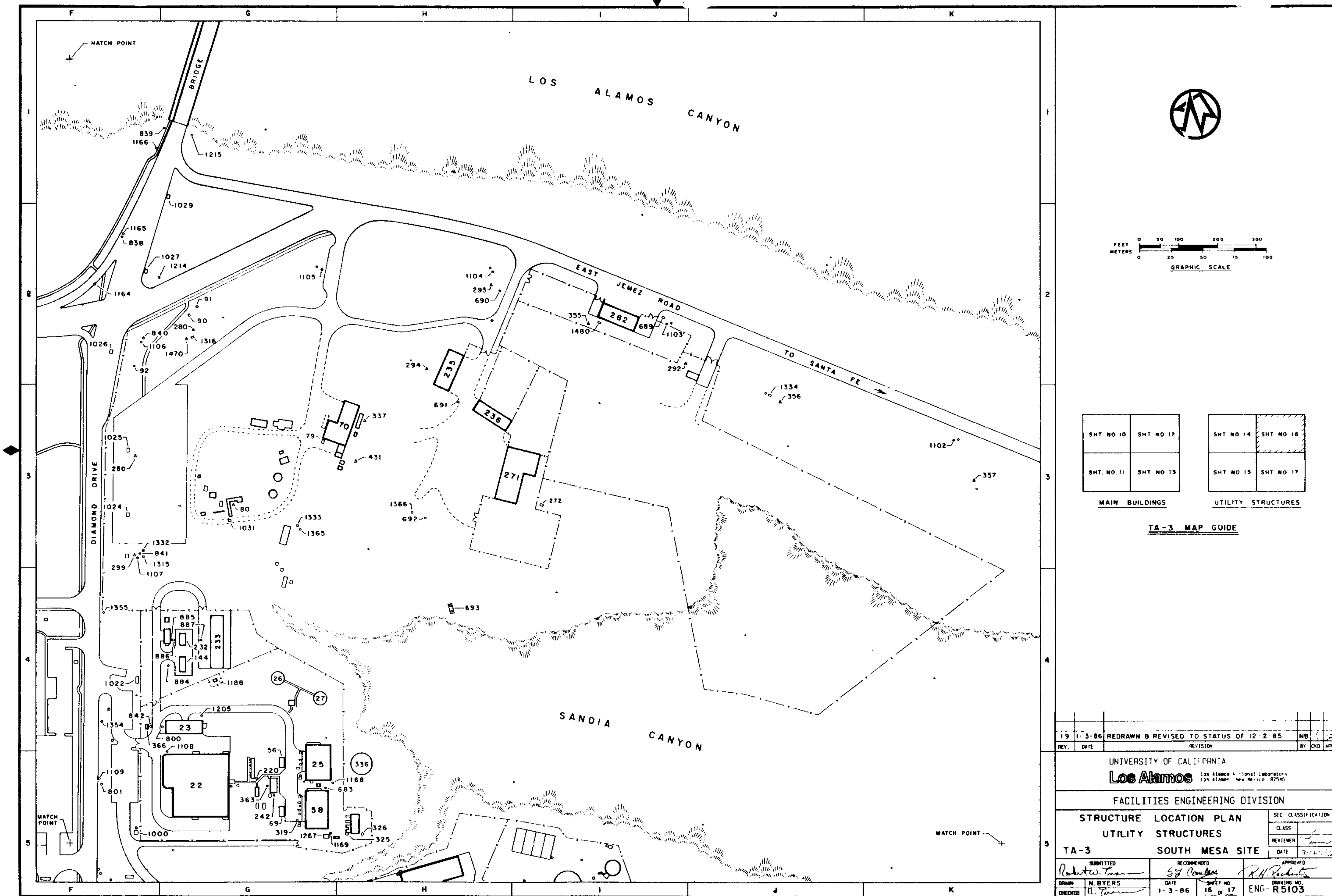
(1983 Drawing from the LANL Technical Area Structure Location Plans)



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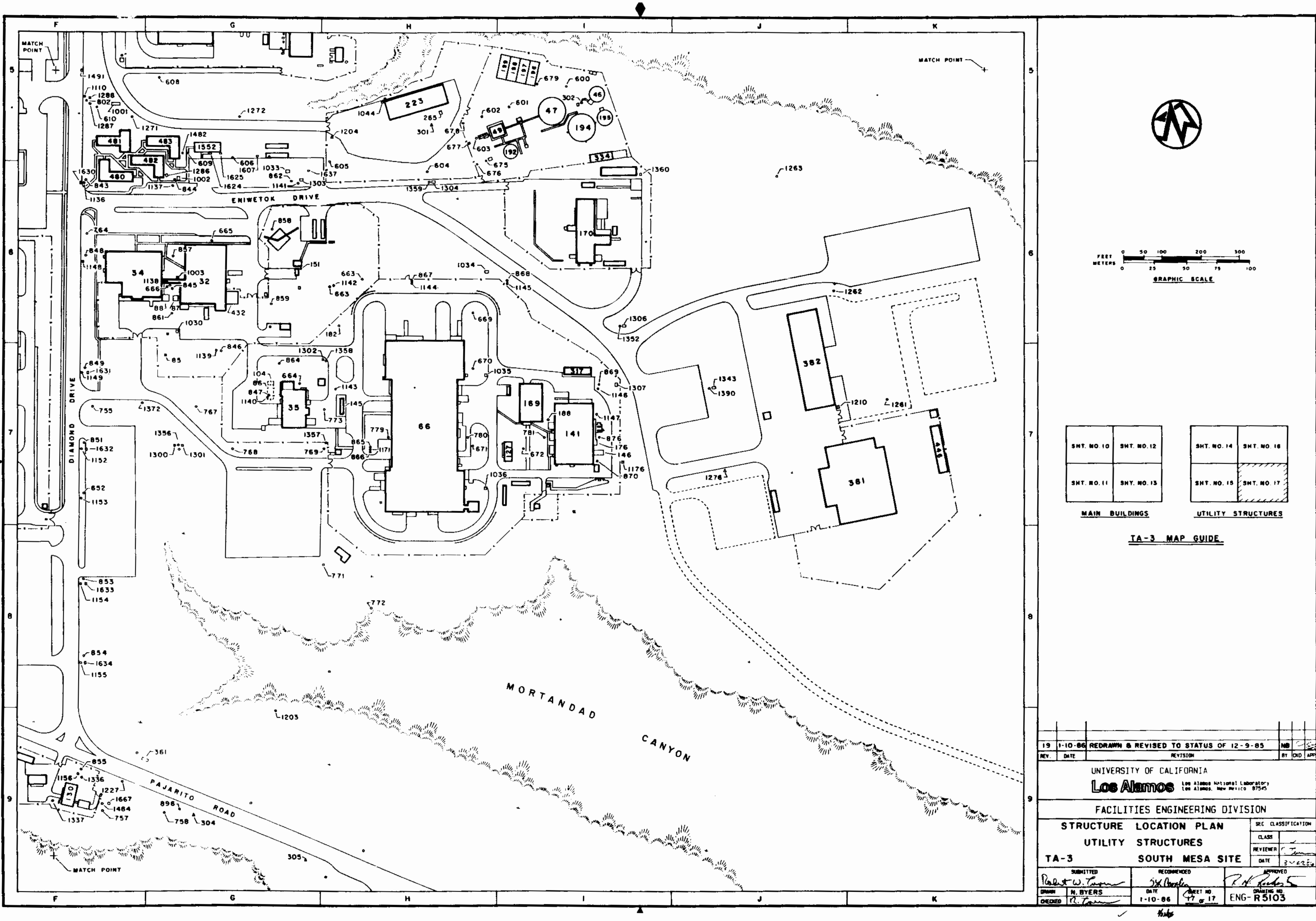

Figure TA-3-1: Structure Location Plan for TA-3 - South Mesa Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-3-1	SM-1	MAIN BUILDING (REMOVED) 1949
TA-3-2	SM-2	PRODUCTION SHOP (REMOVED) 1949
TA-3-3	SM-3	STORAGE BUILDING (REMOVED) 1949
TA-3-4	SM-4	HUTMENT (REMOVED) 1949
TA-3-5	SM-5	HUTMENT (REMOVED) 1949
TA-3-6	SM-6	HUTMENT (REMOVED) 1949
TA-3-7	SM-7	HUTMENT (REMOVED) 1949
TA-3-8	SM-8	MAGAZINE (REMOVED) 1949
TA-3-9	SM-9	MAGAZINE (REMOVED) 1949
TA-3-10	SM-10	MAGAZINE (REMOVED) 1949
TA-3-11	SM-11	MAGAZINE (REMOVED) 1949
TA-3-12	SM-12	BURN PIT (REMOVED) 1949
TA-3-13	SM-13	HOSE HOUSE (REMOVED) 1949
TA-3-14	SM-14	GUARD HOUSE (REMOVED) 1949
TA-3-15	SM-15	SEPTIC TANK (ABANDONED)
TA-3-16	SM-16	VAN DE GRAAFF LABORATORY
TA-3-17	SM-17	VAN DE GRAAFF CORRIDOR
TA-3-18	SM-18	VAN DE GRAAFF ACCELERATOR BUILDING
TA-3-19	SM-19	COOLING TOWER
TA-3-20	SM-20	STORAGE BUILDING
TA-3-21	SM-21	CYLINDER TANK STORAGE
TA-3-22	SM-22	CENTRAL POWER & STEAM PLANT
TA-3-23	SM-23	SWITCHGEAR STATION
TA-3-24	SM-24	WATER TREATMENT HOUSE
TA-3-25	SM-25	COOLING TOWER
TA-3-26	SM-26	TANK (FUEL OIL)
TA-3-27	SM-27	TANK (FUEL OIL)
TA-3-28	SM-28	COMMUNICATIONS BUILDING
TA-3-29	SM-29	CMR LABORATORY
TA-3-30	SM-30	GENERAL WAREHOUSE
TA-3-31	SM-31	CHEMICAL WAREHOUSE
TA-3-32	SM-32	CRYOGENICS BUILDING "A"
TA-3-33	SM-33	CRYOGENICS PASSAGEWAY
TA-3-34	SM-34	CRYOGENICS BUILDING "B"
TA-3-35	SM-35	FABRICATION BUILDING
TA-3-36	SM-36	SERVICE STATION & MOTOR POOL
TA-3-37	SM-37	LAB MAINTENANCE STORAGE
TA-3-38	SM-38	LAB MAINTENANCE SHOPS
TA-3-39	SM-39	TECH SHOPS
TA-3-40	SM-40	PHYSICS BUILDING
TA-3-41	SM-41	FIRE STATION
TA-3-42	SM-42	GUARD HOUSE (STATION 327)
TA-3-43	SM-43	ADMINISTRATION BUILDING
TA-3-44	SM-44	INCINERATOR (REMOVED) 1949
TA-3-45	SM-45	CESS POOL (ABANDONED)
TA-3-46	SM-46	FINAL SETTLING TANK
TA-3-47	SM-47	TRICKLING FILTER
TA-3-48	SM-48	DOSING TANK
TA-3-49	SM-49	IMHOFF TANK
TA-3-50	SM-50	INLET STRUCTURE
TA-3-51	SM-51	SLUDGE DRYING BED
TA-3-52	SM-52	SLUDGE DRYING BED
TA-3-53	SM-53	GUARD HOUSE
TA-3-54	SM-54	SEPTIC TANK (NEVER BUILT)
TA-3-55	SM-55	GAS HOUSE
TA-3-56	SM-56	UNIT SUBSTATION
TA-3-57	SM-57	OIL PUMP HOUSE
TA-3-58	SM-58	COOLING TOWER
TA-3-59	SM-59	SEWAGE LIFT STATION (SANITARY)
TA-3-60	SM-60	HOSE HOUSE (REMOVED)
TA-3-61	SM-61	HOSE HOUSE (REMOVED)
TA-3-62	SM-62	AUXILIARY GENERATOR
TA-3-63	SM-63	TANK
TA-3-64	SM-64	TANK
TA-3-65	SM-65	SOURCE STORAGE BUILDING
TA-3-66	SM-66	SIGMA BUILDING (PROPOSED)
TA-3-67	SM-67	GUARD HOUSE (PROPOSED)
TA-3-68	SM-68	GUARD HOUSE (REMOVED) 1955
TA-3-69	SM-69	UNIT SUBSTATION
TA-3-70	SM-70	OFFICE BUILDING (BATCH PLANT)
TA-3-71	SM-71	STORAGE BUILDING
TA-3-72	SM-72	AGGREGATE BINS
TA-3-73	SM-73	ASPHALTIC CONCRETE PLANT
TA-3-74	SM-74	STORAGE TANK
TA-3-75	SM-75	STORAGE TANK
TA-3-76	SM-76	STORAGE TANK
TA-3-77	SM-77	STORAGE TANK
TA-3-78	SM-78	TRUCK SCALE
TA-3-79	SM-79	SEPTIC TANK (SANITARY)
TA-3-80	SM-80	TRANSFORMER STATION
TA-3-81	SM-81	SUBSTATION
TA-3-82	SM-82	SUBSTATION
TA-3-83	SM-83	TRANSFORMER STATION (REMOVED)
TA-3-84	SM-84	GUARD HOUSE (STATION 322)
TA-3-85	SM-85	MANHOLE (GAS)
TA-3-86	SM-86	SUBSTATION
TA-3-87	SM-87	SWITCHGEAR STATION
TA-3-88	SM-88	SUBSTATION
TA-3-89	SM-89	GUARD HOUSE (STATION 316)
TA-3-90	SM-90	MANHOLE (GAS)
TA-3-91	SM-91	MANHOLE (WATER)
TA-3-92	SM-92	MANHOLE (EFFLUENT)
TA-3-93	SM-93	TANK (FUEL OIL)
TA-3-94	SM-94	MANHOLE (WATER)
TA-3-95	SM-95	MANHOLE (WATER)
TA-3-96	SM-96	GUARD HOUSE (STATION 325)
TA-3-97	SM-97	GUARD HOUSE (STATION 450)
TA-3-98	SM-98	ROAD BLOCK
TA-3-99	SM-99	ROAD BLOCK
TA-3-100	SM-100	CAFETERIA
TA-3-101	SM-101	CARBOY WASHING PLATFORM
TA-3-102	SM-102	TECH SHOPS ADDITION
TA-3-103	SM-103	RETAINING WALL
TA-3-104	SM-104	SUBSTATION (LIGHTING)
TA-3-105	SM-105	SHERWOOD BUILDING
TA-3-106	SM-106	PASSAGEWAY (SM-43 TO 105)
TA-3-107	SM-107	UNDERGROUND TANK (OIL)
TA-3-108	SM-108	UNDERGROUND TANK (OIL)
TA-3-109	SM-109	UNDERGROUND TANK (OIL)
TA-3-110	SM-110	STORAGE RACK
TA-3-111	SM-111	MANHOLE (WATER)
TA-3-112	SM-112	MANHOLE (WATER)
TA-3-113	SM-113	MANHOLE (WATER)
TA-3-114	SM-114	MANHOLE (WATER)
TA-3-115	SM-115	MANHOLE (WATER)
TA-3-116	SM-116	MANHOLE (WATER)
TA-3-117	SM-117	MANHOLE (WATER)
TA-3-118	SM-118	MANHOLE (WATER)
TA-3-119	SM-119	MANHOLE (WATER)
TA-3-120	SM-120	MANHOLE (WATER)
TA-3-121	SM-121	MANHOLE (GAS)

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-3-122	SM-122	SUBSTATION
TA-3-123	SM-123	PERSONNEL BUILDING (PROPOSED)
TA-3-124	SM-124	SUPPLY & PROPERTY BUILDING (PROPOSED)
TA-3-125	SM-125	POWER REACTOR BUILDING (PROPOSED)
TA-3-126	SM-126	SHIELDED STORAGE FACILITY (PROPOSED)
TA-3-127	SM-127	COOLING TOWER (PROPOSED)
TA-3-128	SM-128	PASSAGEWAY (SM-39 TO 102)
TA-3-141	SM-141	New Bldg for [illegible]

STRUCTURE NUMBER	DESIGNATION	REMARKS

STRUCTURE NUMBER	DESIGNATION	REMARKS

NO.	DATE	REVISIONS	BY	CHKD	GRP. LDR.	ENG. D.O.
8	7-1-57	REVISED TO STATUS OF 7-1-57	DDS	JAS		
7	7-15-5[illegible]	REDRAWN DRAWING NO. CHANGED TO ENG-R115 AND ENG-R116	NOB	JAS	SER	

AUTHORIZED FOR: HEALTH / SAFETY / FIRE PROT. / SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-3 SOUTH MESA SITE

CHECKED: J.A. Sizer (DESIGNER) — RECOMMENDED: [illegible] (GROUP LEADER) — APPROVED: [illegible] (ENG. DEPT. OFFICE)
DRAWN: N BYERS — DATE: 7-15-55 — DRAWING NO.: ENG-R115
SCALE: NONE — SHEET 1 OF 2

Figure TA-3-2: Structure Location Plan for TA-3 - South Mesa Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

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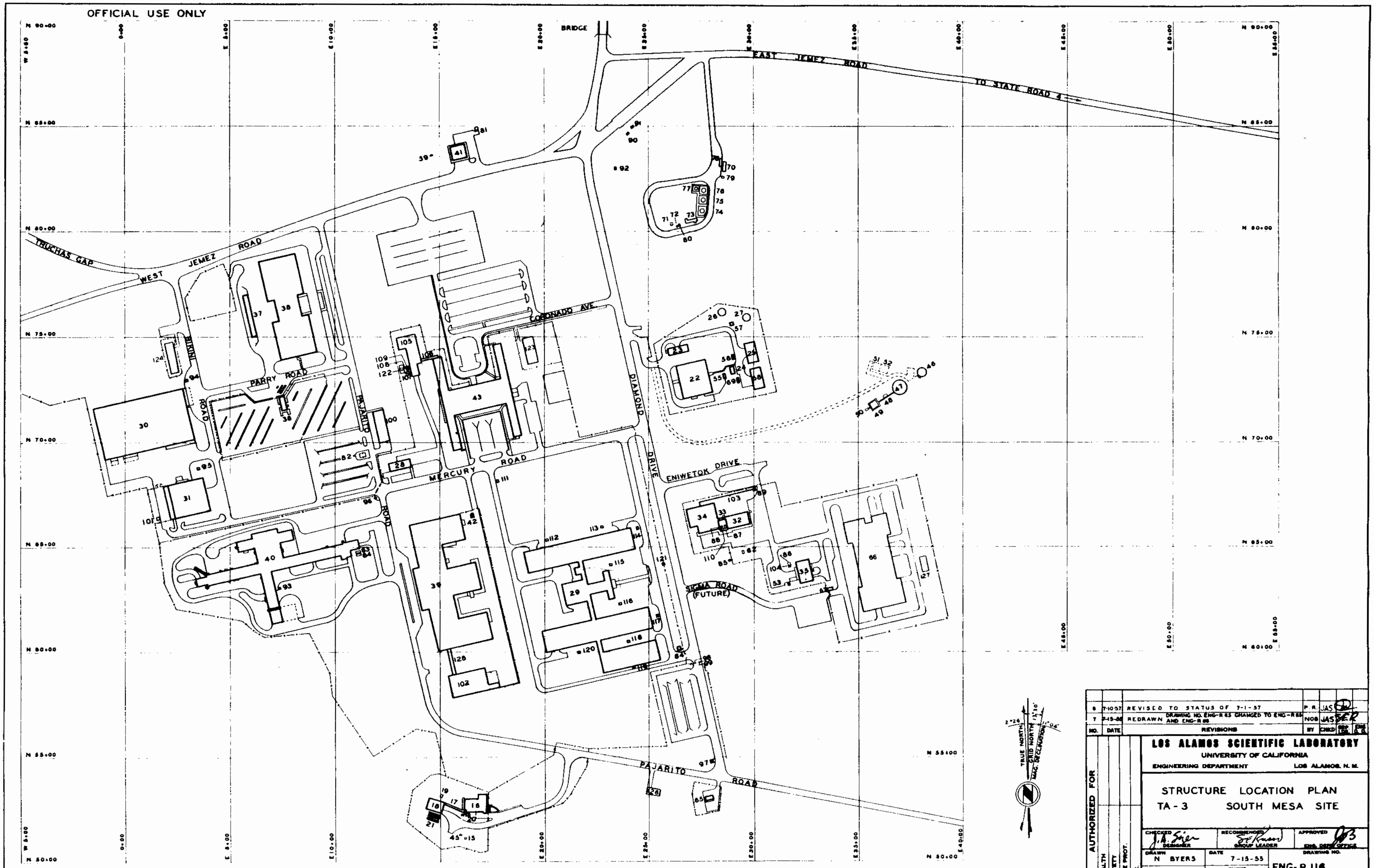

Figure TA-3-2: Structure Location Plan for TA-3 - South Mesa Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

TA-4 - ALPHA SITE

CURRENT OPERATIONS

TA-4 was abandoned in the late 1940s.

POTENTIAL CERCLA/RCRA SITES

Abandoned in the late 1940s, TA-4 was used as a firing site. The first group to use the site was G-3, and it fired several shots per day using charges of up to 100 lb. Group M-4, which followed G-3 at the site, did small equation-of-state tests using several pounds of high explosive for each test. Sometime after 1957, part of TA-4 was designated TA-52 for the UHTREX (Ultra-High-Temperature Reactor Experiment) reactor. TA-4-7 housed a photoprocessing laboratory.

Decontamination and decommissioning (D&D) of TA-4 took place in 1985. The D&D activities included removing an abandoned double magazine (TA-4-1), the former main firing pit (TA-4-15), and surface debris. Bunker TA-4-3, which had been burned but still had soil mounds, was bulldozed level with the ground.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigation will be documented in the CEARP Phase IIA Monitoring Plan for TA-4. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/ RCRA site. There is not sufficient information to calculate an HRS/MHRS Migration Mode Score.

FIGURES

Figure TA-4-1: Location and Site Plan for TA-4 - Alpha Site (1955)

REFERENCES

Blackwell, C. 1955. "Radiation Survey of Buildings at Alpha Site," Los Alamos Scientific Laboratory memorandum to John Bolton, July 21, 1955.

Director. 1947. "Background Data Concerning the Organization, Space Occupancy, and General Building Requirements of the Laboratory," Los Alamos Scientific Laboratory memorandum to the Manager, U.S.A.E.C., Office of Santa Fe Directed Operations, November 4, 1947 (in reference to Los Alamos Scientific Laboratory report LAB-A-5, September 11, 1947).

Employee Interviews. Conducted in 1985-86 for Phase 1 of CEARP at Los Alamos National Laboratory; notes in the CEARP files at LANL.

LASL. 1946. "Safety Practice M-4," Los Alamos Scientific Laboratory internal document, December 1946.

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TABLE TA-4 - POTENTIAL CERCLA/RCRA SITES

TA4-1-CA-I-HW/RW (Firing pit)

Background--As shot debris accumulated around the firing pit, a small bulldozer was used to clear away such debris as shrapnel and wire. The clearing ultimately resulted in debris being deposited to the north in Mortandad Canyon. Environmental contaminants at the former firing site may consist of high explosives, natural and depleted uranium, and beryllium (Employee Interviews).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the firing site and surrounding area will be examined to determine whether any debris from shots was buried by bulldozing the site.

TA4-2-CA-I-HW/RW (Firing site)

Background--G-3, the Magnetic Method Group, was the original user of Alpha Site. The site was constructed in 1944 as a test firing site for small- to medium-size explosives experiments using the implosion "electric" method of detonation wave determination (Director 1947). The electric method involved both plate and pin-type shots. For these shots, the amount of explosive was cut to one-third of the amount in an actual weapon. Shot frequency was several per day (Employee Interviews) with safety recommendations ". . . not to exceed more than [six] shots in any half day" (LASL 1946). Shot size ranged from 1/2 lb to 1,000 lb (Employee Interviews). There is no record of any explosive failing to explode completely. High explosives that were used included Composition B (Comp B), 2,4,6-trinitrotoluene (TNT), sucretol, and primacord. Contamination from the shots at TA-4 could include natural and depleted uranium, beryllium, and perhaps some heavy metals (Employee Interviews; McMillan 1944). To a lesser extent, experimental equation-of-state shots were performed at Alpha Site. These shots used terbium, a rare earth, and terbium oxide (McMillan 1944). Alpha Site was phased out and abandoned, and activities were moved to R Site in 1946.

Structure TA-4-19, a "contaminated pit," was originally listed in engineering records as part of Alpha Site, but was redesignated as TA-0-900. This contaminated pit is now known as Material Disposal Area C (see Material Disposal Areas).

In the mid-1960s, some Alpha Site structures were demolished when TA-52, the UHTREX (Ultra-High-Temperature Reactor Experiment) facility and its support buildings and utilities, were constructed. Only minimal cleanup was performed.

During the summer of 1985, decontamination and decommissioning was initiated at TA-4 as part of the Los Alamos Site Characterization Program (precursor to CEARP). Radioactive contamination was not detected during D&D activities; however, there was no monitoring for nonradiological hazardous substances.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A supplemental Phase I survey will be made to determine the extent of nonradioactive residual environmental contamination. (Also see Material Disposal Area C.)

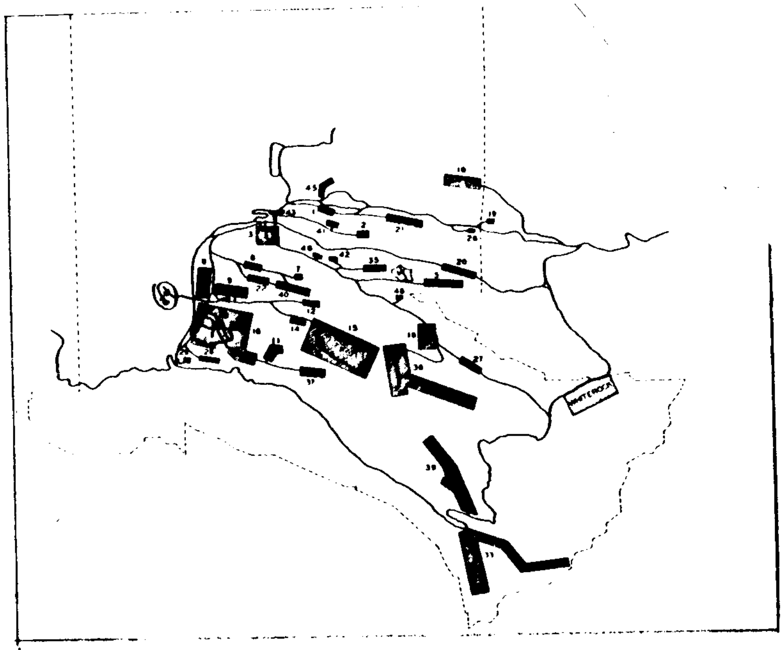
TA4-3-CA-I-HW/RW (Photoprocessing outfall)

Background--As part of the experimental process of the implosion work performed at TA-4, photographs were taken of shots. Laboratory and photographic processing facilities were present at Alpha Site. The fate of photographic processing and laboratory wastes is not known.

As part of the routine release of property, H-1 (the Health Physics Group) monitored the buildings at Alpha Site. The only radioactivity observed was in the darkroom. "This hutment had beta activity on the floor to the level of 2.0 mrem/hr. Parts of the floor were removed as the contamination was well embedded into the surface and was not practical to clean. This building can now be listed as having no radioactive contamination" (Blackwell 1955). It appears that the structure burned in the early 1960s when several other firing site buildings were burned.

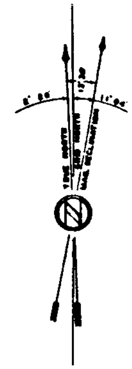
CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

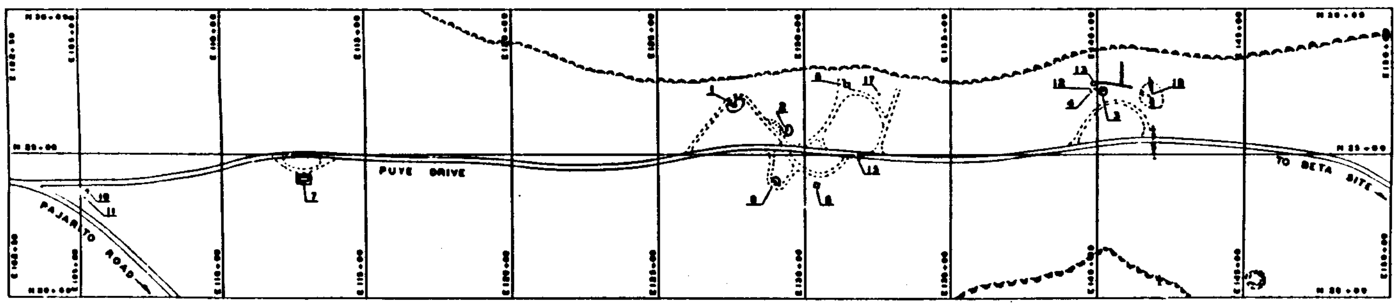
Planned Future Action--During supplemental Phase I, an effort will be made to determine the extent of photographic processing residuals in the environment.



STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-0-2	ULR-2	GUARD HOUSE (FORMERLY ALPHA-9) (REMOVED)
TA-0-3	ULR-3	ROAD BLOCK (FORMERLY ALPHA-16) (REMOVED)

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-4-1	ALPHA-1	MAGAZINE (DOUBLE)
TA-4-2	ALPHA-2	MAGAZINE
TA-4-3	ALPHA-3	LABORATORY - CONTROL BUILDING
TA-4-4	ALPHA-4	BATTERY BUILDING
TA-4-5	ALPHA-5	STORAGE BUILDING
TA-4-6	ALPHA-6	PROCESS & TRIM BLDG
TA-4-7	ALPHA-7	DARK ROOM & LABORATORY
TA-4-8	ALPHA-8	MAGAZINE
TA-4-9		(GUARD HOUSE RELOCATED-NOW TA-18-1001)
TA-4-10	ALPHA-10	WATER TANK
TA-4-11	ALPHA-11	FIRE TOOL HOUSING
TA-4-12	ALPHA-12	SIREN TOWER
TA-4-13	ALPHA-13	HUTMENT
TA-4-14	ALPHA-14	ROAD BLOCK (RELOCATED TO TA-18-87)
TA-4-15	ALPHA-15	ROAD BLOCK
TA-4-16		REDESIGNATED ULR-3, TA-0-3
TA-4-17	ALPHA-17	LATRINE
TA-4-18	ALPHA-18	FIRING PIT
TA-4-19		CHANGED TO UTILITY DESIGNATION





STRUCTURE LOCATION PLAN
TA-4 ALPHA SITE
10/27/55

Figure TA-4-1: Location and Site Plan for TA-4 - Alpha Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

TA-5 - BETA SITE

CURRENT OPERATIONS

TA-5 is no longer being used. The last operations here took place in 1979.

POTENTIAL CERCLA/RCRA SITES

Beta Site was built in conjunction with Alpha Site and used by the Magnetic Method Group, G-3, which later became M-9. The site was constructed in 1944 as a test firing site for medium- to large-size explosives experiments using the implosion "electric" method of detonation wave determination (Director 1947). The electric method involved implosion experimentation using the pin and plate methods. Shot size ranged from 30 to 2,500 lb, the average shot size being 600 lb. There is no record of any shots going low order. Employees interviewed said the primary explosive material used at the site included Composition B, primacord, and detonators. At TA-5, shots were set up and fired on the open ground. According to one interviewee, when craters got too deep at Beta Site, fill was brought in, creating the possibility of subsurface contamination in the firing areas. No firing pits or berms existed at Beta Site. After its use as a firing site, Beta Site was used for other activities. An underground chamber was constructed and used for calibration work.

In 1985, the site was decontaminated and decommissioned. As part of the 1985 cleanup, underground utilities were removed. Depleted uranium contamination was also found in the area of the firing point. The contaminated soil was removed and hauled to Area G at TA-54.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-5. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-5 is 11.3 (Appendix B).

FIGURES

REFERENCES

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TABLE TA-5 - POTENTIAL CERCLA/RCRA SITES

TA5-1-CA/L-I-HW/RW (Firing point)

Background--As debris accumulated it was cleared from the firing pit and its vicinity by a bulldozer. Some of this material eventually ended up on the sides of Mortandad Canyon to the northeast. Scrap (e.g., wires, cables, and connectors) from the explosions themselves also spread to the shrapnel zone of the pit. This zone included the canyon sides and bottom. Potential environmental contaminants consist of high explosives, uranium or depleted uranium, beryllium, and uranium-contaminated aluminum or steel. Contamination at the firing site is documented in Blackwell (1976). As part of the Los Alamos Site Characterization Program cleanup carried out in the summer of 1985, the main firing area was excavated. As structures surrounding the firing area were removed, random spots of oxidized uranium were observed in the soil. As depleted uranium was encountered, it was removed and disposed of at TA-54. The known contaminated areas were cleaned to background.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The area will be examined for potential environmental contaminants during supplemental Phase I. The adequacy of cleanup of the main firing area will also be verified.

TA5-2-CA-I-HW/RW (Beta Site facilities)

Background--Experimental activities at TA-5 are reviewed in H Division Progress Report (1955), Russo (1972), and Vogt (1952). In a routine survey (June through November of 1959) of abandoned structures due for release, all buildings were declared free of radioactivity. Several were, however, contaminated with high explosives. These structures were two laboratory buildings (TA-5-1 and TA-5-6), two magazines (TA-5-2 and TA-5-3), and a shop and darkroom (TA-5-5). An acid septic tank (TA-5-13) was listed as having toxic/chemical contamination. During the Los Alamos Site Characterization Program, all structures were removed except the underground calibration facility (TA-5-20), which was free of radioactive contamination. The underground calibration facility was originally constructed with lead bricks in the back chamber (Zia 1959-1961). Whether these were removed before the facility was backfilled is not known.

CERCLA Finding--Due to status of activities (i.e., CEARP Phase V), a CERCLA finding under FFSDIF, PA, and PSI is not appropriate for this site.

Planned Future Action--During CEARP Phase V, the adequacy of decontamination and decommissioning activities will be verified.

TA5-3-CA/O-I-HW/RW (Outfalls)

Background--As part of the experimental process of the implosion work performed at TA-5, photographs were taken of shots, as at TA-4. Oscilloscopes were used for electrical signal response and review. Photoprocessing was necessary to examine the films. Because Beta Site was a satellite facility of the Main Tech Area, it needed its own darkroom and laboratory facilities. None of the employees who were interviewed could recall the fate of the photoprocessing chemicals used to develop the films.

During the pre-excavation site investigation of Beta Site for the 1985 Los Alamos Site Characterization Program, engineering sketches (ENG-R517) were found that depicted a french drain exiting from a storage building (TA-5-8) and daylighting approximately 10 feet from the structure. Upon excavation, the storage building area was observed to be contaminated with uranium, and traces were found along the drainage pattern on the mesa sloping toward the canyon. Removed soil was disposed of at TA-54.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--CEARP Phase II investigations will be conducted to determine the extent of outfall residuals of environmental concern.

TA5-4-CA-I-HW/RW (Far Firing Point)

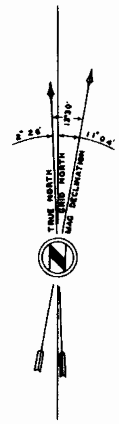
Background--A second firing point at TA-5 is referenced in maps and memos. This area is apparently located several hundred feet to the east of the original site. The firing point has not been located through field surveys or employee interviews.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the potential firing site will be investigated.

OFFICIAL USE ONLY

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-5-1	BETA-1	LABORATORY BLDG.
TA-5-2	BETA-2	MAGAZINE
TA-5-3	BETA-3	MAGAZINE (FORMERLY BLDG. 2-A)
TA-5-4	BETA-4	CONTROL BLDG. (FORMERLY BLDG 3)
TA-5-5	BETA-5	SHOP & DARK ROOM (FORMERLY BLDG. 4)
TA-5-6	BETA-6	LABORATORY BLDG. (FORMERLY BLDG. 5)
TA-5-7	BETA-7	STEEL BARRICADE FIR. PT. 1 →
TA-5-8	BETA-8	STORAGE BLDG. (REMOVED) 1950
TA-5-9	BETA-9	X-UNIT CHAMBER
TA-5-10	BETA-10	LATRINE
TA-5-11	BETA-11	WATER TANK (UNDERGROUND)
TA-5-12	BETA-12	PUMPHOUSE (UNDERGROUND)
TA-5-13	BETA-13	SEPTIC TANK (ACID)
TA-5-14	BETA-14	LOG BARRICADE (REMOVED)
TA-5-15	BETA-15	STEEL BARRICADE FIR. PT. 2 ←
TA-5-16	BETA-16	BARRICADE
TA-5-17	BETA-17	EXPERIMENTAL CONCRETE WALL
TA-5-18	BETA-18	PLATFORM (REMOVED)
TA-5-19	BETA-19	PLATFORM



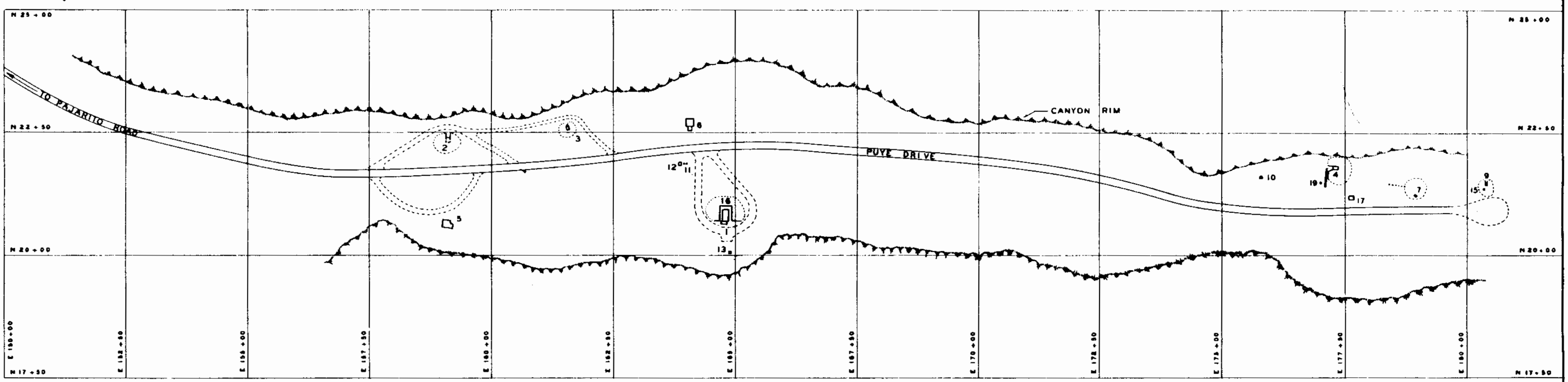


Figure TA-5-1: Structure Location Plan for TA-5 - Beta-Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

NO.	DATE	REVISIONS	BY	CHKD
8	7-1-57	REVISED TO STATUS OF 7-1-57	DDS	JAS
7	[illegible]	REDRAWN TO STATUS OF JULY 1, 1955	NOB	JAS

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-5 BETA-SITE

CHECKED: DESIGNER — RECOMMENDED: GROUP LEADER — APPROVED: ENG. DEPT. OFFICE

DRAWN: N. BYERS — DATE: 9/29/55 — DRAWING NO.: ENG- R 119
SCALE: 1" = 100' — SHEET 1 OF 1

OFFICIAL USE ONLY

TA-6 - TWO-MILE MESA SITE

CURRENT OPERATIONS

TA-6 is currently being used for making and storing cables. When cables are needed, the cable is cut to length and connectors are added. No hazardous materials are used. The Health and Environmental Chemistry Group (HSE-9) stores sample containers of bioassay material dissolved in acid in TA-6-3 because it is a heated building.

POTENTIAL CERCLA/RCRA SITES

The Two-Mile Mesa facility, TA-6, was probably built in early 1944 as a place to perform miscellaneous tests, most of them involving high explosives and some radioactive materials. Some effort has been made to sample for contamination at known test areas.

From 1945 to 1950, magazines and bunkers were built for detonator work. Some of the structures from this early work were moved to known landfills; others were reported to have been burned and the debris disposed of in a canyon. Whether contamination from high explosives, mercury, beryllium, cadmium, or other material exists in former areas of use, such as buildings, drains, septic tanks, and sumps, is not known.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigation will be documented in the CEARP Phase IIA Monitoring Plan for TA-6. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-6 is 2.7 (Appendix B).

FIGURES

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TABLE TA-6 - POTENTIAL CERCLA/RCRA SITES

TA6-1-CA-I-HW/RW (Firing sites)

Background--The Two-Mile Mesa facility, TA-6, was probably constructed early in 1944. Originally, it consisted of some rough field installations, such as bunkers, and a control building and shop. These structures were used for miscellaneous tests, principally in connection with handling and testing high explosives. In October 1944, a test saucer 200 ft in diameter was constructed (LASL 1947:8).

The saucer was made of concrete and designed for experiments of recovery involving a gadget immersed in an elevated tank of water. After a shot, the saucer was washed and the liquid filtered to recover the shot fragments. Data available on the amount of natural uranium recovered from a shot indicated 65 per cent and 90 per cent. Some of the material went outside the saucer. A 1974 aerial photograph shows blading around the saucer. A 1978 survey of the area around the saucer indicated no detectable levels above background (Elliott 1978).

Test shots using a "Jumbino," a small test containment vessel, were also fired at Two-Mile Mesa, but the exact location of the shots is not known.

Another test area was an asphalt pad south of the road between the saucer and the complex comprising buildings 14, 13, and 28. Sampling in 1978 indicated uranium contamination. Phoswich counts were three to six times background (Elliott 1978). During the 1986 CEARP field survey, it was observed that the asphalt pad remains in place and a small concrete sump-like structure is in the middle of the pad.

A 1946 map of the site indicates not only the "saucer area" as a firing site, but also an area to the west of the saucer that appears to be too far to the north to be the asphalt pad. Whether this was the Jumbino test area or yet another firing area is not known.

The 1986 CEARP field survey confirmed the existence of a large mound to the southeast of the saucer. Concrete, an old gas pressure tank, and other items were noted near the mound.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigation will be conducted to determine presence of high explosives and radioactivity.

TA6-2-CA-I-HW (Bunkers and other buildings)

Background--In the spring of 1945, a detonator manufacturing and testing laboratory consisting of one main building and several test structures was constructed. Magazines were added later (LASL 1947:8). The detonator operations included classifying and weighing pentaerythritol tetranitrate (PETN), pressing and sealing the PETN in tubes, and assembling the initiator (Warner 1945). Shake tests were also conducted (LASL 1945). The detonator firing/testing facilities were used until they were moved to TA-40 (Persons 1950). Later operations included experiments using cyanogen gas (H Division 1952) and work using beryllium (H Division 1954:14). Mercury spills were noted at Two-Mile Mesa (H Division 1955:14) as well as silver soldering material (H Division 1956:7).

Many of the buildings have been removed. It appears that the combustible portions of magazine TA-6-4 were burned in the pit east of TA-40-15, and the concrete and other noncombustible materials were disposed of in Area P (Courtright 1971). The detonator loading shack, TA-6-11, was noted to have been removed to a disposal area for contaminated materials on August 8, 1955. The detonator pressing hutment/storage building, TA-6-12, was indicated in engineering records as having been removed in 1949.

On January 16, 1960, a series of buildings was burned. Engineering records list them as laboratory TA-6-10; small explosives laboratory TA-6-13; pressing hutment TA-6-14; boiler house TA-6-15; magazines TA-6-16, -17, -21, -22, -23, -24, -25, -26, -27, -28, -29, and -30; generator building TA-6-38; and ramp and building TA-6-49. Several years later, about three truckloads of noncombustible debris were apparently disposed of "in the canyon north of TA-16-387," which was probably Area P (Courtright 1965a). During the 1986 CEARP field survey, earth mounds left from burning the magazines were found. All that remains of the other structures are depressions in the ground and several footings or concrete pads.

It is not known whether possible residual contamination from high explosives or mercury, beryllium, and cadmium exists in former areas of use.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The area will be surveyed during supplemental Phase I for residual high explosives, mercury, beryllium, and cadmium.

TA6-3-S-I-HW (Sump and drain for building 10 and surrounding soils)

Background--Laboratory building 10 was used for PETN recrystallization. A drain line ran 170 yards east from the building to an underground sump and then 30 yards east-southeast, where it opened at ground level. In 1950, the drain was excavated at two points and there was no apparent trace of nitrates. According to one report, however, "The ground area around the sump shows a lush growth indicating the presence of soluble nitrates," (Safety Office 1950). The same report recommends that the two excavations be filled up, that building 10 be removed, and that the drain line be abandoned. The exact location of the sump was not determined during the initial 1986 CEARP survey.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the sump, drain, and surrounding areas will be evaluated.

TA6-4-ST/CA-I-HW (Drains to septic tank 41 from building 10 and elsewhere)

Background--Septic tank TA-6-41 served as a collection point for the effluent from several buildings, including TA-6-10. The liquids from the tank were removed in 1965, and the sludge was sampled for high explosives. Because high explosives were found in the sludge, the decision was made to vacuum out the sludge and dispose of it in "the HE burial pit on Mesita Del Buey." The tank was to be removed afterward, taken to TA-16-400 to be washed, and then put in material disposal Area P with other debris from TA-6 (Courtright 1965b, SOP n.d.). There is potential for high-explosive residual contamination in the TA-6-41 area.

An engineering list also indicates that there was a lavatory, TA-6-20, which was removed in 1955. The location of the structure was noted during the field survey as a slight depression in the ground. Contamination is unlikely.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual high-explosive contamination will be determined during supplemental Phase I.

TA6-5-ST/CA-A/I-HW (Septic tanks for the main laboratory facilities)

Background--In utility drawing R521, septic tank TA-6-40 appears to serve buildings 3 and 1, and septic tank TA-6-43 is shown to serve building 6. A 1967 report indicates that at that time, septic tank TA-6-40 did not have a field hooked up and TA-6-43 had a field that was day-lighting (Daniels 1967). At present, the only tank in use is TA-6-43; the outflow goes to a filter trench (Pan Am 1986:1). The fate of TA-6-40 is not known. Building 1 was a carpenter's shop and building 3 was used for storage and as a laboratory. Building 6 was formerly used as an assembly facility, and has also been used as a laboratory and shop. Because of these various activities, chemical and high-explosives contamination may be possible.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I of CEARP, the inactive septic tanks and surrounding areas will be evaluated for residual chemical and high-explosives contamination. The active septic tanks are covered by routine LANL operations.

TA6-6-UST-I-HW/PP (Underground tank)

Background--Near the concrete saucer is an underground tank designated TA-6-47 on engineering drawing R524. In 1959, the storage tank was noted to be contaminated with high explosive (LASL 1959). The 1955 site plan, engineering drawing R120, lists this tank as an underground fuel tank. During the 1986 CEARP field survey, a tank that is apparently the one referred to was noted to be in place next to the concrete saucer.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The tank will be sampled during supplemental Phase I for high explosives and other potential contaminants.

TA6-7-CA-I-HW (Disposal of liquids on ground surface)

Background--The old GMX-7 safety manual instructed employees to empty flammable waste and toxic solvents into barrels. When full, the barrels were to be transported to an area approximately halfway between TA-22 and TA-6 and the contents poured onto the ground. The exact location of this area, however, is not known (GMX-7 n.d.:35).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The potential for residual contamination will be further evaluated during supplemental Phase I.

TA6-8-CA-A-HW/PP (Stored capacitors and waste oil drums)

Background--During the 1986 CEARP field survey, oily capacitors and many unmarked drums were seen outside buildings 5 and 6. Some of the drums and capacitors were unmarked and were leaking. During 1987 CEARP surveys these items were noted as remaining in these locations.

Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--The active storage area is covered ry routine LANL operations.

TA6-9-L-I-HW/RW (Disposal pits)

Background--The disposal pits on Two-Mile Mesa, for which written documentation is available, are listed in order of their construction. They may include land areas in TA-6, TA-7, and TA-22.

A 1946 memo from Norris Bradbury indicates that a pit "has been made available until June 1 at TD site (TA-22) for the purpose of allowing groups to dispose of obsolete classified material," (Bradbury 1946). There has been some conjecture that this pit was actually located somewhere on Two-Mile Mesa, but no data are known to support this viewpoint. In 1974 a former Los Alamos employee indicated in a letter (North 1974) that the disposal pit at TD Site on Two-Mile Mesa was a trench approximately 50 ft by 100-150 ft by 20 ft deep at the lowest point, sloping to ground level at each end. It was used for the disposal of nontoxic classified materials. The letter does not indicate the exact location, nor does it indicate whether this was the pit referred to in 1946 or 1947.

A 1947 memo from Bradbury states that "special facilities for the disposal of classified scrap material are available at Two-Mile Mesa for a period of two weeks," (Bradbury 1947). A burial pit is assumed to be the "special facility." Several former Laboratory employees seem to remember this pit. One person recalled that his group was responsible for constructing a pit that was dug on Two-Mile Mesa late in 1946. It was intended to be used to dispose of unsalvageable classified objects, including large metal parts. Other items included less than 5 lb of uranium and some large blocks of high explosive, and primacord (Courtright 1964).

Another employee recalled a "large burial pit" west of the concrete saucer, east of the Two-Mile Mesa buildings, and near the north edge of the mesa. "This location and material put in it was probably not recorded because of questionable authority to do such a job," (Courtright 1964). Whether this was the 1947 pit or some other pit is not clear. The 1948 topographical map shows a pit approximately 70 ft by 40 ft about 850 ft to the northwest of the saucer. This location corresponds to the location of the pit described as being west of the saucer.

A 1949 work order shows that a pit approximately 40 ft by 20 ft by 10 ft deep was dug on Two-Mile Mesa to "bury material," in (LASL 1949). From interviews with employees, it appears that early Fat Man casings and other metal parts may have gone into this pit (Courtright 1964). At present, this pit is believed to be within an approximately 45-sq-ft fenced area in what is known as part of Area F (see Material Disposal Area F).

A 1950 work order was found for digging a hole approximately 6 ft by 6 ft by 6 ft on Two-Mile Mesa in which to bury classified material (LASL 1950). An employee who was associated with the project believes this pit is between Area F and the road (Employee Interviews 1985).

Spark gaps were buried at Two-Mile Mesa on September 28, 1950 (Kuntz 1950), and one could assume they were put in the pit mentioned above; however, it is possible another pit was used.

Another work order (1951-1952) specifies that a hole 2 ft by 2 ft by 4 ft deep be dug for disposal purposes on Two-Mile Mesa (LASL 1951). An employee who was associated with the project believes this pit was near the pit dug in 1950. Engineering records, for which no work order was found, indicate that in addition to the pit mentioned above, another of about the same size may have been dug in June 1951.

One memo states that 66 defective radioactive gaps were buried on Two-Mile Mesa on July 22, 1952 (Kuntz 1952a). Another mentions that 170 defective radioactive gaps were buried on Two-Mile Mesa on March 19, 1952 (Kuntz 1952b). Yet another memo suggests that spark gaps buried on Two-Mile Mesa contain cesium-137 (Dummer 1964).

A 1957 memo refers to an order from GMX-7 to ENG-4 requesting that a hole be dug north of the existing scrap pit at TA-7 in which to bury classified units (Smith 1957). Whether this pit was ever constructed and whether it is the "oblong trench" presently fenced in Area F is not known. Also unknown is whether the existing scrap pit at TA-7 is one of those described above.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--Phase II investigations will be conducted to ascertain the number of pits involved, their size, and what they contain (also see Material Disposal Area F).

TA6-10-CA-I-HW (Unidentified pit)

Background--Engineering records indicate that an enclosed pit, TA-6-42, located to the north of the road to the bowl approximately 1000 ft before the bowl area, was removed in 1952. What type of pit this was and whether it could have been a firing pit is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The unidentified pit will be investigated during supplemental Phase I.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-6-1	TM-1	CARPENTER SHOP		N35+00W12+50
TA-6-2	TM-2	COMPRESSOR BUILDING		N35+00W12+50
TA-6-3	TM-3	FABRICATION BUILDING		N35+00W12+50
TA-6-4	TM-4		REMOVED 1972	
TA-6-5	TM-5	LABORATORY BUILDING		N35+00W10+00
TA-6-6	TM-6	LAB. OFFICE & SHOP BLDG.		N35+00W10+00
TA-6-7	TM-7	CHEMICAL STORAGE BUILDING		N37+50W10+00
TA-6-8	TM-8	LABORATORY BUILDING		N35+00W10+00
TA-6-9	TM-9	LABORATORY		N35+00W 7+50
TA-6-10	TM-10		REMOVED 1960	
TA-6-11	TM-11		REMOVED 1955	
TA-6-12	TM-12		REMOVED 1950	
TA-6-13	TM-13		REMOVED 1960	
TA-6-14	TM-14		REMOVED 1960	
TA-6-15	TM-15		REMOVED 1960	
TA-6-16	TM-16		REMOVED 1960	
TA-6-17	TM-17		REMOVED 1960	
TA-6-18	TM-18		REMOVED 1948	
TA-6-19	TM-19	LABORATORY BUILDING	RELOCATED TO TA-9-214	
TA-6-20	TM-20		REMOVED 1955	
TA-6-21	TM-21		REMOVED 1960	
TA-6-22	TM-22		REMOVED 1960	
TA-6-23	TM-23		REMOVED 1960	
TA-6-24	TM-24		REMOVED 1960	
TA-6-25	TM-25		REMOVED 1960	
TA-6-26	TM-26		REMOVED 1960	
TA-6-27	TM-27		REMOVED 1960	
TA-6-28	TM-28		REMOVED 1960	
TA-6-29	TM-29		REMOVED 1960	
TA-6-30	TM-30		REMOVED 1960	
TA-6-31	TM-31		REMOVED 1971	
TA-6-32	TM-32		REMOVED 1950	
TA-6-33	TM-33		DEMOLISHED 1977	
TA-6-34	TM-34		DEMOLISHED 1977	
TA-6-35	TM-35		REMOVED 1983	
TA-6-36	TM-36	MAGAZINE	RELOCATED TO TA-40-36	
TA-6-37	TM-37	CONCRETE BOWL	ABANDONED 1962	N27+50 E20+00
TA-6-38	TM-38		REMOVED 1960	
TA-6-39	TM-39		REMOVED 1961	
TA-6-40	TM-40	TANK, SEPTIC		N35+00W12+50
TA-6-41	TM-41		REMOVED 1965	
TA-6-42	TM-42		REMOVED 1952	
TA-6-43	TM-43	TANK, SEPTIC		N37+50W10+00
TA-6-44	TM-44		REMOVED 1954	
TA-6-45	TM-45	TRANSFORMER STATION		N35+00W12+50
TA-6-46	TM-46	TRANSFORMER STATION		N35+00W10+00
TA-6-47	TM-47	TANK, FUEL	ABANDONED 1960	N30+00 E 20+00
TA-6-48	TM-48		REMOVED 1957	
TA-6-49	TM-49		REMOVED 1960	
TA-6-50	TM-50	ROAD BLOCK	FORMERLY TA-16-211	N32+50 W7+50
TA-6-51	TM-51	MANHOLE (COMPRESSED AIR)	REPLACED BY TM-52	
TA-6-52	TM-52	MANHOLE (COMPRESSED AIR)		N35+00 W10+00
TA-6-53	TM-53	MANHOLE (COMPRESSED AIR)		N35+00 W10+00
TA-6-54	TM-54	MANHOLE (COMPRESSED AIR)		N35+00 W10+00
TA-6-55	TM-55	TRANSFORMER STATION	NOT SHOWN	

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV.	DATE	REVISION	BY	CKD	APP
16	8-18-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-26-83	HS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-6 TWO MILE MESA SITE

SEC CLASSIFICATION
CLASS U
REVIEWER
DATE

SUBMITTED
RECOMMENDED
APPROVED
DRAWN
CHECKED
DATE 8-18-83
SHEET NO 1 of 2
DRAWING NO ENG-R 5105

Figure TA-6-1: Structure Location Plan for TA-6 - Two-Mile Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

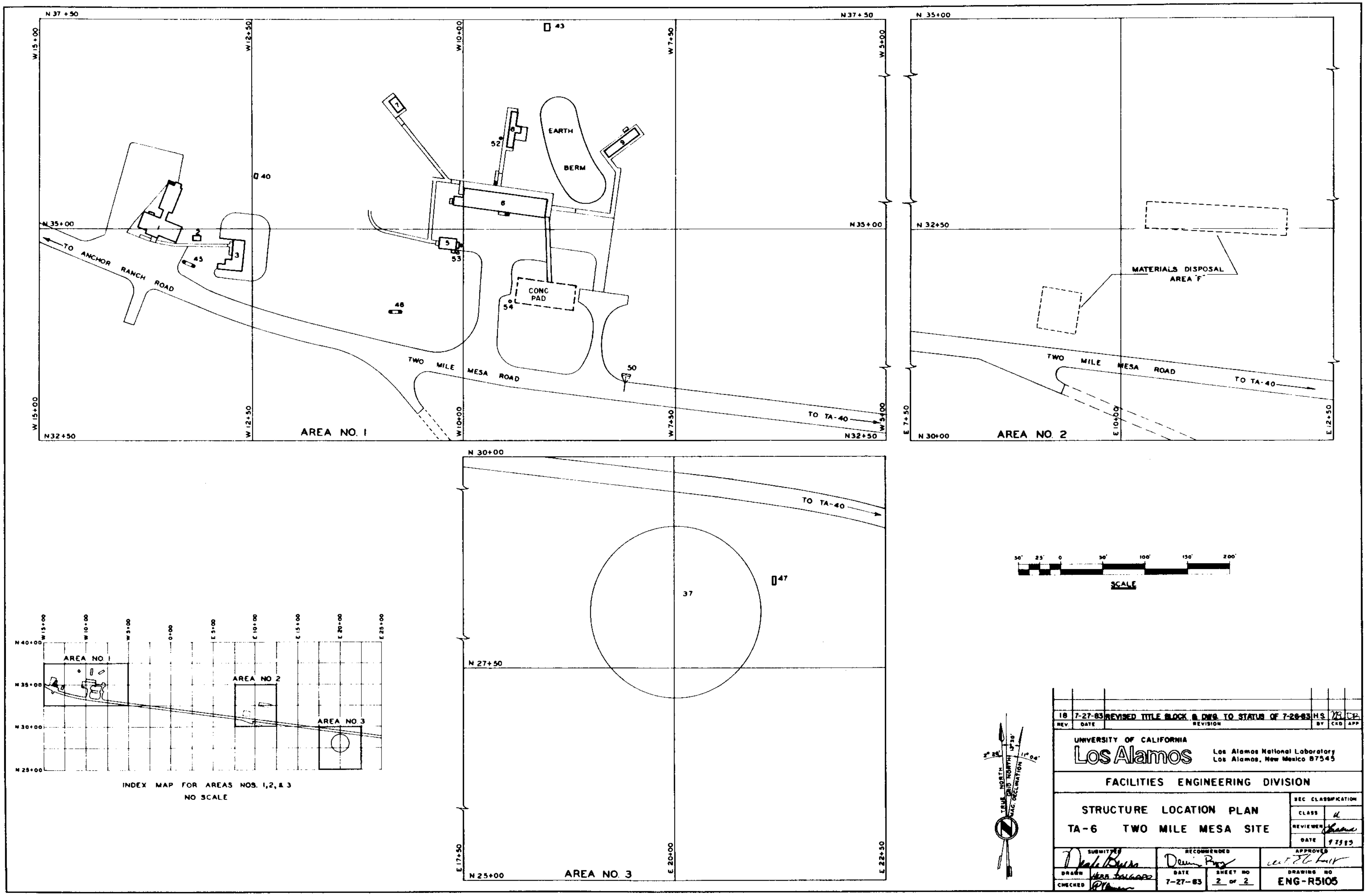


Figure TA-6-1: Structure Location Plan for TA-6 - Two-Mile Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-6-1	TM-1	CARPENTER SHOP		N35+00W12+50
TA-6-2	TM-2	COMPRESSOR BUILDING		N35+00W12+50
TA-6-3	TM-3	FABRICATION BUILDING		N35+00W12+50
TA-6-4	TM-4		REMOVED 1972	
TA-6-5	TM-5	LABORATORY BUILDING		N35+00W10+00
TA-6-6	TM-6	LAB. OFFICE & SHOP BLDG.		N35+00W10+00
TA-6-7	TM-7	CHEMICAL STORAGE BUILDING		N37+50W10+00
TA-6-8	TM-8	LABORATORY BUILDING		N35+00W10+00
TA-6-9	TM-9	FIRING CHAMBER		N35+00W 7+50
TA-6-10	TM-10		REMOVED 1960	
TA-6-11	TM-11		REMOVED 1955	
TA-6-12	TM-12		REMOVED 1950	
TA-6-13	TM-13		REMOVED 1960	
TA-6-14	TM-14		REMOVED 1960	
TA-6-15	TM-15		REMOVED 1960	
TA-6-16	TM-16		REMOVED 1960	
TA-6-17	TM-17		REMOVED 1960	
TA-6-18	TM-18		REMOVED 1948	
TA-6-19	TM-19	LABORATORY BUILDING		N35+00W10+00
TA-6-20	TM-20		REMOVED 1955	
TA-6-21	TM-21		REMOVED 1960	
TA-6-22	TM-22		REMOVED 1960	
TA-6-23	TM-23		REMOVED 1960	
TA-6-24	TM-24		REMOVED 1960	
TA-6-25	TM-25		REMOVED 1960	
TA-6-26	TM-26		REMOVED 1960	
TA-6-27	TM-27		REMOVED 1960	
TA-6-28	TM-28		REMOVED 1960	
TA-6-29	TM-29		REMOVED 1960	
TA-6-30	TM-30		REMOVED 1960	
TA-6-31	TM-31		REMOVED 1971	
TA-6-32	TM-32		REMOVED 1950	
TA-6-33	TM-33	LUMBER STORAGE BLDG.	DEMOLISHED 1977	
TA-6-34	TM-34	STORAGE BUILDING	DEMOLISHED 1977	
TA-6-35	TM-35		REMOVED 1963	
TA-6-36	TM-36	MAGAZINE	RELOCATED TO TA-40-36	
TA-6-37	TM-37	CONCRETE BOWL	ABANDONED 1962	N27+50 E20+00
TA-6-38	TM-38		REMOVED 1960	
TA-6-39	TM-39		REMOVED 1961	
TA-6-40	TM-40	TANK	SEPTIC	N35+00W12+50
TA-6-41	TM-41	TANK	SEPTIC, REMOVED 1965	
TA-6-42	TM-42		REMOVED 1952	
TA-6-43	TM-43	TANK	SEPTIC	N37+50W10+00
TA-6-44	TM-44		REMOVED 1954	
TA-6-45	TM-45	TRANSFORMER STATION		N35+00W12+50
TA-6-46	TM-46	TRANSFORMER STATION		N35+00W10+00
TA-6-47	TM-47	TANK	FUEL, ABANDONED 1960	N30+00 E20+00
TA-6-48	TM-48		REMOVED 1957	
TA-6-49	TM-49		REMOVED 1960	
TA-6-50	TM-50	ROAD BLOCK	FORMERLY TA-16-211	N32+50 W7+50
TA-6-51	TM-51	MANHOLE (COMPRESSED AIR)	REPLACED BY TM-52	
TA-6-52	TM-52	MANHOLE	COMPRESSED AIR	N35+00 W10+00
TA-6-53	TM-53	MANHOLE	COMPRESSED AIR	N35+00 W10+00
TA-6-54	TM-54	MANHOLE	COMPRESSED AIR	N35+00 W10+00
TA-6-55	TM-55	TRANSFORMER STATION		N35+00 W10+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REVIEWER M. D. Hucke

CLASS U DATE 7/28/77

NO.	DATE	REVISIONS	BY
15	4-15-77	REVISED DWG. NO. (FORMERLY R2419)	M.M.
14	1-12-73	REVISED TO STATUS OF 1-12-73	D.A.D.
13	8-13-71	REVISED TO STATUS OF 8-13-71	D.A.D.
12	8-6-69	REVISED TO STATUS OF 8-6-69	D.A.D.
11	10-13-65	REVISED TO STATUS OF 8-3-65	E.R.W.
10	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R120)	J.E.J.

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-6 TWO MILE MESA SITE

CHECKED: PROJ. ENG. | RECOMMENDED: GROUP LEADER | APPROVED: ENG. DEPT. OFFICE

DESIGNER | DATE 8-15-61 | DRAWING NO. ENG-R 5105

DRAWN JOHNSON | SHEET NO. 1

SCALE NONE

Figure TA-6-2: Structure Location Plan for TA-6 - Two-Mile Mesa Site (1961 Drawing from the LANL Technical Area Structure Location Plans)

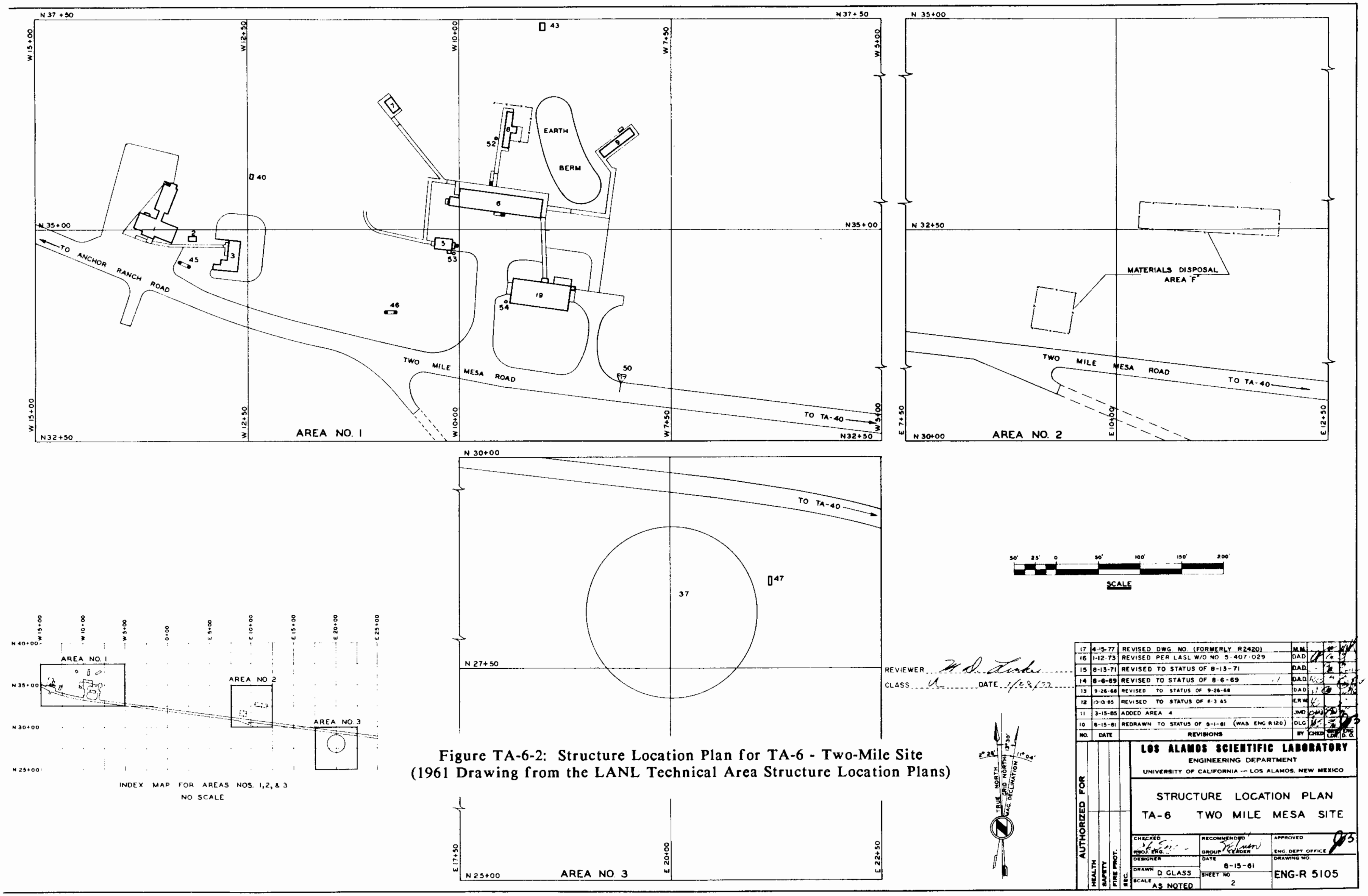
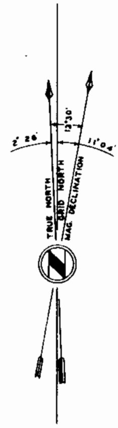


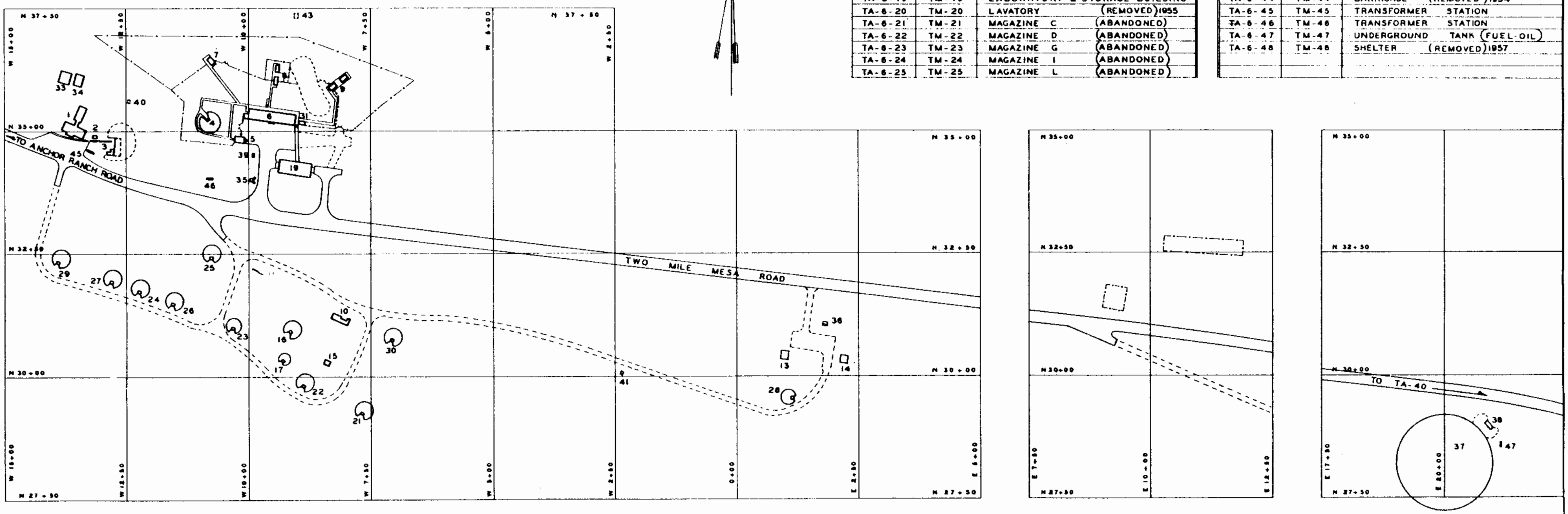
Figure TA-6-2: Structure Location Plan for TA-6 - Two-Mile Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY



STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-6-1	TM-1	CARPENTER SHOP
TA-6-2	TM-2	COMPRESSOR BLDG.
TA-6-3	TM-3	LABORATORY & STORAGE BLDG.
TA-6-4	TM-4	MAGAZINE M
TA-6-5	TM-5	LABORATORY
TA-6-6	TM-6	LABORATORY & OFFICE BUILDING
TA-6-7	TM-7	LABORATORY
TA-6-8	TM-8	LABORATORY
TA-6-9	TM-9	LABORATORY
TA-6-10	TM-10	LABORATORY (ABANDONED)
TA-6-11	TM-11	LAB (RELOCATED TO CONT. DUMP, 1955)
TA-6-12	TM-12	STORAGE BLDG. (REMOVED) 1949
TA-6-13	TM-13	STORAGE BLDG. (ABANDONED)
TA-6-14	TM-14	STORAGE BLDG. (ABANDONED)
TA-6-15	TM-15	BOILER BLDG. (ABANDONED)
TA-6-16	TM-16	MAGAZINE F (ABANDONED)
TA-6-17	TM-17	MAGAZINE E (ABANDONED)
TA-6-18	TM-18	STORAGE BLDG. (REMOVED 1948)
TA-6-19	TM-19	LABORATORY & STORAGE BUILDING
TA-6-20	TM-20	LAVATORY (REMOVED) 1955
TA-6-21	TM-21	MAGAZINE C (ABANDONED)
TA-6-22	TM-22	MAGAZINE D (ABANDONED)
TA-6-23	TM-23	MAGAZINE G (ABANDONED)
TA-6-24	TM-24	MAGAZINE I (ABANDONED)
TA-6-25	TM-25	MAGAZINE L (ABANDONED)

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-6-26	TM-26	MAGAZINE H (ABANDONED)
TA-6-27	TM-27	MAGAZINE J (ABANDONED)
TA-6-28	TM-28	MAGAZINE A (ABANDONED)
TA-6-29	TM-29	MAGAZINE K (ABANDONED)
TA-6-30	TM-30	MAGAZINE B (ABANDONED)
TA-6-31	TM-31	TRAILER SHOP
TA-6-32	TM-32	AIR COMPRESSOR BLDG. (REMOVED)
TA-6-33	TM-33	LUMBER STORAGE BLDG.
TA-6-34	TM-34	STORAGE BLDG.
TA-6-35	TM-35	FIRE EQUIP. & HOSE BLDG.
TA-6-36	TM-36	MAGAZINE N (ABANDONED)
TA-6-37	TM-37	CONCRETE BOWL
TA-6-38	TM-38	GENERATOR BLDG.
TA-6-39	TM-39	STORAGE TANK (PROPANE)
TA-6-40	TM-40	SEPTIC TANK (SANITARY)
TA-6-41	TM-41	SEPTIC TANK (ABANDONED)
TA-6-42	TM-42	ENCLOSED PIT (REMOVED)
TA-6-43	TM-43	SEPTIC TANK (SANITARY)
TA-6-44	TM-44	BARRICADE (REMOVED) 1954
TA-6-45	TM-45	TRANSFORMER STATION
TA-6-46	TM-46	TRANSFORMER STATION
TA-6-47	TM-47	UNDERGROUND TANK (FUEL-OIL)
TA-6-48	TM-48	SHELTER (REMOVED) 1957



NO.	DATE	REVISIONS	BY	CHKD
8	7-1-57	REVISED TO STATUS OF 7-1-57	DOS	JAS
7	[illegible]	REDRAWN TO STATUS OF JULY 1, 1955	HOB	JAS

AUTHORIZED FOR: HEALTH / SAFETY / FIRE PROT. / SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-6 TWO MILE MESA SITE

CHECKED: DESIGNER — RECOMMENDED: GROUP LEADER — APPROVED: ENG. DEPT. OFFICE

DRAWN: N BYERS — DATE: 9/28/55 — DRAWING NO. ENG-R 120
SCALE: 1" = 100' — SHEET 1 OF 1

Figure TA-6-3: Structure Location Plan for TA-6 - Two-Mile Mesa Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

TA-7 - GOMEZ RANCH SITE

CURRENT OPERATIONS

TA-7 is currently abandoned.

POTENTIAL CERCLA/RCRA SITES

Gomez Ranch site (TA-7) was a homesteader's ranch before the Laboratory was established. A drawing dated October 17, 1944, indicates plans to expand a hutment there; no utilities are shown, however, other than an oil heater. The purpose for the hutment and its addition is unknown. A 1951 map indicates two firing pits and four roofs marked "abandoned." The roofs were used for weapons stockpile storage. Engineering records say that TA-7 was abandoned in July 1945. All buildings were removed. Later, one pit was used for detonator destruction, and a few field experiments took place.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-7. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-7 is 2.7 (Appendix B).

FIGURES

Figure TA-7-1: Structure Location Plan for TA-7 - Gomez Ranch Site (1952)

REFERENCES

Employee Interviews. 1985. Conducted in 1985-86 for Phase I of CEARP at Los Alamos National Laboratory; notes in the CEARP files at LANL.

LASL. 1947. "A Technical Maintenance Group Report on General Background Data Concerning the Los Alamos Scientific Laboratory Required for Planning Purposes," Los Alamos Scientific Laboratory report LAB-A-5, September 11, 1947.

McMillan, Edwin M. 1944. "Minutes of Meeting March 31, 1944," Los Alamos Scientific Laboratory memorandum to Members of Steering Committee for Gun Assembly, April 1, 1944.

Spaulding, R. L. 1959. "Scrap Disposal," Los Alamos Scientific Laboratory memorandum to R. W. Drake, November 18, 1959.

TABLE TA-7 - POTENTIAL CERCLA/RCRA SITES

TA7-1-CA-I-HW (Firing sites)

Background--The Gomez Ranch Site was constructed in 1944 for small explosives experiments involving radioactive material (believed to be short-lived). It consisted of a small frame structure and two firing pits about 40 ft in diameter surrounded by earthen banks about 5 ft high (LASL 1947:8). The location of these circular pits is shown clearly on the 1948 topo map, and the 1986 CEARP field survey confirmed that, while overgrown with vegetation, these pits are still evident today. The small hutment has been removed.

There is also an indication that during a short time in 1944, the Gomez Ranch was used for 20-mm tests (McMillan 1944). The exact location of the test sites on the ranch is unknown.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The area will be surveyed for high explosive during supplemental Phase I.

TA7-2-CA-I-HW (Detonator disposal)

Background--A GMX-7 memo states, "A few years ago we disposed of scrap HE and detonators by mixing in a quantity of Comp B scraps or flaked TNT and detonating the mixture at Gomez Ranch." When the area was later surveyed for material that had not been destroyed, several PBX pellets were seen (Spaulding 1959).

During the 1986 CEARP field survey, the surrounding area was again surveyed for scrap. One small piece that might be high explosive and one detonator piece were found; however, because of the surrounding vegetation and soil erosion, it is possible that contamination might be present and not easily detected. At the time of the field survey, it was assumed that the detonator disposal had taken place in the enclosure for the eastern firing site (see TA7-1-CA-I-HW).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The area will be carefully surveyed for high explosive during supplemental Phase I.

TA7-3-L-I-HW/RW--(Burial pits)

Background--During the 1986 CEARP field survey of TA-7, several disturbed areas were observed that might be small burial areas.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will include a geophysical survey in the areas where the surface soil and vegetation show signs of disturbance to locate any pits that might remain.

TA7-4-CA-I-HW (Cable site, berm area, and storage)

Background--A cable might have been installed across the canyon north of TA-7 for conducting various tests (Employee Interviews 1985). The 1986 CEARP field survey indicated roads on both sides of the canyon that might have served such a cable, but no winch or other facilities were observed.

Pipes and a berm area might also have been present at TA-7 but were not found during the field survey.

TA-7 was used for "stockpile" storage, and during the 1986 CEARP field survey, the roofs used to cover the stockpile were seen on the ground. Because there are no documented spills or accidents, it is doubtful that stockpile storage resulted in any contamination (Employee Interviews 1985).

Several years ago a prototype experiment was conducted with a pulse-explosive-driven generator. No radioactive materials were used in this experiment. The 1986 CEARP field survey team observed that the pole, as well as grounding cables and other related equipment, remain in place.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

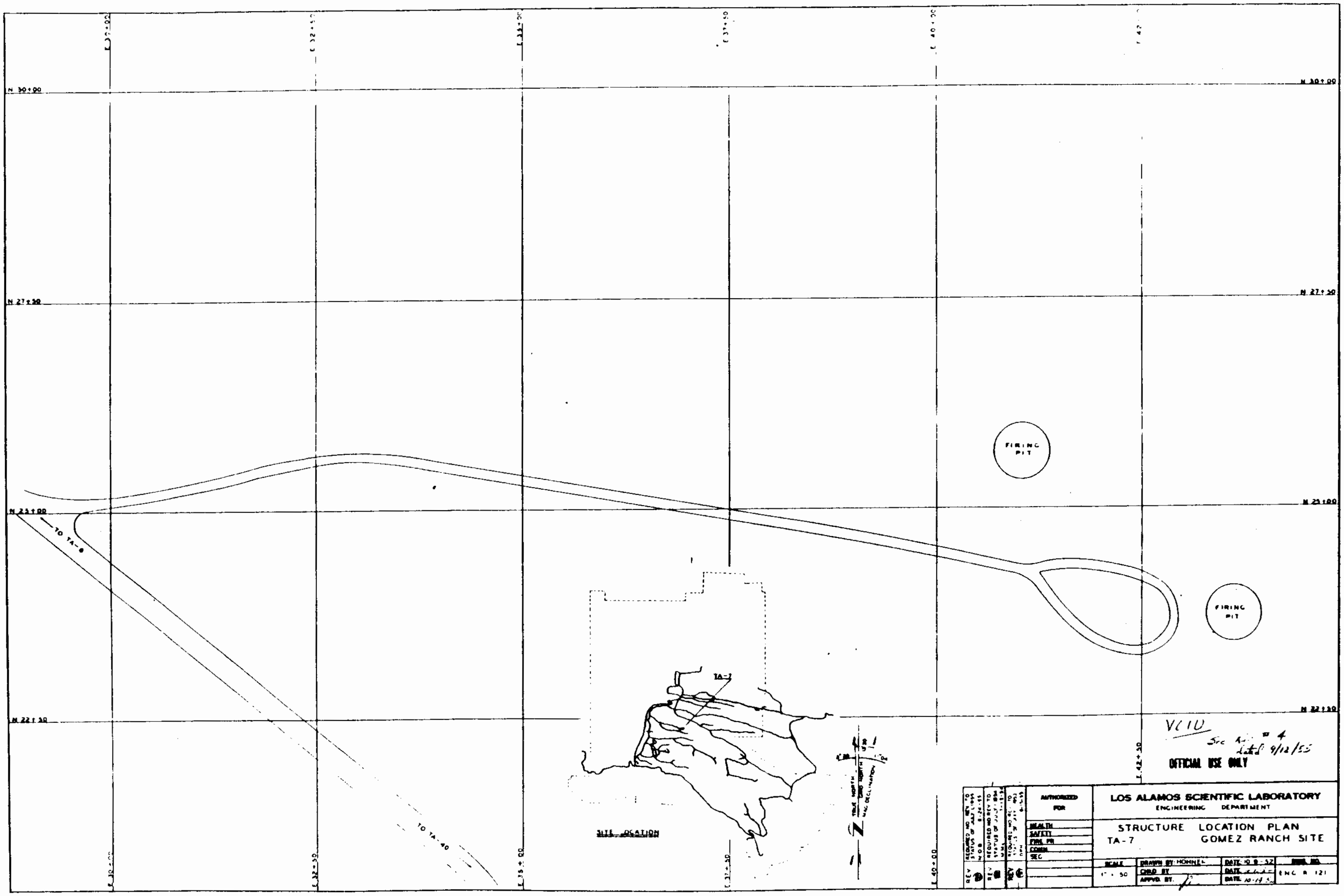


Figure TA-7-1: Structure Location Plan for TA-7 - Gomez Ranch Site
(1952 Drawing from the LANL Technical Area Structure Location Plans)

TA-8 - ANCHOR SITE WEST

CURRENT OPERATIONS

TA-8 is occupied principally by the Dynamic Testing Division Office (M-DO), the Hydrodynamic Group (M-4), the Information Technologies Group (IT-6), and the Fabrication and Assembly Group (WX-3). Their primary operations are in non-destructive testing and administration. TA-8-21 is a laboratory and office building containing a large photographic facility. TA-8-22 houses x-ray machines and an x-ray film-processing facility. TA-8-23 houses WX-3's betatron. TA-8-31 and -32 are bunkers. WX-3 stores small amounts of explosive material in -31, and security personnel use -32.

POTENTIAL CERCLA/RCRA SITES

TA-8 was established in the fall of 1943 for the Ordnance Division. It was built near the former residential area of Anchor Ranch. In 1945, the site was reported to have a control building, machine shop, control rooms, and magazines constructed of concrete, and to be located in an "embankment" (LASL 1947a:8).

The main ranch house, located to the west of the main site, was given the number TA-8-10. The ranch house had an "ice house" (vault) in the basement, and radioactive material may have been stored there. The main building, guest houses TA-8-11 and TA-8-12, bunk house TA-8-13, and ranch barns TA-8-15 and -18 were removed in 1950.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-8. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-8 is 2.7 (Appendix B).

FIGURES

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TABLE TA-8 - POTENTIAL CERCLA/RCRA SITES

TA8-1-CA-I-HW/RW (Gun firing sites)

Background--Early maps of TA-8, which might show the exact location of the gun firing sites, have not been found for the period 1943-1945. Structures TA-8-4 and TA-8-5, located south of TA-8-1, are listed in some undated engineering records as old gun sheds, removed in 1950. It is probable that the gun firing locations were somewhere near these structures.

A 1943 report records the firing of a 3-in. gun at Anchor Site (Crocker 1943). By the end of 1943 and the beginning of 1944, a series of ballistic tests was being performed at the Anchor Ranch Range. Some of the tests of the behavior of special projectiles in the bore included uranium cores (LASL 1944a). Tests on large guns were also performed (LASL 1944b).

In the fall of 1945, TA-8 was turned over to the Explosives Division, and it appears that the firing and testing of guns was discontinued at the site (LASL 1947a:8).

There is no evidence of residual contamination of concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI

Planned Future Action--No further action is warranted.

TA8-2-CA-I-HW/RW (Explosives processing facilities)

Background--In the fall of 1945, Group X-2 began to occupy TA-8. X-2 was responsible for developing new explosives and creating methods for the use of such explosives (LASL 1947b:16). A 1947 map (Engineering Drawing A5-R29) lists TA-8-1 and TA-8-3 as laboratory buildings, TA-8-2 as a process building, TA-8-4 and -5 as field test buildings, TA-8-6 as a carpenter's shop, and TA-8-7, -8, and -9 as storage buildings. If all these buildings were used for explosive development and/or storage, the buildings, ducts, and associated drain systems may have been contaminated with high explosives.

Buildings 4 and 5 were removed in 1950, and buildings 1, 2, and 3 remain in place. Buildings 6 and 7 were sent to T Site and were later removed from that location. Buildings 8 and 9 were transferred to the Zia Company on January 25, 1968, but were later moved to the New Mexico State Penitentiary, according to undated engineering records. Details about the removal of these buildings, whether they were contaminated with high explosive and whether they had associated contaminated facilities, are not known.

The main ranch house, located to the west of the main site, was given the number TA-8-10. Engineering records indicate it had an ice house (vault) in the basement, and it's possible that radioactive material was stored there. Undated engineering records note that this building, guest houses TA-8-11 and TA-8-12, bunk house TA-8-13, and ranch barns TA-8-15 and -18 were removed in 1950.

A 1950 report from H-1 states, "Protective clothing was issued and time was spent in the supervision and aiding in decontamination work on machinists' equipment at Anchor Ranch (West)," (LASL 1950:1). The contaminant is assumed to be a radionuclide, because H-1 was concerned with radioactive contamination, but the actual contaminant and the extent of contamination are not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will be conducted to determine the extent of residual contamination associated with explosives processing.

TA8-3-CA-A/I-HW/RW (Radiography facilities)

Background--The first industrial-type radiograph was made in May 1944 using a medical-type x-ray unit in the cellar of a log guest house at Anchor Ranch. The facilities were expanded and the operations were moved to T Site in August 1944. Then, in July 1949, construction of new buildings for the radiography section began in an area just north of the old Anchor Ranch facilities. This new site, GT Site, began operations in September 1950 (Tour 1951:1).

The buildings associated with the radiography facilities include TA-8-21, a laboratory and administration building with a photoprocessing facility; TA-8-22, an x-ray building in which automatic film processing was performed; TA-8-23, a structure housing the betatron and another darkroom (in use from 1950); TA-8-24, a structure to contain a control room and source rooms; and TA-8-26 and -30, structures built to perform cobalt-60 radiography. TA-8-27 was the storage vault for fissionable materials, buildings TA-8-31 and -32 were magazines for high explosives, and building TA-8-70 was built for ultrasonic and electromagnetic testing (Tour 1951, GMX-1 1967). These radiographic facilities were used for studies on high explosives, plutonium, uranium, and other materials including arsenic, lithium hydride, and titanium oxide (H Division 1953:15, 1954a:25). Standard operating procedures (GMX-1 1967) included machining, and a 1956 report mentions lead melting and pouring operations (H Division 1956). Documentation on several spills and releases was found, and contamination should be suspected at these buildings (Buckland 1954b).

In October 1951, a serious spill of plutonium occurred and spread to the main building before it was discovered, making a "wholesale cleanup" necessary (H Division 1951:4).

On March 29, 1954, a pig (a heavily shielded container) was being handled at the loading dock of the isotope building, TA-8-24. The pig was dropped and strontium-90 spilled on the dock (Oakes 1954). Although extensive decontamination was undertaken, a memo states, "It is not only unlikely, but probably impossible to decontaminate or remove entirely all the spots of contamination in the building" (Buckland 1954a). Another memo reads, "Heavy concentrations of strontium-90 remain hidden within recesses between the old dock and new faces and red concrete slab, and probably underneath the red slab." More information can be found in the memo (Buckland 1954b). On October 25, 1954, loose contamination of up to 10,000 counts/min was observed at the isotope building (H Division 1954b:3). In 1955, 10 to 14 micrograms of beryllium were observed to be present on one of the floors in the building at TA-8 (H Division 1955).

A 1979 inspection sheet indicates 200-500 counts/min inside a hood at TA-8-21, room 117 (Inspection 1979). Residual environmental contamination could also be present.

The 1985 site plan indicates TA-8-23 has medium levels of contamination of induced activity, fission products, transuranics, and uranium; TA-8-24 and -26 have some suspect contamination; and TA-8-70 has low-level uranium contamination (Balo and Warren 1986:61).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Areas of potential residual environmental contamination from past activities will be investigated during supplemental Phase I. Active facilities are covered by routine LANL operations.

TA8-4-CA-A/I-HW (Chemicals in ducts and associated areas)

Background--After the Old Anchor West facilities were used for explosives and the new GT building was constructed for radiography, the old facilities were not used again until 1953, when J Division staff started growing crystals in TA-8-1 (Smith 1953). Chemicals used by J Division included terphenyl and alpha napthyl phenyl oxazole, added as scintillators to styrene. A mineral oil bath (Robbins 1954) and methyl chloroform were also used (Ehrenkranz 1968).

Because thallium iodide was also handled, the ducts may contain thallous iodide deposits. The west portion ducts may contain flammable residues from the styrene work. It was recommended that both residues be handled "about like perchlorate deposits" (Ehrenkranz 1971). It appears that the ducts and exhaust fan were removed (Courtright 1972). Other areas of chemical contamination remain unknown.

Contamination is limited to inside building structures, and there is no evidence of residual environmental contamination.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. Active facilities are covered by routine LANL operations.

TA8-5-CA/ST/O-A/I-HW/RW (Septic tanks, sumps, seepage fields, and outfalls)

Background--In 1967, workers at GT site were given directions to dispose of water-miscible solvents, acids, alkali, etc., in laboratory sinks and drains, provided they were suitably diluted and then flushed with adequate water (GMX-1 1967).

Photoprocessing facilities are or have been used in TA-8-21, -22, and -23. The 1985 CEARP field survey observed that the photoprocessing facilities have silver recovery cannisters on their spent fixing solution discharges. In building 22, after the silver is recovered, spent fixer and other industrial photographic wastes are discharged to an open outfall. This outfall has been in operation since 1950; however, in the early years, there was no silver recovery.

During the cleanup of TA-8-24, slightly contaminated rinse water was poured down the regular building drains. A memo remarks, "It is possible that some of the plumbing drains within the building remain contaminated" (Buckland 1954b). Engineering drawing ENG-R560, dated 1958, shows the drain from TA-8-24 connected to a septic tank, TA-9-81, across the road from TA-8. The septic tank is shown to have a tile field to the east and is noted on engineering drawing ENG-R5107 as abandoned in 1970. Tank 59 is shown on drawing ENG-R560 connected to building 1, where explosives and crystal-growing work were done (see previous sections). A report from a 1971 survey states, "Two septic tanks, TA-8-59 and TA-8-67, may contain significant amounts of toxic materials" (DeField 1971). Engineering drawing ENG-R5106 shows tank 67 as abandoned in 1968, and R560 shows tank 59 draining to an outfall on the storm drain north of building 1.

Septic tank TA-8-64 is located north of building 1. It was listed as abandoned in 1949. No data are available on its possible contamination, but because explosive work was being conducted at that time, radionuclide and high-explosive contamination may be present. This tank was not found during the 1985 CEARP field survey of the area.

A 1972 standard operating procedure indicates that the floor drains in building 1 and building 3 should be sealed and marked "explosive contaminated." It also states that the two outside sumps of building 3 should be similarly marked, as well as drains in the east bay of building 2 (Courtright 1972).

An undated, unsigned list from engineering file 1757 lists TA-8 as having a "disposal field." What is meant by this term is unclear, although it may refer to the drainage field of TA-9-81.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with inactive septic tanks, sumps, seepage fields, and outfalls will be determined during supplemental Phase I of CEARP. The active facilities are covered by routine LANL operations.

TA8-6-UST-I-PP (Underground storage tanks)

Background--TA-8-60 is an abandoned 2,000-gal. underground diesel tank, and TA-8-61 is an abandoned 2,000-gal. underground fuel oil tank, as shown on engineering drawing ENG-R5105.

A 1971 memo notes that TA-8-60 and -61 are free of significant amounts of toxic or nontoxic chemical contamination (DeField 1971).

There is no indication of residual environmental contamination of concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

TA8-7-L-I-HW/RW (Suspected material burials)

Background--After the war, a report stated, "Anchor Ranch was cleared of all classified material. That which might be useful was transferred to Sandia. Other material not useful to this Group was buried, turned over to salvage or transferred to the other groups" (Russ 1947). There is no record of where the material was buried. However, a magnetometer was used in conjunction with an employee's recollections to find a region of burial, now designated Area Q (Courtright 1964). This area was located south of building 9, which was later removed.

In 1956, during the construction of GT Site, which includes the buildings north of Old Anchor West, excavation crews found buried material and covered it up immediately (Tenney 1956). Because this area is north of Old Anchor Ranch, the material may be at a location other than Area Q, which is south of Anchor Ranch. Another person vaguely remembered a burial site in the vicinity of the Old Anchor Ranch main house (McAndrew 1964:2). An undated, unsigned list in engineering file 1757 records a waste disposal area west of TA-8-21. This list might correspond to the report of items uncovered during the construction of GT Site. The possibility that uranium is in this pit is indicated on an undated interoffice slip from Russo to Singer (Russo n.d.).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will be conducted to determine the presence of possible burial areas (also see Material Disposal Area Q).

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-8-1	AW-1	LABORATORY & SHOP BLDG.		N10+00W50+00
TA-8-2	AW-2	SHOP & STORAGE BLDG.		N12+50W52+50
TA-8-3	AW-3	LABORATORY BUILDING		N10+00W50+00
TA-8-4	AW-4		REMOVED 1950	
TA-8-5	AW-5		REMOVED 1950	
TA-8-6	AW-6		REMOVED 1948	
TA-8-7	AW-7		REMOVED 1955	
TA-8-8	AW-8		REMOVED 1968	
TA-8-9	AW-9		REMOVED 1968	
TA-8-10	AW-10		REMOVED 1950	
TA-8-11	AW-11		REMOVED 1950	
TA-8-12	AW-12		REMOVED 1950	
TA-8-13	AW-13		REMOVED 1950	
TA-8-14	AW-14		REMOVED 1955	
TA-8-15	AW-15		REMOVED 1950	
TA-8-16	AW-16		REMOVED 1949	
TA-8-17	AW-17	MANHOLE, WATER	ABANDONED 1955	N12+50 W50+00
TA-8-18	AW-18		REMOVED 1950	
TA-8-19	AW-19		REMOVED 1949	
TA-8-20	AW-20	GUARD HOUSE	CONST. NO. 89	N17+50W47+50
TA-8-21	AW-21	LABORATORY & OFFICE BLDG.	CONST. NO. 88	N15+00W50+00
TA-8-22	AW-22	X-RAY BUILDING	CONST NO. 81	N17+50W57+50
TA-8-23	AW-23	BETATRON BUILDING	CONST. NO. 82	N 7+50W55+00
TA-8-24	AW-24	ISOTOPE BUILDING	CONST. NO. 83	N 7+50W62+50
TA-8-25	AW-25	UTILITY BUILDING	CONST. NO 84-A-1	N15+00W62+50
TA-8-26	AW-26	RADIATION LABORATORY	CONST NO 84-A	N15+00W65+00
TA-8-27	AW-27	VAULT	CONST NO 85	N17+50W62+50
TA-8-28	AW-28	UTILITY BUILDING		N17+50W62+50
TA-8-29	AW-29	UTILITY BUILDING	CONST. NO 84-B-1	N20+00W62+50
TA-8-30	AW-30	RADIATION LABORATORY	CONST NO 84-B	N22+50W62+50
TA-8-31	AW-31	MAGAZINE	CONST NO 86 A	N27+50W57+50
TA-8-32	AW-32	MAGAZINE	CONST. NO. 86-B	N27+50W57+50
TA-8-33	AW-33	BARRICADE		N12+50W50+00
TA-8-34	AW-34		REMOVED 1947	
TA-8-35	AW-35	TRANSFORMER STATION		N15+00W50+00
TA-8-36	AW-36	TRANSFORMER STATION		N17+50W57+50
TA-8-37	AW-37	TRANSFORMER STATION		N 7+50W55+00
TA-8-38	AW-38		REMOVED 1968	
TA-8-39	AW-39		REMOVED 1955	
TA-8-40	AW-40	ROAD BLOCK		N10+00W50+00
TA-8-41	AW-41		REMOVED 1955	
TA-8-42	AW-42	MANHOLE, ELECTRICAL	ABANDONED 1968	N10+00W50+00
TA-8-43	AW-43	MANHOLE, ELECTRICAL	ABANDONED 1968	N10+00W50+00
TA-8-44	AW-44	MANHOLE, SANITARY		N15+00W50+00
TA-8-45	AW-45	MANHOLE, STORM		N15+00W50+00
TA-8-46	AW-46	MANHOLE, SANITARY		N12+50W50+00
TA-8-47	AW-47	MANHOLE, ELECTRICAL		N12+50W50+00
TA-8-48	AW-48	MANHOLE, SANITARY		N12+50W52+50
TA-8-49	AW-49	MANHOLE, SANITARY		N12+50W55+00
TA-8-50	AW-50	MANHOLE, SANITARY		N12+50W55+00
TA-8-51	AW-51	MANHOLE, SANITARY		N 7+50W55+00
TA-8-52	AW-52	MANHOLE, SANITARY		N 7+50W55+00
TA-8-53	AW-53	MANHOLE, SANITARY		N10+00W57+50
TA-8-54	AW-54	MANHOLE, SANITARY		N10+00W57+50
TA-8-55	AW-55	MANHOLE, SANITARY		N 7+50W62+50
TA-8-56	AW-56	MANHOLE, SANITARY		N12+50W55+00
TA-8-57	AW-57		REMOVED 1965	
TA-8-58	AW-58	MANHOLE, SANITARY		N17+50W47+50
TA-8-59	AW-59	TANK, SEPTIC		N12+50W50+00
TA-8-60	AW-60	TANK, FUEL		N10+00W50+00
TA-8-61	AW-61	TANK, FUEL		N10+00W50+00
TA-8-62	AW-62	DROP INLET, STORM DRAIN		N12+50W52+50
TA-8-63	AW-63	MANHOLE, SANITARY		N10+00W60+00
TA-8-64	AW-64	TANK, SEPTIC	ABANDONED 1949	N12+50W50+00
TA-8-65	AW-65	SOURCE STORAGE BUILDING		N10+00W65+00
TA-8-66	AW-66	MANHOLE, STEAM		N10+00W50+00
TA-8-67	AW-67	TANK, SEPTIC	ABANDONED 1968	N10+00W50+00
			CANCELLED	
			CANCELLED	
TA-8-70	AW-70	NON-DESTRUCTIVE TEST FAC		N17+50W50+00
TA-8-71	AW-71	MANHOLE, SANITARY		N17+50W50+00
TA-8-72	AW-72	TRANSFORMER STATION		N10+00W50+00
TA-8-73	AW-73	CRAFT SHACK	FORMERLY TA-49-6	N10+00W50+00
TA-8-74	AW-74	MANHOLE, SANITARY		N17+50W57+50
TA-8-75	AW-75	MANHOLE, ELECTRICAL CONTROL		N10+00W52+50
TA-8-76	AW-76	TRANSFORMER STATION		N12+50W47+50
TA-8-77	AW-77	TRANSFORMER STATION		N15+00W52+50
TA-8-78	AW-78	TRANSFORMER STATION		N17+50W62+50
TA-8-79	AW-79	TRANSFORMER STATION		N 7+50W62+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

Figure TA-8-1: Structure Location Plan for TA-8 - Anchor Site West
(1983 Drawing from the LANL Technical Area Structure Location Plans)

REV	DATE	REVISION	BY	CKD	APP
15	8-18-83	REVISED TITLE BLOCK & DWG TO STATUS OF 7-26-83	HS		DR

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-8 ANCHOR SITE WEST

SEC CLASSIFICATION
CLASS U

SUBMITTED | RECOMMENDED | APPROVED

DRAWN | DATE 8-18-83 | SHEET NO 1 of 2 | DRAWING NO ENG-R 5106
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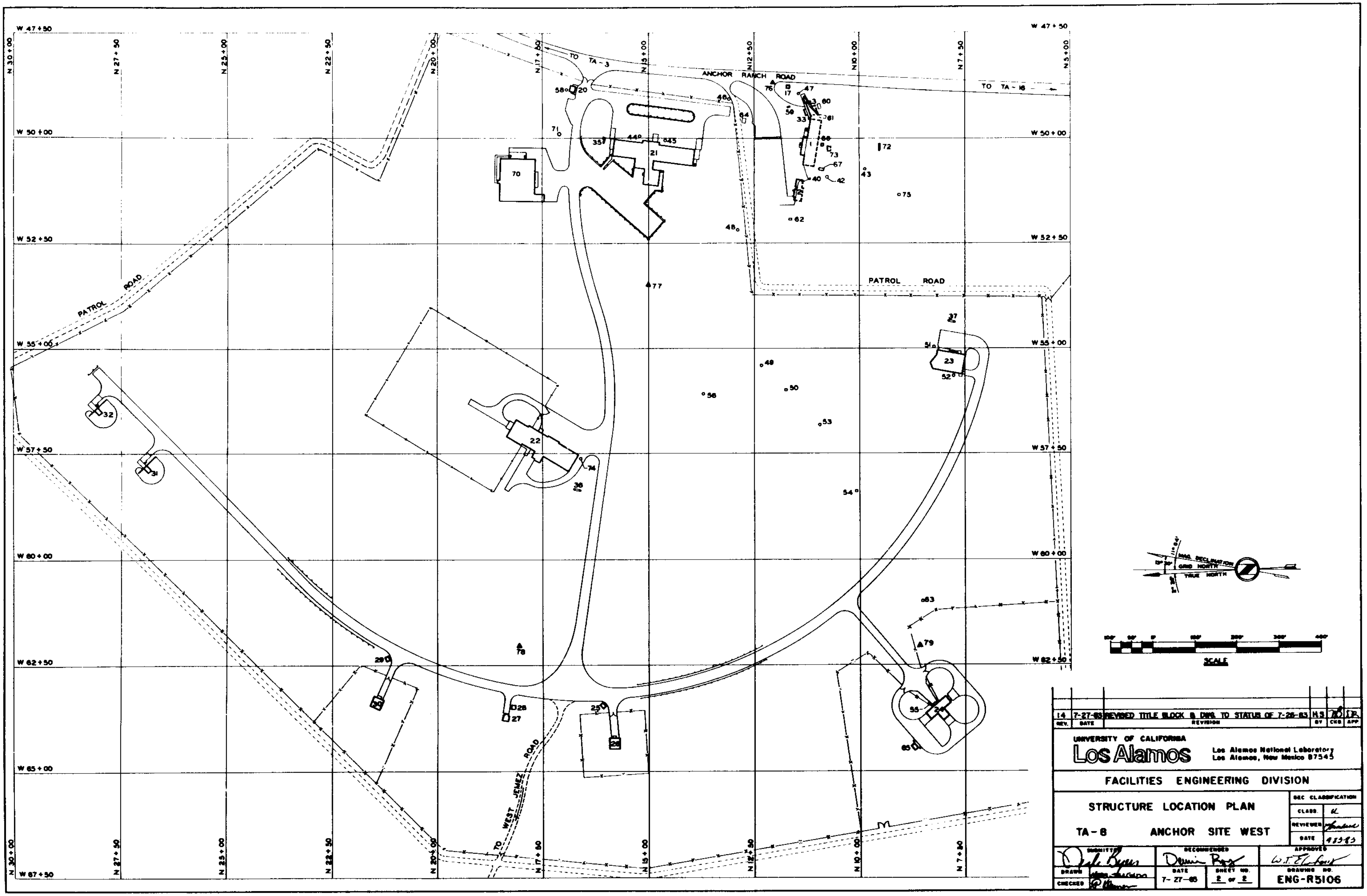

Figure TA-8-1: Structure Location Plan for TA-8 - Anchor Site West
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-8-1	AW-1	LABORATORY & SHOP BLDG.		N10+00W50+00
TA-8-2	AW-2	SHOP & STORAGE BLDG		N12+50W52+50
TA-8-3	AW-3	LABORATORY BUILDING		N10+00W50+00
TA-8-4	AW-4		REMOVED 1950	
TA-8-5	AW-5		REMOVED 1950	
TA-8-6	AW-6		REMOVED 1948	
TA-8-7	AW-7		REMOVED 1955	
TA-8-8	AW-8		REMOVED 1968	
TA-8-9	AW-9		REMOVED 1968	
TA-8-10	AW-10		REMOVED 1950	
TA-8-11	AW-11		REMOVED 1950	
TA-8-12	AW-12		REMOVED 1950	
TA-8-13	AW-13		REMOVED 1950	
TA-8-14	AW-14		REMOVED 1955	
TA-8-15	AW-15		REMOVED 1950	
TA-8-16	AW-16		REMOVED 1949	
TA-8-17	AW-17	MANHOLE	WATER	N12+50 W50+00
TA-8-18	AW-18		REMOVED 1950	
TA-8-19	AW-19		REMOVED 1949	
TA-8-20	AW-20	GUARD HOUSE	CONST. NO. 89	N17+50W47+50
TA-8-21	AW-21	LABORATORY & OFFICE BLDG	CONST. NO. 88	N15+00W50+00
TA-8-22	AW-22	X-RAY BUILDING	CONST. NO. 81	N17+50W57+50
TA-8-23	AW-23	BETATRON BUILDING	CONST. NO. 82	N 7+50W55+00
TA-8-24	AW-24	ISOTOPE BUILDING	CONST. NO. 83	N 7+50W62+50
TA-8-25	AW-25	UTILITY BUILDING	CONST. NO. 84-A-1	N15+00W62+50
TA-8-26	AW-26	RADIATION LABORATORY	CONST NO 84-A	N15+00W65+00
TA-8-27	AW-27	VAULT	CONST NO 85	N17+50W62+50
TA-8-28	AW-28	UTILITY BUILDING		N17+50W62+50
TA-8-29	AW-29	UTILITY BUILDING	CONST. NO 84-B-1	N20+00W62+50
TA-8-30	AW-30	RADIATION LABORATORY	CONST NO 84-B	N22+50W62+50
TA-8-31	AW-31	MAGAZINE	CONST. NO. 86 A	N27+50W57+50
TA-8-32	AW-32	MAGAZINE	CONST. NO. 86-B	N27+50W57+50
TA-8-33	AW-33	BARRICADE		N12+50W50+00
TA-8-34	AW-34		REMOVED 1947	
TA-8-35	AW-35	TRANSFORMER STATION		N15+00W50+00
TA-8-36	AW-36	TRANSFORMER STATION		N17+50W57+50
TA-8-37	AW-37	TRANSFORMER STATION		N 7+50W55+00
TA-8-38	AW-38		REMOVED 1968	
TA-8-39	AW-39		REMOVED 1955	
TA-8-40	AW-40	ROAD BLOCK		N10+00W50+00
TA-8-41	AW-41		REMOVED 1955	
TA-8-42	AW-42	MANHOLE, ELECTRICAL	ABANDONED 1968	N10+00W50+00
TA-8-43	AW-43	MANHOLE, ELECTRICAL	ABANDONED 1968	N10+00W50+00
TA-8-44	AW-44	MANHOLE	SANITARY	N15+00W50+00
TA-8-45	AW-45	MANHOLE	STORM DRAINAGE	N15+00W50+00
TA-8-46	AW-46	MANHOLE	SANITARY	N12+50W50+00
TA-8-47	AW-47	MANHOLE	ELECTRICAL	N12+50W50+00
TA-8-48	AW-48	MANHOLE	SANITARY	N12+50W52+50
TA-8-49	AW-49	MANHOLE	SANITARY	N12+50W55+00
TA-8-50	AW-50	MANHOLE	SANITARY	N12+50W55+00
TA-8-51	AW-51	MANHOLE	SANITARY	N 7+50W55+00
TA-8-52	AW-52	MANHOLE	SANITARY	N 7+50W55+00
TA-8-53	AW-53	MANHOLE	SANITARY	N10+00W57+50
TA-8-54	AW-54	MANHOLE	SANITARY	N10+00W57+50
TA-8-55	AW-55	MANHOLE	SANITARY	N 7+50W62+50
TA-8-56	AW-56	MANHOLE	SANITARY	N12+50W55+00
TA-8-57	AW-57		REMOVED 1965	
TA-8-58	AW-58	MANHOLE	SANITARY	N17+50W47+50
TA-8-59	AW-59	TANK	SEPTIC	N12+50W50+00
TA-8-60	AW-60	TANK	FUEL	N10+00W50+00
TA-8-61	AW-61	TANK	FUEL	N10+00W50+00
TA-8-62	AW-62	DROP INLET	STORM DRAINAGE	N12+50W52+50
TA-8-63	AW-63	MANHOLE	SANITARY	N10+00W60+00
TA-8-64	AW-64	TANK	SEPTIC, ABANDONED 1949	N12+50W50+00
TA-8-65	AW-65	SOURCE STORAGE BUILDING		N10+00W65+00
TA-8-66	AW-66	MANHOLE	STEAM	N10+00W50+00
TA-8-67	AW-67	TANK, SEPTIC	ABANDONED	N10+00W50+00
TA-8-70	AW-70	NON-DESTRUCTIVE TEST FAC		N17+50W50+00
TA-8-71	AW-71	MANHOLE	SANITARY	N17+50W50+00
TA-8-72	AW-72	TRANSFORMER STATION		N10+00W50+00
TA-8-73	AW-73	CONSTRUCTION OFFICE	FORMERLY TA-49-6	N10+00W50+00
TA-8-74	AW-74	MANHOLE	SANITARY	N17+50W57+50
TA-8-75	AW-75	MANHOLE	ELECTRICAL CONTROL	N10+00W52+50
TA-8-76	AW-76	TRANSFORMER STATION	SERIES LIGHTING	N12+50W47+50
TA-8-77	AW-77	TRANSFORMER STATION		N15+00W52+50
TA-8-78	AW-78	TRANSFORMER STATION		N17+50W62+50
TA-8-79	AW-79	TRANSFORMER STATION		N 7+50W62+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REVIEWER

CLASS

DATE 7/28/77

NO.	DATE	REVISIONS	BY	CHKD	GRP LDR	ENG D.O.
14	4-15-77	REVISED DWG NO (FORMERLY R2421)	M.M.			
13	1-19-73	REVISED TO STATUS OF 1-19-73	DAD			
12	8-18-71	REVISED TO STATUS OF 8-18-71	DAD			
11	8-7-69	REVISED TO STATUS OF 8-7-69	DAD			
10	10-15-65	REVISED TO STATUS OF 4-15-65	ERW			
9	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R 122)	JEJ			

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LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-8 ANCHOR SITE WEST

CHECKED PROJ ENG	RECOMMENDED GROUP LEADER	APPROVED ENG DEPT OFFICE
DESIGNER / DRAWN JOHNSON / SCALE NONE	DATE 8-15-61 / SHEET NO 1	DRAWING NO. ENG-R 5106

Figure TA-8-2: Structure Location Plan for TA-8 - Anchor Site West (1961 Drawing from the LANL Technical Area Structure Location Plans)

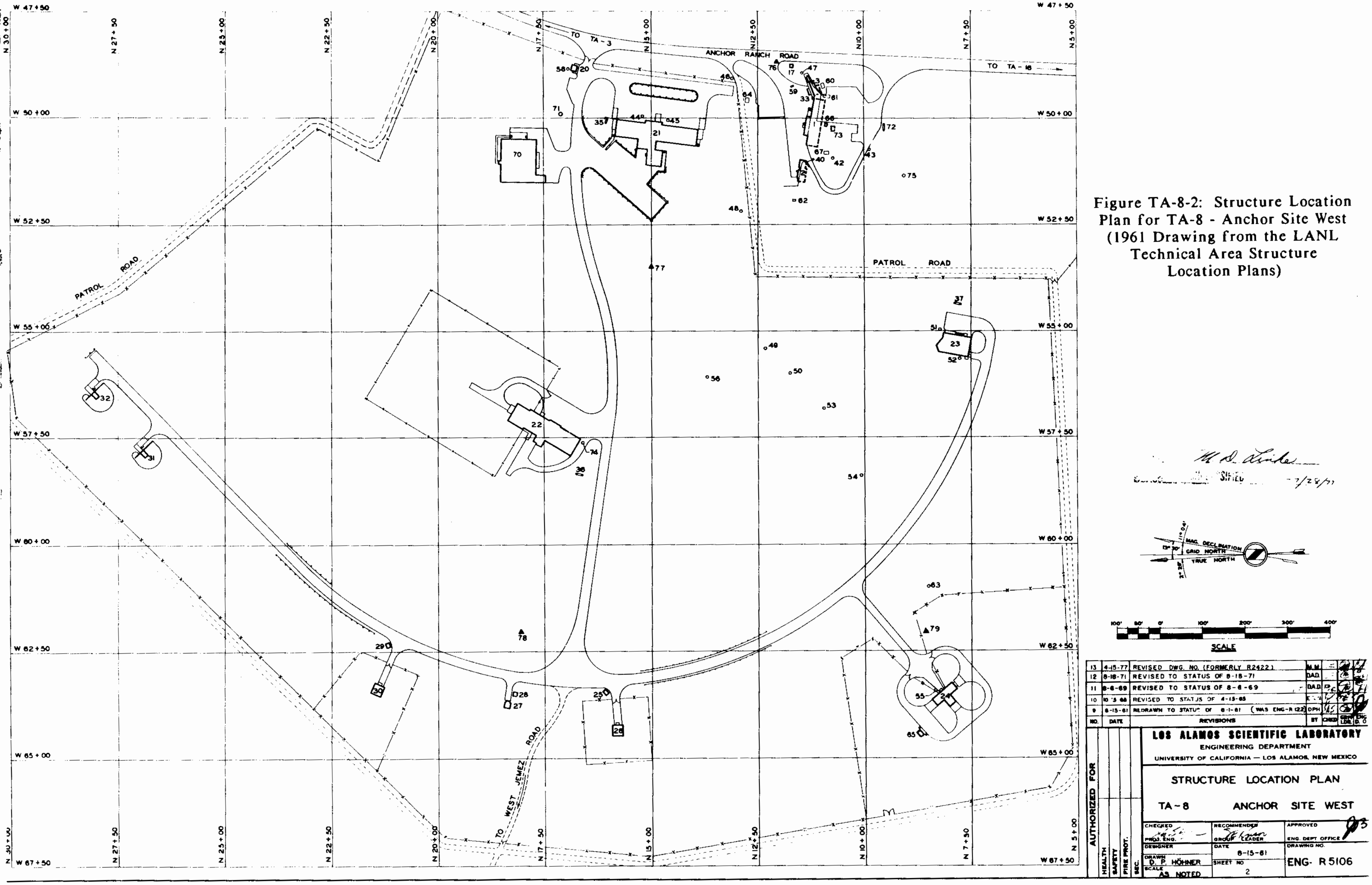
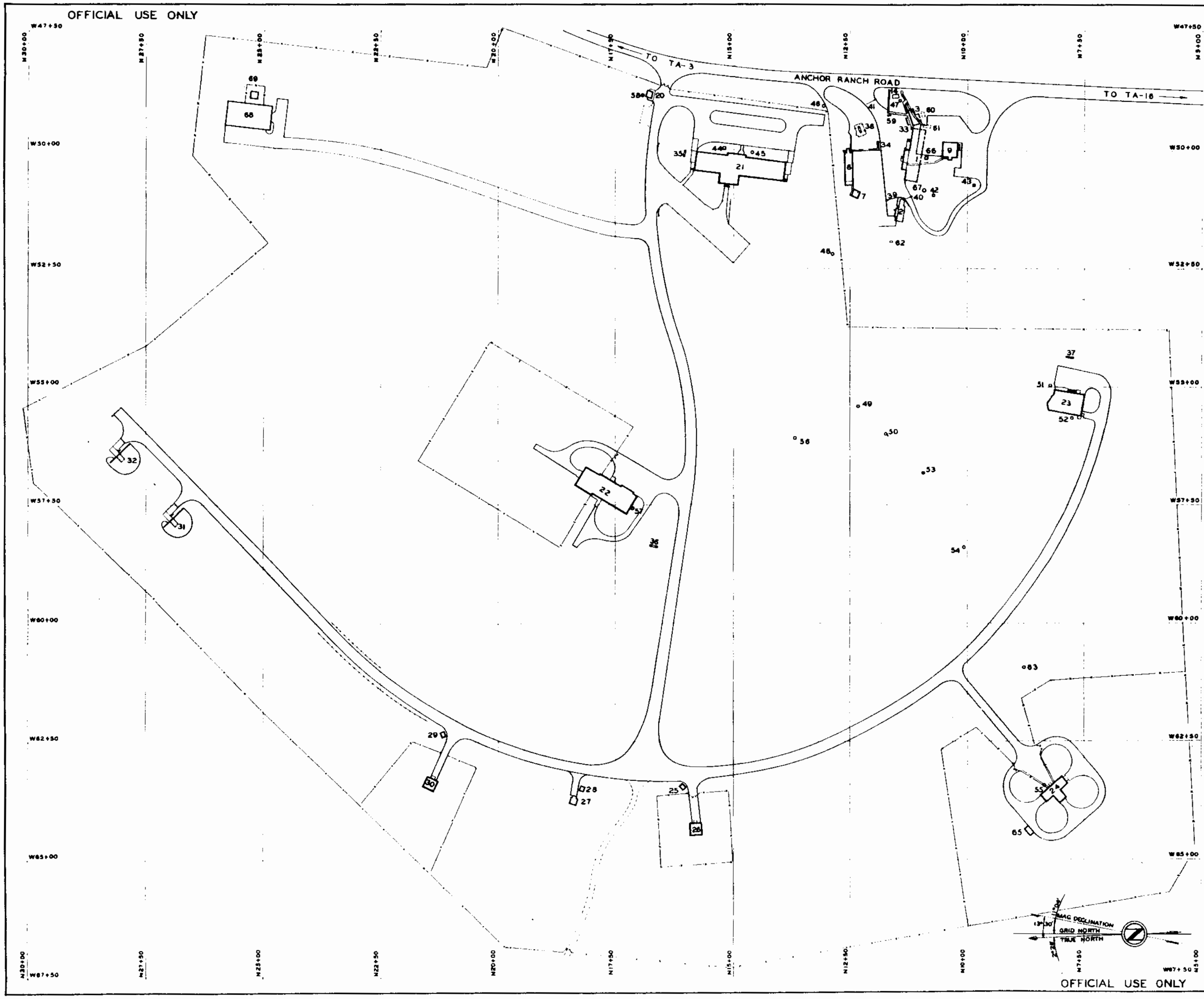


Figure TA-8-2: Structure Location Plan for TA-8 - Anchor Site West (1961 Drawing from the LANL Technical Area Structure Location Plans)



STRUCTURE NUMBER	DESIG-NATION	REMARKS
TA-8-1	AW-1	LAB & SHOP BLDG. (WAS A-1)
TA-8-2	AW-2	PROCESS BLDG. (WAS A-1-A)
TA-8-3	AW-3	PRESS BLDG. (WAS A-1-B)
TA-8-4	AW-4	GUN BLDG. (WAS A-4)(REMOVED) 1950
TA-8-5	AW-5	GUN BLDG. (WAS A-5)(REMOVED) 1950
TA-8-6	AW-6	OLD CARPENTER SHOP (WAS A-8)(REMOVED) 1948
TA-8-7	AW-7	STORAGE BLDG. (WAS A-9)
TA-8-8	AW-8	CARPENTER SHOP (WAS A-10)
TA-8-9	AW-9	OFFICE BLDG. (WAS A-11) (RELOCATED)
TA-8-10	AW-10	RANCH MAIN HOUSE (REMOVED) 1950
TA-8-11	AW-11	GUEST HOUSE (REMOVED) 1950
TA-8-12	AW-12	GUEST HOUSE (REMOVED) 1950
TA-8-13	AW-13	BUNK HOUSE (REMOVED) 1950
TA-8-14	AW-14	ELECTRICAL HOUSING
TA-8-15	AW-15	RANCH BARN (REMOVED) 1950
TA-8-16	AW-16	GUARD TOWER "A" (REMOVED) 1949
TA-8-17	AW-17	WATER HOUSING (REMOVED)
TA-8-18	AW-18	RANCH BARN (REMOVED)
TA-8-19	AW-19	EQUIPMENT SHED (REMOVED)
TA-8-20	AW-20	GUARD HOUSE (CONSTR. NO. 89) (STA520)
TA-8-21	AW-21	LABORATORY (CONSTR. NO. 88)
TA-8-22	AW-22	X-RAY BLDG. (CONSTR. NO. 81)
TA-8-23	AW-23	BETATRON BLDG. (CONSTR. NO. 82)
TA-8-24	AW-24	ISOTOPE BLDG. (CONSTR. NO. 83)
TA-8-25	AW-25	UTILITY BLDG. (CONSTR. NO. 84-A-1)
TA-8-26	AW-26	RADIATION LAB. (CONSTR. NO. 84-A)
TA-8-27	AW-27	VAULT (CONSTR. NO. 85)
TA-8-28	AW-28	GUARD HOUSE (ABANDONED)
TA-8-29	AW-29	UTILITY BLDG. (CONSTR. NO. 84-B-1)
TA-8-30	AW-30	RADIATION LAB. (CONSTR. NO. 84-B)
TA-8-31	AW-31	MAGAZINE (CONSTR. NO. 86-A)
TA-8-32	AW-32	MAGAZINE (CONSTR. NO. 86-B)
TA-8-33	AW-33	BARRICADE
TA-8-34	AW-34	DRUM STORAGE
TA-8-35	AW-35	TRANSFORMER STATION
TA-8-36	AW-36	TRANSFORMER STATION
TA-8-37	AW-37	TRANSFORMER STATION
TA-8-38	AW-38	TRANSFORMER STATION
TA-8-39	AW-39	ROAD BLOCK
TA-8-40	AW-40	ROAD BLOCK
TA-8-41	AW-41	ROAD BLOCK
TA-8-42	AW-42	MANHOLE (ELECT.)
TA-8-43	AW-43	MANHOLE (ELECT.)
TA-8-44	AW-44	MANHOLE (ELECT.)
TA-8-45	AW-45	MANHOLE (ELECT.)
TA-8-46	AW-46	MANHOLE (ELECT.)
TA-8-47	AW-47	MANHOLE (ELECT.)
TA-8-48	AW-48	MANHOLE (SANITARY)
TA-8-49	AW-49	MANHOLE (SANITARY)
TA-8-50	AW-50	MANHOLE (SANITARY)
TA-8-51	AW-51	MANHOLE (SANITARY)
TA-8-52	AW-52	MANHOLE (SANITARY)
TA-8-53	AW-53	MANHOLE (SANITARY)
TA-8-54	AW-54	MANHOLE (SANITARY)
TA-8-55	AW-55	MANHOLE (SANITARY)
TA-8-56	AW-56	MANHOLE (SANITARY)
TA-8-57	AW-57	MANHOLE (SANITARY)
TA-8-58	AW-58	MANHOLE (SANITARY)
TA-8-59	AW-59	SEPTIC TANK (SANITARY)
TA-8-60	AW-60	TANK (FUEL OIL)
TA-8-61	AW-61	TANK (FUEL OIL)
TA-8-62	AW-62	MANHOLE (STORM DRAIN)
TA-8-63	AW-63	MANHOLE (SANITARY)
TA-8-64	AW-64	SEPTIC TANK (ABANDONED)
TA-8-65	AW-65	SOURCE STORAGE BUILDING
TA-8-66	AW-66	MANHOLE (STEAM)
TA-8-67	AW-67	SEPTIC TANK (SANITARY)
TA-8-68	AW-68	BETATRON BUILDING (PROPOSED)
TA-8-69	AW-69	SUBSTATION (PROPOSED)

Figure TA-8-3: Structure Location Plan for TA-8 - Anchor Site West (1954 Drawing from the LANL Technical Area Structure Location Plans)

NO.	DATE	REVISIONS	BY
9	7-1-57	REVISED TO STATUS OF 7-1-57	DDS
7	8-29-55	GENERAL REVISION TO STATUS OF JULY 1, 1955	NB
6	10-12-54	REDRAWN TO STATUS OF JULY 1, 1954	M.Mc

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LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-8 ANCHOR SITE WEST

CHECKED / DESIGNER — RECOMMENDED / GROUP LEADER — APPROVED / ENG. DEPT. OFFICE
DRAWN: McCOMB — DATE: 10-12-54 — DRAWING NO.: ENG- R 122
SCALE: 1 IN. = 100 FT. — SHEET 1 OF 1

TA-9 - NEW SITE REPLACING ANCHOR EAST

CURRENT OPERATIONS

TA-9 is occupied by the Explosives Technology Group (M-1). M-1 activities involve research and development of explosives and other special materials used in weapons applications. The work includes developing new explosives, testing the characteristics of aging explosives, and performing other tests involving the chemical nature of explosives.

Building TA-9-21 has been consistently used for organic synthesis of explosives. The majority of the work in the onsite process buildings involves processing of explosives, primarily pressing and machining. An experimental explosives casting facility is in TA-9-38. In TA-9-34 and -45 is a pilot plant facility where some plastic-bonded explosives (PBX) are handled, and large-scale synthesis is carried out. Ovens in TA-9-40 are used for thermal stability tests on explosives. The shop in TA-9-28 machines brass, steel, aluminum, graphite, and plastics.

POTENTIAL CERCLA/RCRA SITES

The plans for a new TA-9 less than a mile away from Anchor Site East (also called TA-9) were created in 1949, and the design became a reality in the early 1950s. The plans called for a site with numerous process laboratories, magazines, and an office (LASL 1949). Many organic and other types of chemicals as well as radionuclides and high explosives have been handled in this large facility, which is still operating.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-9. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-9 is 2.7 (Appendix B).

FIGURES

REFERENCES

Baytos, J. F. 1986. "Analysis of Soil Samples for Residual Explosives from Drainage Ditches at Sump Effluent Outlets," Los Alamos National Laboratory memorandum to A. P. Torres, July 21, 1986.

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Campbell, Evan E. 1956. "Preparation of Thallium Azide," Los Alamos Scientific Laboratory memorandum, June 12, 1956.

H Division. 1955. Los Alamos Scientific Laboratory, "H Division Progress Report," May 20-June 20, 1955.

LASL. 1949. "Plot Plan GMX-2 Facilities TA-9," Los Alamos Scientific Laboratory document, December 1944.

LASL. 1960. "Maintenance and Decontamination TA-9 and TA-14," Los Alamos Scientific Laboratory document, January 7, 1960.

LASL. 1977. "LASL Ten-Year Decontamination/Decommissioning Site Plan FY 1980 through FY 1989," Los Alamos Scientific Laboratory document, July 1977.

Milford, H. C. 1955. "Experiment at TA-9 with Tetranitromethane and Benzene," Los Alamos Scientific Laboratory memorandum to H-5 file, September 22, 1955.

Observations from the CEARP onsite field survey.

Pan Am World Services, Inc. 1986. "Septic Tank Report," Los Alamos, NM, February 26, 1986.

Schulte, H. F. 1957. "Use of Toxic Materials by GMX-2," Los Alamos Scientific Laboratory memorandum, February 18, 1957.

Upham, D. L. 1973. "Disposal System for Corrosive Effluents from Bldgs. 45 and 46 TA-9," Los Alamos Scientific Laboratory memorandum to L. P. Reinig, October 5, 1973.

The list of chemicals used at TA-9 was compiled from the following sources:

Los Alamos Scientific Laboratory, "H Division Progress Report," March 20-April 20, 1951, p. 12; Jan. 20-Feb. 20-1953, p. 17; March 20-April 20, 1953, p. 14; Oct. 20-Nov. 20, 1953, p. 16; Feb. 20-March 20, 1954, p. 25; June 20-July 20, 1954, p. 27; March 20-April 20, 1955, p. 21; Sept 20-Oct. 20, 1955, p. 22; Nov. 20- Dec. 20, 1955, p. 14; Jan. 20-Feb. 20, 1956, p. 5; June 20-July 20, 1956, p. 8; Sept. 20-Oct. 20, 1956, p. 17; Nov. 20-Dec. 20, 1957, p. 10; Aug. 20-Sept 20, 1960, p. 5.

TABLE TA-9 - POTENTIAL CERCLA/RCRA SITES

TA9-1-CA-A/I-HW/RW (Building, laboratories, production, and test areas)

Background--The 1949 design for a new TA-9 indicated a site with numerous process laboratories, magazines, and an office (LASL 1949). In the early 1950s, the design became a reality.

By 1957, the new site included a laboratory and office building, TA-9-21; six magazettes, TA-9-22, -23, -24, -25, -26, -27; a shop, TA-9-28; two laboratory buildings, TA-9-32 and -33; process laboratories, TA-9-34, -35, -37, -38, -42, -43, -45, -46; magazines, TA-9-36, -39, -44, -47, -49, -52, -53, -54, -55; a machining building, TA-9-48; and an environmental test chamber, TA-9-51.

In this large explosive development and test facility, a wide variety of organic and other types of chemicals has been used, including ethyl acrylate, cyanogen, dinitropropyl acrylate, trinitrostilbene, toluene, benzene, decaborane, fluorine, sulfuric acid and nitric acid, hydrazoic acid, hydrazine nitrate, hexanitrobenzene, potassium dinitrocyanomethide, trinitroethyltrinitrobutyrate, tetryl, methyl borate, tetranitromethane, trinitrostilbene, sodium and potassium nitrate, acetronitrile, formaldehyde, chloroform, hydrogen cyanide, hafnium, and mercury.

Radionuclides handled include uranium and tritium. Spills have occurred during the period of operation of this laboratory and testing area. Contamination may be present in ducts, cracks, floor joints, and similar areas (Sources).

There is no evidence of residual environmental contamination of concern. However, there appears to be residual contamination inside structures.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action by CEARP is warranted. Potential residual contamination inside structures is covered by routine LANL operations.

TA9-2-CA/ST/S/O/SI-A/I-HW/RW (Sumps, basket pits, drains, septic tanks, and outfalls)

Background--Because the site handles such a large variety of high explosives and other chemical compounds, the industrial drains would be expected to contain these materials. Thus, they are defined as Class A areas--uncontrolled contamination (LASL 1960).

The 1985 CEARP field survey observed that each building handling high explosive has an associated sump/trap. Settling tanks for industrial waste include TA-9-184, -185, -186, -187, -188, 189, -190, -191, -192, -193, -194, -195, -196, -197, -198. These buildings and associated facilities should be considered contaminated with high explosive. Settling tank TA-9-199 was noted to have been removed in 1952; however, it was still shown on engineering drawing ENG-R611, dated 1956.

Active sump/traps are periodically checked for high explosive residual sludge and, if necessary, the trapped high explosive slurry is vacuumed out and taken to S Site for disposal. Basket pit TA-9-202 serves the environmental test chamber and is also contaminated with high explosive. The industrial waste lines currently connect to three main outfalls to the canyon. The exception is the drain sump TA-9-190 for building 50 (recovery and shipping), which is presently inactive, but connects to a drain field and the basket pit, TA-9-202. Studies indicate that soils 0.5 m from the outfall serving the machining building contain 2.6 per cent acetone solubles, with less than 2.5 per cent by weight total explosive (Baytos 1986).

In 1973, the aluminum settling basin serving the sump for building 45 (process laboratory) was observed to have been "essentially destroyed" by the acids dumped down the drain (Upham 1973).

In 1955, it was observed that the industrial drain from building 48 (machining building) connected into the sanitary sewer (Campbell 1955). This appears to have been the case for almost all the drains. The 1956 utility drawings (R606 and R615) indicate a rather complex network of septic tanks; their overflow went to industrial waste lines, and the combined discharge was routed to three main outfalls into the canyon.

Buildings TA-9-28, -29, and -21 had sewer lines running to septic tank 105, with outflow from the tank joining the industrial drain at manhole 119. Buildings TA-9-32 and -33 had sanitary lines that also joined the industrial line. Buildings TA-21, -38, -33, -34, -and -37 had sanitary facilities that went to septic tank 106, and the overflow again joined the industrial line. Various industrial waste lines from buildings TA-9-40, -21, and -32 connected "downstream" from the septic tank discharges, which finally joined in a common line with an outfall to the canyon.

Buildings TA-9-34, -35, -42, -43, and -44 had industrial lines that joined below septic tank 107. Buildings TA-9-37, -38, -45, and -46 joined another industrial line connected to the line from the complex, which included building 34 and others. Buildings TA-9-42, -46, -43, -41, and -45 were served by septic tank 107, whose overflow then joined the industrial line and went to an outfall in the canyon.

Building TA-9-48 was served by septic tank TA-9-48. Its industrial waste effluents joined the outflow from the tank and were routed to an outfall. Building TA-9-51 was served by septic tank 110, whose outflow may have gone to the canyon or seepage field. Industrial waste, after going through settling tank 199, drained to a drainage field or to the canyon.

Sewage from building 50 went to septic tank 109. Industrial waste flowed to settling tank 190, then joined the outflow and went to a drainage field.

Whether pipe leaks or other incidents that would contaminate the underlying soils occurred is unknown.

Today, with the exception of the drains from building 51, these same outfalls appear to be used for industrial waste. However, in the mid-1950s, steps to separate the sewer and industrial lines apparently began and septic tanks may no longer connect to the industrial outfalls (H-Div 1955: 27). In 1977, three potentially contaminated septic tanks and the soils surrounding them were indicated for TA-9 (LASL 1977:5).

At present, septic tanks TA-9-107, -108, -109, and -110 are noted to be in operation. In addition, a new tank, TA-9-211, has been placed in operation, and its overflow goes to a stabilization pond and outfall (Pan Am 1986:2). Engineering drawing R5107 indicates that septic tank TA-9-203 was removed in 1965. Whether this tank was contaminated with high explosive and whether the surrounding soils were checked is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The areas associated with the inactive drains, septic tanks, and outfalls will be checked for residual contamination during supplemental Phase I of CEARP. The active drains, septic tanks, and outfalls are covered by routine LANL operations.

TA9-3-CA-A-HW (Explosive storage)

Background--Scrap high explosive is stored for short periods of time at TA-9-39. There is no indication of residual environmental contamination of concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-9-1	AE-1		REMOVED 1965	
TA-9-2	AE-2		REMOVED 1960	
TA-9-3	AE-3		REMOVED 1960	
TA-9-4	AE-4		REMOVED 1965	
TA-9-5	AE-5		REMOVED 1965	
TA-9-6	AE-6		REMOVED 1960	
TA-9-7	AE-7		REMOVED 1960	
TA-9-8	AE-8		REMOVED 1960	
TA-9-9	AE-9		REMOVED 1960	
TA-9-10	AE-10		REMOVED 1960	
TA-9-11	AE-11		REMOVED 1960	
TA-9-12	AE-12		REMOVED 1960	
TA-9-13	AE-13		REMOVED 1960	
TA-9-14	AE-14		REMOVED 1960	
TA-9-15	AE-15		REMOVED 1965	
TA-9-16	AE-16		REMOVED 1960	
TA-9-17	AE-17		REMOVED 1960	
TA-9-18	AE-18		REMOVED 1960	
TA-9-19	AE-19		REMOVED 1952	
TA-9-20	AE-20	GUARD HOUSE		N 5+00 W45+00
TA-9-21	AE-21	LABORATORY & OFFICE BLDG.		0+00 W45+00
TA-9-22	AE-22	MAGAZETTE		0+00 W45+00
TA-9-23	AE-23	MAGAZETTE		0+00 W45+00
TA-9-24	AE-24	MAGAZETTE		0+00 W45+00
TA-9-25	AE-25	MAGAZETTE		0+00 W40+00
TA-9-26	AE-26	MAGAZETTE		0+00 W40+00
TA-9-27	AE-27	MAGAZETTE		0+00 W45+00
TA-9-28	AE-28	SHOP BUILDING		N 5+00 W45+00
TA-9-29	AE-29	STOCK & EQUIPMENT BUILDING		N 5+00 W45+00
TA-9-30	AE-30	GAS STORAGE		N 5+00 W45+00
TA-9-31	AE-31	GAS STORAGE		N 5+00 W45+00
TA-9-32	AE-32	LABORATORY BUILDING		N 5+00 W40+00
TA-9-33	AE-33	LABORATORY BUILDING		N 5+00 W40+00
TA-9-34	AE-34	PROCESS LABORATORY		N 5+00 W35+00
TA-9-35	AE-35	PROCESS LABORATORY		N 5+00 W35+00
TA-9-36	AE-36	MAGAZINE		N 5+00 W35+00
TA-9-37	AE-37	PROCESS LABORATORY		0+00 W40+00
TA-9-38	AE-38	PROCESS LABORATORY		0+00 W35+00
TA-9-39	AE-39	MAGAZINE		0+00 W35+00
TA-9-40	AE-40	DRY HOUSE BUILDING		N 5+00 W35+00
TA-9-41	AE-41	COMFORT STATION BLDG.		0+00 W35+00
TA-9-42	AE-42	PROCESS LABORATORY		N 5+00 W35+00
TA-9-43	AE-43	PROCESS LABORATORY		N 5+00 W30+00
TA-9-44	AE-44	MAGAZINE		N 5+00 W30+00
TA-9-45	AE-45	PROCESS LABORATORY		0+00 W35+00
TA-9-46	AE-46	PROCESS LABORATORY		0+00 W30+00
TA-9-47	AE-47	MAGAZINE		0+00 W30+00
TA-9-48	AE-48	MACHINING BUILDING		N 5+00 W25+00
TA-9-49	AE-49	MAGAZINE		N 5+00 W25+00
TA-9-50	AE-50	RECEIVING & SHIPPING BLDG.		0+00 W25+00
TA-9-51	AE-51	ENVIRONMENTAL TEST CHAMBER		N 5+00 W15+00
TA-9-52	AE-52	MAGAZINE		0+00 W15+00
TA-9-53	AE-53	MAGAZINE		0+00 W15+00
TA-9-54	AE-54	MAGAZINE		0+00 W15+00
TA-9-55	AE-55	MAGAZINE		S 5+00 W15+00
TA-9-56	AE-56		REMOVED 1960	
TA-9-57	AE-57		REMOVED 1965	
TA-9-58	AE-58		REMOVED 1965	
TA-9-59	AE-59		REMOVED 1950	
TA-9-60	AE-60		REMOVED 1965	
TA-9-61	AE-61		REMOVED 1965	
TA-9-62	AE-62		REMOVED 1965	
TA-9-63	AE-63		REMOVED 1962	
TA-9-64	AE-64	BARRICADE		N 5+00 W40+00
TA-9-65	AE-65	BARRICADE		N 5+00 W35+00
TA-9-66	AE-66	BARRICADE		0+00 W40+00
TA-9-67	AE-67	BARRICADE		0+00 W35+00
TA-9-68	AE-68	BARRICADE		N 5+00 W35+00
TA-9-69	AE-69	BARRICADE		N 5+00 W30+00
TA-9-70	AE-70	BARRICADE		0+00 W30+00
TA-9-71	AE-71	BARRICADE		N 5+00 W25+00
TA-9-72	AE-72	BARRICADE		N 5+00 W15+00
TA-9-73	AE-73	BARRICADE		0+00 W15+00
TA-9-74	AE-74	BARRICADE		0+00 W15+00
TA-9-75	AE-75	BARRICADE		S 5+00 W15+00
TA-9-76	AE-76		REMOVED 1952	
TA-9-77	AE-77		REMOVED 1952	
TA-9-78	AE-78		REMOVED 1952	
TA-9-79	AE-79		REMOVED 1952	
TA-9-80	AE-80		REMOVED 1952	
TA-9-81	AE-81	TANK, SEPTIC	ABANDONED 1970	N15+00 W45+00
TA-9-82	AE-82	MANHOLE, SANITARY	ABANDONED 1970	N15+00 W45+00
TA-9-83	AE-83		REMOVED 1965	
TA-9-84	AE-84		REMOVED 1965	
TA-9-85	AE-85		REMOVED 1965	
TA-9-86	AE-86		REMOVED 1965	
TA-9-87	AE-87		REMOVED 1965	
TA-9-88	AE-88		REMOVED 1955	
TA-9-89	AE-89		REMOVED 1965	
TA-9-90	AE-90		REMOVED 1965	
TA-9-91	AE-91		REMOVED 1965	
TA-9-92	AE-92		REMOVED 1965	
TA-9-93	AE-93		REMOVED 1965	
TA-9-94	AE-94		REMOVED 1965	
TA-9-95	AE-95		REMOVED 1965	
TA-9-96	AE-96		REMOVED 1965	
TA-9-97	AE-97		REMOVED 1965	
TA-9-98	AE-98		REMOVED 1965	
TA-9-99	AE-99		REMOVED 1965	
TA-9-100	AE-100		REMOVED 1965	
TA-9-101	AE-101		REMOVED 1965	
TA-9-102	AE-102		REMOVED 1965	
TA-9-103	AE-103		REMOVED 1962	
TA-9-104	AE-104	TRANSFORMER STATION		0+00W20+00
TA-9-105	AE-105	TANK	SEPTIC	N 5+00W45+00
TA-9-106	AE-106	TANK	SEPTIC	N 5+00W35+00
TA-9-107	AE-107	TANK	SEPTIC	N 5+00W30+00
TA-9-108	AE-108	TANK	SEPTIC	N 5+00W25+00
TA-9-109	AE-109	TANK	SEPTIC	S 5+00W20+00
TA-9-110	AE-110	TANK	SEPTIC	N 5+00W15+00
TA-9-111	AE-111	MANHOLE	SANITARY	N 5+00W45+00
TA-9-112	AE-112	MANHOLE	STEAM	N 5+00W45+00
TA-9-113	AE-113	MANHOLE	SANITARY	N 5+00W45+00
TA-9-114	AE-114	MANHOLE	INDUSTRIAL WASTE	N 5+00W45+00
TA-9-115	AE-115	MANHOLE	INDUSTRIAL WASTE	0+00W40+00
TA-9-116	AE-116	MANHOLE	SANITARY	0+00W40+00
TA-9-117	AE-117	MANHOLE	STEAM	N 5+00W40+00
TA-9-118	AE-118	MANHOLE	SANITARY	N 5+00W40+00
TA-9-119	AE-119	MANHOLE	INDUSTRIAL WASTE	N 5+00W40+00
TA-9-120	AE-120	MANHOLE	INDUSTRIAL WASTE	N 5+00W40+00
TA-9-121	AE-121	MANHOLE	INDUSTRIAL WASTE	N 5+00W35+00
TA-9-122	AE-122	MANHOLE	INDUSTRIAL WASTE	N 5+00W40+00
TA-9-123	AE-123	MANHOLE	SANITARY	N 5+00W40+00
TA-9-124	AE-124	MANHOLE	SANITARY	N 5+00W40+00
TA-9-125	AE-125	MANHOLE	STEAM	N 5+00W40+00
TA-9-126	AE-126		CANCELLED	
TA-9-127	AE-127	MANHOLE	SANITARY	N 5+00W40+00
TA-9-128	AE-128	MANHOLE	INDUSTRIAL WASTE	N 5+00W35+00
TA-9-129	AE-129	MANHOLE	SANITARY	N 5+00W35+00
TA-9-130	AE-130	MANHOLE	STEAM	0+00W35+00
TA-9-131	AE-131	MANHOLE	STEAM	0+00W35+00
TA-9-132	AE-132	MANHOLE	SANITARY	0+00W35+00
TA-9-133	AE-133	MANHOLE	INDUSTRIAL WASTE	N 5+00W30+00
TA-9-134	AE-134	MANHOLE	SANITARY	N 5+00W30+00
TA-9-135	AE-135	MANHOLE	INDUSTRIAL WASTE	N 5+00W30+00
TA-9-136	AE-136	MANHOLE	INDUSTRIAL WASTE	N 5+00W30+00
TA-9-137	AE-137	MANHOLE	SANITARY	N 5+00W30+00
TA-9-138	AE-138	MANHOLE	INDUSTRIAL WASTE	N 5+00W30+00
TA-9-139	AE-139	MANHOLE	STEAM	0+00W30+00
TA-9-140	AE-140	MANHOLE	SANITARY	0+00W30+00
TA-9-141	AE-141	MANHOLE	INDUSTRIAL WASTE	0+00W30+00
TA-9-142	AE-142	MANHOLE	INDUSTRIAL WASTE	0+00W35+00
TA-9-143	AE-143	MANHOLE	SANITARY	0+00W35+00
TA-9-144	AE-144	MANHOLE	INDUSTRIAL WASTE	0+00W35+00
TA-9-145	AE-145	MANHOLE	INDUSTRIAL WASTE	S 5+00W20+00
TA-9-146	AE-146	MANHOLE	SANITARY	S 5+00W20+00
TA-9-147	AE-147	MANHOLE	SANITARY	0+00W45+00
TA-9-148	AE-148	PUMPING STATION	STEAM	N 5+00W25+00
TA-9-149	AE-149	TRANSFORMER STATION		0+00W45+00
TA-9-150	AE-150	MANHOLE	WATER PRV	N 5+00W50+00
TA-9-151	AE-151	MANHOLE	GAS DRIP POT	N 5+00W50+00
TA-9-152	AE-152		CANCELLED	
TA-9-153	AE-153		CANCELLED	
TA-9-154	AE-154	MANHOLE	TELEPHONE, ELECTRICAL	N 5+00W30+00
TA-9-155	AE-155	MANHOLE	TELEPHONE, ELECTRICAL	N 5+00W30+00
TA-9-156	AE-156	MANHOLE	ELECTRICAL, TELEPHONE	0+00W35+00
TA-9-157	AE-157	MANHOLE	TELEPHONE, ELECTRICAL	N 5+00W45+00
TA-9-158	AE-158	MANHOLE	TELEPHONE, ELECTRICAL	N 5+00W35+00
TA-9-159	AE-159	MANHOLE	TELEPHONE, ELECTRICAL	0+00W35+00
TA-9-160	AE-160	MANHOLE	ELECTRICAL	0+00W15+00
TA-9-161	AE-161	MANHOLE	TELEPHONE, ELECTRICAL	N 5+00W35+00
TA-9-162	AE-162		REMOVED 1972	
TA-9-163	AE-163	ROAD BLOCK		N 5+00W40+00
TA-9-164	AE-164	ROAD BLOCK		N 5+00W40+00
TA-9-165	AE-165	ROAD BLOCK		N 5+00W35+00
TA-9-166	AE-166	ROAD BLOCK		N 5+00W40+00
TA-9-167	AE-167	ROAD BLOCK	RELOCATED TO TA-14-36	
TA-9-168	AE-168	ROAD BLOCK		N 5+00W30+00
TA-9-169	AE-169	ROAD BLOCK		N 5+00W25+00
TA-9-170	AE-170	ROAD BLOCK		0+00W30+00
TA-9-171	AE-171	ROAD BLOCK		0+00W35+00
TA-9-172	AE-172	ROAD BLOCK		0+00W35+00
TA-9-173	AE-173	ROAD BLOCK		0+00W40+00
TA-9-174	AE-174		REMOVED 1965	
TA-9-175	AE-175		REMOVED 1965	
TA-9-176	AE-176		REMOVED 1952	
TA-9-177	AE-177		REMOVED 1952	
TA-9-178	AE-178		REMOVED 1952	
TA-9-179	AE-179	MANHOLE	INDUSTRIAL WASTE	0+00W45+00
TA-9-180	AE-180		REMOVED 1945	
TA-9-181	AE-181	GUARD HOUSE	RELOCATED TO TA-15-208	
TA-9-182	AE-182		REMOVED 1965	
TA-9-183	AE-183	ROAD BLOCK		N 5+00W35+00
TA-9-184	AE-184	TANK	SETTLING, IND WASTE	0+00W45+00
TA-9-185	AE-185	TANK	SETTLING, IND WASTE	0+00W40+00
TA-9-186	AE-186	TANK	SETTLING, IND WASTE	0+00W35+00
TA-9-187	AE-187	TANK	SETTLING, IND WASTE	0+00W35+00
TA-9-188	AE-188	TANK	SETTLING, IND. WASTE	0+00W35+00
TA-9-189	AE-189	TANK	SETTLING, IND. WASTE	0+00W30+00
TA-9-190	AE-190	TANK	SETTLING, IND WASTE	0+00W25+00
TA-9-191	AE-191	TANK	SETTLING, IND WASTE	N 5+00W45+00
TA-9-192	AE-192	TANK	SETTLING, IND WASTE	N 5+00W40+00
TA-9-193	AE-193	TANK	SETTLING, IND WASTE	N 5+00W40+00
TA-9-194	AE-194	TANK	SETTLING, IND. WASTE	N 5+00W35+00
TA-9-195	AE-195	TANK	SETTLING, IND. WASTE	N 5+00W35+00
TA-9-196	AE-196	TANK	SETTLING, IND WASTE	N 5+00W35+00
TA-9-197	AE-197	TANK	SETTLING, IND. WASTE	N 5+00W30+00
TA-9-198	AE-198	TANK	SETTLING, IND WASTE	N 5+00W25+00
TA-9-199	AE-199		REMOVED 1952	
TA-9-200	AE-200	MANHOLE	INDUSTRIAL WASTE	0+00W45+00
TA-9-201	AE-201	MANHOLE	INDUSTRIAL WASTE	0+00W45+00
TA-9-202	AE-202	BASKET PIT	INDUSTRIAL WASTE	N 5+00W15+00
TA-9-203	AE-203		REMOVED 1965	
TA-9-204	AE-204	REFRIGERATOR SHELTER		0+00W45+00
TA-9-205	AE-205	MANHOLE	COMPRESSED AIR	N 5+00W40+00
TA-9-206	AE-206	WASTE CAN SHELTER		0+00W35+00
TA-9-207	AE-207	WASTE CAN SHELTER		N 5+00 W25+00
TA-9-208	AE-208	DAY MAGAZINE		N 5+00 W40+00
TA-9-209	AE-209	TRANSFORMER STATION		0+00 W20+00
TA-9-210	AE-210	MANIFOLD		N 5+00 W40+00
TA-9-211	AE-211	TANK	SEPTIC	N 15+00 W45+00
TA-9-212	AE-212	PIT	OXIDATION POND	N 15+00 W45+00
TA-9-213	AE-213	GATE (BARRICADE)		N 5+00 W35+00
TA-9-214	AE-214	STORAGE BLDG	FORMERLY TA-6-19	N 5+00 W45+00

REV	DATE	REVISION	BY	CKD	APP
15	8-18-83	REVISED TITLE BLOCK & DWG TO STATUS OF 7-26-83	HS		

UNIVERSITY OF CALIFORNIA

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-9 ANCHOR SITE EAST

SEC CLASSIFICATION
CLASS 4
REVIEWER
DATE 9-23-83

SUBMITTED
RECOMMENDED
APPROVED
DRAWN
CHECKED
DATE 8-18-83
SHEET NO 1 OF 2
DRAWING NO ENG-R 5107

Figure TA-9-1: Structure Location Plan for TA-9 - New Site Replacing Anchor East
(1983 Drawing from the LANL Technical Area Structure Location Plans)

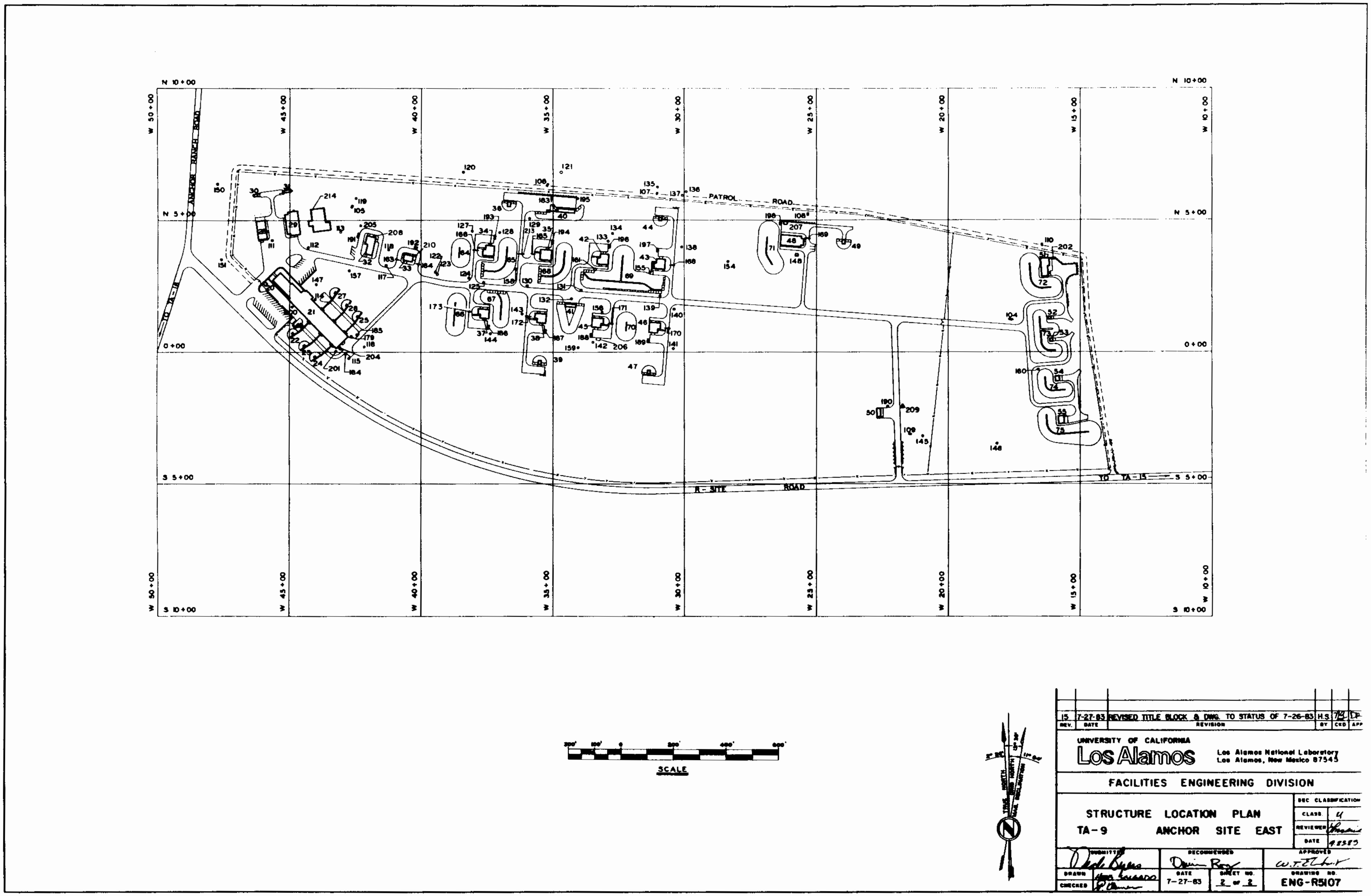


Figure TA-9-1: Structure Location Plan for TA-9 - New Site Replacing Anchor East
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-9-1	AE-1		REMOVED 1965	
TA-9-2	AE-2		REMOVED 1960	
TA-9-3	AE-3		REMOVED 1960	
TA-9-4	AE-4		REMOVED 1965	
TA-9-5	AE-5		REMOVED 1965	
TA-9-6	AE-6		REMOVED 1960	
TA-9-7	AE-7		REMOVED 1960	
TA-9-8	AE-8		REMOVED 1960	
TA-9-9	AE-9		REMOVED 1960	
TA-9-10	AE-10		REMOVED 1960	
TA-9-11	AE-11		REMOVED 1960	
TA-9-12	AE-12		REMOVED 1960	
TA-9-13	AE-13		REMOVED 1960	
TA-9-14	AE-14		REMOVED 1960	
TA-9-15	AE-15		REMOVED 1965	
TA-9-16	AE-16		REMOVED 1960	
TA-9-17	AE-17		REMOVED 1960	
TA-9-18	AE-18		REMOVED 1960	
TA-9-19	AE-19		REMOVED 1952	
TA-9-20	AE-20	GUARD HOUSE		N 5+00 W45+00
TA-9-21	AE-21	LABORATORY & OFFICE BLDG.		0+00 W45+00
TA-9-22	AE-22	MAGAZETTE		0+00 W45+00
TA-9-23	AE-23	MAGAZETTE		0+00 W45+00
TA-9-24	AE-24	MAGAZETTE		0+00 W45+00
TA-9-25	AE-25	MAGAZETTE		0+00 W40+00
TA-9-26	AE-26	MAGAZETTE		0+00 W40+00
TA-9-27	AE-27	MAGAZETTE		0+00 W45+00
TA-9-28	AE-28	SHOP BUILDING		N 5+00 W45+00
TA-9-29	AE-29	STOCK & EQUIPMENT BUILDING		N 5+00 W45+00
TA-9-30	AE-30	GAS STORAGE		N 5+00 W45+00
TA-9-31	AE-31	GAS STORAGE		N 5+00 W45+00
TA-9-32	AE-32	LABORATORY BUILDING		N 5+00 W40+00
TA-9-33	AE-33	LABORATORY BUILDING		N 5+00 W40+00
TA-9-34	AE-34	PROCESS LABORATORY		N 5+00 W35+00
TA-9-35	AE-35	PROCESS LABORATORY		N 5+00 W35+00
TA-9-36	AE-36	MAGAZINE		N 5+00 W35+00
TA-9-37	AE-37	PROCESS LABORATORY		0+00 W40+00
TA-9-38	AE-38	PROCESS LABORATORY		0+00 W35+00
TA-9-39	AE-39	MAGAZINE		0+00 W35+00
TA-9-40	AE-40	DRY HOUSE BUILDING		N 5+00 W35+00
TA-9-41	AE-41	COMFORT STATION BLDG.		0+00 W35+00
TA-9-42	AE-42	PROCESS LABORATORY		N 5+00 W35+00
TA-9-43	AE-43	PROCESS LABORATORY		N 5+00 W30+00
TA-9-44	AE-44	MAGAZINE		N 5+00 W30+00
TA-9-45	AE-45	PROCESS LABORATORY		0+00 W35+00
TA-9-46	AE-46	PROCESS LABORATORY		0+00 W30+00
TA-9-47	AE-47	MAGAZINE		0+00 W30+00
TA-9-48	AE-48	MACHINING BUILDING		N 5+00 W25+00
TA-9-49	AE-49	MAGAZINE		N 5+00 W25+00
TA-9-50	AE-50	RECEIVING & SHIPPING BLDG.		0+00 W25+00
TA-9-51	AE-51	ENVIRONMENTAL TEST CHAMBER		N 5+00 W15+00
TA-9-52	AE-52	MAGAZINE		0+00 W15+00
TA-9-53	AE-53	MAGAZINE		0+00 W15+00
TA-9-54	AE-54	MAGAZINE		0+00 W15+00
TA-9-55	AE-55	MAGAZINE		S 5+00 W15+00
TA-9-56	AE-56		REMOVED 1960	
TA-9-57	AE-57		REMOVED 1965	
TA-9-58	AE-58		REMOVED 1965	
TA-9-59	AE-59		REMOVED 1950	
TA-9-60	AE-60		REMOVED 1965	
TA-9-61	AE-61		REMOVED 1965	
TA-9-62	AE-62		REMOVED 1965	
TA-9-63	AE-63		REMOVED 1962	
TA-9-64	AE-64	BARRICADE		N 5+00 W40+00
TA-9-65	AE-65	BARRICADE		N 5+00 W35+00
TA-9-66	AE-66	BARRICADE		0+00 W40+00
TA-9-67	AE-67	BARRICADE		0+00 W35+00
TA-9-68	AE-68	BARRICADE		N 5+00 W35+00
TA-9-69	AE-69	BARRICADE		N 5+00 W30+00
TA-9-70	AE-70	BARRICADE		0+00 W30+00
TA-9-71	AE-71	BARRICADE		N 5+00 W25+00
TA-9-72	AE-72	BARRICADE		N 5+00 W15+00
TA-9-73	AE-73	BARRICADE		0+00 W15+00
TA-9-74	AE-74	BARRICADE		0+00 W15+00
TA-9-75	AE-75	BARRICADE		S 5+00 W15+00
TA-9-76	AE-76		REMOVED 1952	
TA-9-77	AE-77		REMOVED 1952	
TA-9-78	AE-78		REMOVED 1952	
TA-9-79	AE-79		REMOVED 1952	
TA-9-80	AE-80		REMOVED 1952	
TA-9-81	AE-81	TANK, SEPTIC	ABANDONED 1970	N 15+00 W45+00
TA-9-82	AE-82	MANHOLE	SANITARY	N 15+00 W45+00
TA-9-83	AE-83		REMOVED 1965	
TA-9-84	AE-84		REMOVED 1965	
TA-9-85	AE-85		REMOVED 1965	
TA-9-86	AE-86		REMOVED 1965	
TA-9-87	AE-87		REMOVED 1965	
TA-9-88	AE-88		REMOVED 1955	
TA-9-89	AE-89		REMOVED 1965	
TA-9-90	AE-90		REMOVED 1965	
TA-9-91	AE-91		REMOVED 1965	
TA-9-92	AE-92		REMOVED 1965	
TA-9-93	AE-93		REMOVED 1965	
TA-9-94	AE-94		REMOVED 1965	
TA-9-95	AE-95		REMOVED 1965	
TA-9-96	AE-96		REMOVED 1965	
TA-9-97	AE-97		REMOVED 1965	
TA-9-98	AE-98		REMOVED 1965	
TA-9-99	AE-99		REMOVED 1965	
TA-9-100	AE-100		REMOVED 1965	
TA-9-101	AE-101		REMOVED 1965	
TA-9-102	AE-102		REMOVED 1965	
TA-9-103	AE-103	TANK	REMOVED 1962	N 5+00 W15+00
TA-9-104	AE-104	TRANSFORMER STATION		0+00 W20+00
TA-9-105	AE-105	TANK	SEPTIC	N 5+00 W45+00
TA-9-106	AE-106	TANK	SEPTIC	N 5+00 W35+00
TA-9-107	AE-107	TANK	SEPTIC	N 5+00 W30+00
TA-9-108	AE-108	TANK	SEPTIC	N 5+00 W25+00
TA-9-109	AE-109	TANK	SEPTIC	S 5+00 W20+00
TA-9-110	AE-110	TANK	SEPTIC	N 5+00 W15+00
TA-9-111	AE-111	MANHOLE	SANITARY	N 5+00 W45+00
TA-9-112	AE-112	MANHOLE	STEAM	N 5+00 W45+00
TA-9-113	AE-113	MANHOLE	SANITARY	N 5+00 W45+00
TA-9-114	AE-114	MANHOLE	INDUSTRIAL WASTE	N 5+00 W45+00
TA-9-115	AE-115	MANHOLE	INDUSTRIAL WASTE	0+00 W40+00
TA-9-116	AE-116	MANHOLE	SANITARY	0+00 W40+00
TA-9-117	AE-117	MANHOLE	STEAM	N 5+00 W40+00
TA-9-118	AE-118	MANHOLE	SANITARY	N 5+00 W40+00
TA-9-119	AE-119	MANHOLE	INDUSTRIAL WASTE	N 5+00 W40+00
TA-9-120	AE-120	MANHOLE	INDUSTRIAL WASTE	N 5+00 W40+00
TA-9-121	AE-121	MANHOLE	INDUSTRIAL WASTE	N 5+00 W35+00
TA-9-122	AE-122	MANHOLE	INDUSTRIAL WASTE	N 5+00 W40+00
TA-9-123	AE-123	MANHOLE	SANITARY	N 5+00 W40+00
TA-9-124	AE-124	MANHOLE	SANITARY	N 5+00 W40+00
TA-9-125	AE-125	MANHOLE	STEAM	N 5+00 W40+00
TA-9-127	AE-127	MANHOLE	SANITARY	N 5+00 W40+00
TA-9-128	AE-128	MANHOLE	INDUSTRIAL WASTE	N 5+00 W35+00
TA-9-129	AE-129	MANHOLE	SANITARY	N 5+00 W35+00
TA-9-130	AE-130	MANHOLE	STEAM	0+00 W35+00
TA-9-131	AE-131	MANHOLE	STEAM	0+00 W35+00
TA-9-132	AE-132	MANHOLE	SANITARY	0+00 W35+00
TA-9-133	AE-133	MANHOLE	INDUSTRIAL WASTE	N 5+00 W30+00
TA-9-134	AE-134	MANHOLE	SANITARY	N 5+00 W30+00
TA-9-135	AE-135	MANHOLE	INDUSTRIAL WASTE	N 5+00 W30+00
TA-9-136	AE-136	MANHOLE	INDUSTRIAL WASTE	N 5+00 W30+00
TA-9-137	AE-137	MANHOLE	SANITARY	N 5+00 W30+00
TA-9-138	AE-138	MANHOLE	INDUSTRIAL WASTE	N 5+00 W30+00
TA-9-139	AE-139	MANHOLE	STEAM	0+00 W30+00
TA-9-140	AE-140	MANHOLE	SANITARY	0+00 W30+00
TA-9-141	AE-141	MANHOLE	INDUSTRIAL WASTE	0+00 W30+00
TA-9-142	AE-142	MANHOLE	INDUSTRIAL WASTE	0+00 W35+00
TA-9-143	AE-143	MANHOLE	SANITARY	0+00 W35+00
TA-9-144	AE-144	MANHOLE	INDUSTRIAL WASTE	0+00 W35+00
TA-9-145	AE-145	MANHOLE	INDUSTRIAL WASTE	S 5+00 W20+00
TA-9-146	AE-146	MANHOLE	SANITARY	S 5+00 W20+00
TA-9-147	AE-147	MANHOLE	SANITARY	0+00 W45+00
TA-9-148	AE-148	PUMPING STATION	STEAM	N 5+00 W25+00
TA-9-149	AE-149	TRANSFORMER STATION		0+00 W45+00
TA-9-150	AE-150	MANHOLE	WATER PRV	N 5+00 W50+00
TA-9-151	AE-151	MANHOLE	GAS DRIP POT	N 5+00 W50+00
TA-9-154	AE-154	MANHOLE	TELEPHONE	N 5+00 W30+00
TA-9-155	AE-155	MANHOLE	TELEPHONE	N 5+00 W30+00
TA-9-156	AE-156	MANHOLE	ELECTRICAL	0+00 W35+00
TA-9-157	AE-157	MANHOLE	TELEPHONE	N 5+00 W45+00
TA-9-158	AE-158	MANHOLE	TELEPHONE	N 5+00 W35+00
TA-9-159	AE-159	MANHOLE	TELEPHONE	0+00 W35+00
TA-9-160	AE-160	MANHOLE	ELECTRICAL	0+00 W15+00
TA-9-161	AE-161	MANHOLE	TELEPHONE	N 5+00 W35+00
TA-9-162	AE-162		REMOVED 1972	
TA-9-163	AE-163	ROAD BLOCK		N 5+00 W40+00
TA-9-164	AE-164	ROAD BLOCK		N 5+00 W40+00
TA-9-165	AE-165	ROAD BLOCK		N 5+00 W35+00
TA-9-166	AE-166	ROAD BLOCK		N 5+00 W40+00
TA-9-167	AE-167	ROAD BLOCK	RELOCATED TO TA-14-36	
TA-9-168	AE-168	ROAD BLOCK		N 5+00 W30+00
TA-9-169	AE-169	ROAD BLOCK		N 5+00 W25+00
TA-9-170	AE-170	ROAD BLOCK		0+00 W30+00
TA-9-171	AE-171	ROAD BLOCK		0+00 W35+00
TA-9-172	AE-172	ROAD BLOCK		0+00 W35+00
TA-9-173	AE-173	ROAD BLOCK		0+00 W40+00
TA-9-174	AE-174		REMOVED 1965	
TA-9-175	AE-175		REMOVED 1965	
TA-9-176	AE-176		REMOVED 1952	
TA-9-177	AE-177		REMOVED 1952	
TA-9-178	AE-178		REMOVED 1952	
TA-9-179	AE-179	MANHOLE	INDUSTRIAL WASTE	0+00 W45+00
TA-9-180	AE-180		REMOVED 1945	
TA-9-181	AE-181		REMOVED 1960	
TA-9-182	AE-182	TANK	REMOVED 1965	
TA-9-183	AE-183	ROAD BLOCK		N 5+00 W35+00
TA-9-184	AE-184	TANK	SETTLING, IND WASTE	0+00 W45+00
TA-9-185	AE-185	TANK	SETTLING, IND. WASTE	0+00 W40+00
TA-9-186	AE-186	TANK	SETTLING, IND WASTE	0+00 W35+00
TA-9-187	AE-187	TANK	SETTLING, IND. WASTE	0+00 W35+00
TA-9-188	AE-188	TANK	SETTLING, IND. WASTE	0+00 W35+00
TA-9-189	AE-189	TANK	SETTLING, IND. WASTE	0+00 W30+00
TA-9-190	AE-190	TANK	SETTLING, IND WASTE	0+00 W25+00
TA-9-191	AE-191	TANK	SETTLING, IND WASTE	N 5+00 W45+00
TA-9-192	AE-192	TANK	SETTLING, IND WASTE	N 5+00 W40+00
TA-9-193	AE-193	TANK	SETTLING, IND WASTE	N 5+00 W40+00
TA-9-194	AE-194	TANK	SETTLING, IND. WASTE	N 5+00 W35+00
TA-9-195	AE-195	TANK	SETTLING, IND. WASTE	N 5+00 W35+00
TA-9-196	AE-196	TANK	SETTLING, IND. WASTE	N 5+00 W35+00
TA-9-197	AE-197	TANK	SETTLING, IND. WASTE	N 5+00 W30+00
TA-9-198	AE-198	TANK	SETTLING, IND WASTE	N 5+00 W25+00
TA-9-199	AE-199	TANK	SETTLING, REMOVED 1952	
TA-9-200	AE-200	MANHOLE	INDUSTRIAL WASTE	0+00 W45+00
TA-9-201	AE-201	MANHOLE	INDUSTRIAL WASTE	0+00 W45+00
TA-9-202	AE-202	BASKET PIT	INDUSTRIAL WASTE	N 5+00 W15+00
TA-9-203	AE-203	TANK	SEPTIC, REMOVED 1965	
TA-9-204	AE-204	REFRIGERATOR SHELTER		0+00 W45+00
TA-9-205	AE-205	MANHOLE	COMPRESSED AIR	N 5+00 W40+00
TA-9-206	AE-206	WASTE CAN SHELTER		0+00 W40+00
TA-9-207	AE-207	WASTE CAN SHELTER		N 5+00 W25+00
TA-9-208	AE-208	DAY MAGAZINE		N 5+00 W40+00
TA-9-209	AE-209	TRANSFORMER STATION		0+00 W20+00
TA-9-210	AE-210	MANIFOLD		N 5+00 W40+00
TA-9-211	AE-211	TANK	SEPTIC	N 15+00 W45+00
TA-9-212	AE-212	PIT	OXIDATION	N 15+00 W45+00
TA-9-213	AE-213	GATE (BARRICADE)		N 5+00 W35+00

Figure TA-9-2: Structure Location Plan for TA-9 - New Site Replacing Anchor East (1961 Drawing from the LANL Technical Area Structure Location Plans)

REVIEWER W. D. Hinke
CLASS u DATE 7/26/22

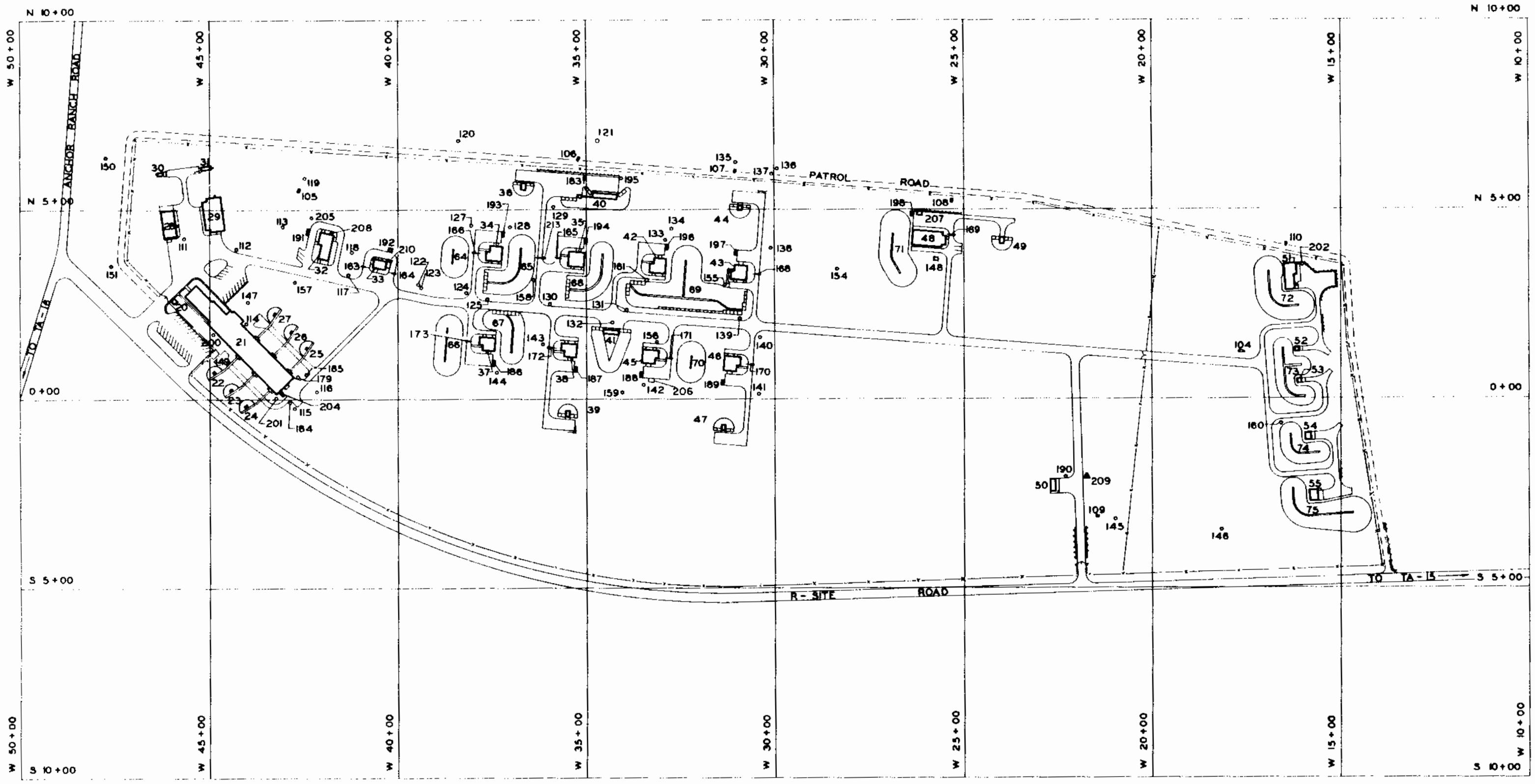
NO	DATE	REVISIONS	BY	CHKD	GRP LDR	D. O.
14	4-15-77	REVISED DWG NO. (FORMERLY R2423)	MM			
13	1-19-73	REVISED TO STATUS OF 1-19-73	DAD			
12	9-16-71	REVISED TO STATUS OF 9-16-71	DAD			
11	8-7-69	REVISED TO STATUS OF 8-7-69	DAD			
10	10-18-65	REVISED TO STATUS OF 4-18-65	ERW			
9	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R 123)	JEJ			

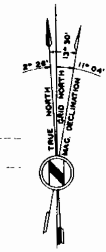
AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-9 ANCHOR SITE EAST

CHECKED: PROJ. ENG.
RECOMMENDED: GROUP LEADER
APPROVED: ENG. DEPT. OFFICE
DESIGNER
DRAWN: JOHNSON
SCALE: NONE
DATE: 8-15-61
SHEET NO. 1
DRAWING NO. ENG-R 5107





REVIEWER M. D. Linke

CLASS u DATE 7/28/72

NO.	DATE	REVISIONS	BY	CHKD	GRP. LDR.	ENG. D. O.
14	4-15-77	REVISED DWG NO. (FORMERLY R2424)	M.M.			
13	1-19-73	REVISED PER LASL W/O NOS 6-9602-06 5-307-06	DAD			
12	9-15-71	REVISED TO STATUS OF 9-15-71	DAD			
11	8-6-69	REVISED TO STATUS OF 8-6-69	DAD			
10	10-18-65	REVISED TO STATUS OF 4-18-65	ERW			
9	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R 124)	DPH			

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

STRUCTURE LOCATION PLAN
TA-9 ANCHOR SITE EAST

CHECKED PROJ. ENG.	RECOMMENDED GROUP LEADER	APPROVED ENG DEPT OFFICE
DESIGNER	DATE 8-15-61	DRAWING NO.
DRAWN D. P. HÖHNER	SHEET NO. 2	ENG-R 5107
SCALE AS NOTED		

Figure TA-9-2: Structure Location Plan for TA-9 - New Site Replacing Anchor East (1961 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-9-1	AE-1	LABORATORY (ABANDONED)
TA-9-2	AE-2	DARKROOM-BOILER PL. (ABANDONED)
TA-9-3	AE-3	MIX & HYDR. PRESS (ABANDONED)
TA-9-4	AE-4	FIRING CHAMBER (ABANDONED)
TA-9-5	AE-5	FIRING CHAMBER (ABANDONED)
TA-9-6	AE-6	MAGAZINE (ABANDONED)
TA-9-7	AE-7	STORAGE (ABANDONED)
TA-9-8	AE-8	STORAGE (ABANDONED)
TA-9-9	AE-9	TRIMMING BLDG. (ABANDONED)
TA-9-10	AE-10	TRIMMING BLDG. (ABANDONED)
TA-9-11	AE-11	MAGAZINE (ABANDONED)
TA-9-12	AE-12	PERSONNEL SHELTER (ABANDONED)
TA-9-13	AE-13	PRESS BLDG (ABANDONED)
TA-9-14	AE-14	LABORATORY (ABANDONED)
TA-9-15	AE-15	RECOVERY PIT (ABANDONED)
TA-9-16	AE-16	PUMP HOUSE (ABANDONED)
TA-9-17	AE-17	COVERED WALK (ABANDONED)
TA-9-18	AE-18	MAGAZINE (ABANDONED)
TA-9-19	AE-19	OVEN (REMOVED) 1954
TA-9-20	AE-20	GUARD HOUSE (STATION 523)
TA-9-21	AE-21	LABORATORY & OFFICE BLDG.
TA-9-22	AE-22	MAGAZETTE
TA-9-23	AE-23	MAGAZETTE
TA-9-24	AE-24	MAGAZETTE
TA-9-25	AE-25	MAGAZETTE
TA-9-26	AE-26	MAGAZETTE
TA-9-27	AE-27	MAGAZETTE
TA-9-28	AE-28	SHOP BLDG.
TA-9-29	AE-29	STOCK & EQUIPMENT BLDG.
TA-9-30	AE-30	GAS STORAGE
TA-9-31	AE-31	GAS STORAGE
TA-9-32	AE-32	LABORATORY BLDG.
TA-9-33	AE-33	LABORATORY BLDG.
TA-9-34	AE 34	PROCESS LABORATORY
TA-9-35	AE-35	PROCESS LABORATORY
TA-9-36	AE-36	MAGAZINE
TA-9-37	AE-37	PROCESS LABORATORY
TA-9-38	AE-38	PROCESS LABORATORY
TA-9-39	AE-39	MAGAZINE
TA-9-40	AE-40	DRY HOUSE BLDG.
TA-9-41	AE-41	COMFORT STATION BLDG.
TA-9-42	AE-42	PROCESS LABORATORY
TA-9-43	AE-43	PROCESS LABORATORY
TA-9-44	AE-44	MAGAZINE
TA-9-45	AE-45	PROCESS LABORATORY
TA-9-46	AE-46	PROCESS LABORATORY
TA-9-47	AE-47	MAGAZINE
TA-9-48	AE-48	MACHINING BLDG.
TA-9-49	AE-49	MAGAZINE
TA-9-50	AE-50	RECEIVING & SHIPPING
TA-9-51	AE-51	ENVIRONMENTAL TEST CHAMBER
TA-9-52	AE-52	MAGAZINE
TA-9-53	AE-53	MAGAZINE
TA-9-54	AE-54	MAGAZINE
TA-9-55	AE-55	MAGAZINE
TA-9-56	AE-56	CONTROL SHACK (ABANDONED)
TA-9-57	AE-57	BARRICADE (ABANDONED)
TA-9-58	AE-58	X-UNIT CHAMBER (ABANDONED)
TA-9-59	AE-59	ROAD BLOCK (REMOVED)
TA-9-60	AE-60	ROAD BLOCK (ABANDONED)
TA-9-61	AE-61	ROAD BLOCK (ABANDONED)
TA-9-62	AE-62	BASKET WASHING FACILITIES (ABANDONED)
TA-9-63	AE-63	BARRICADE (ABANDONED)
TA-9-64	AE-64	BARRICADE
TA-9-65	AE-65	BARRICADE
TA-9-66	AE-66	BARRICADE
TA-9-67	AE-67	BARRICADE
TA-9-68	AE-68	BARRICADE
TA-9-69	AE-69	BARRICADE
TA-9-70	AE-70	BARRICADE
TA-9-71	AE-71	BARRICADE
TA-9-72	AE-72	BARRICADE
TA-9-73	AE-73	BARRICADE
TA-9-74	AE-74	BARRICADE
TA-9-75	AE-75	BARRICADE
TA-9-76	AE-76	LABORATORY (FORMERLY NU-4) (REMOVED) 1952
TA-9-77	AE-77	OFFICE BLDG. (FORMERLY NU-3) (REMOVED) 1952
TA-9-78	AE-78	MAGAZINE (FORMERLY NU-2) (REMOVED) 1952
TA-9-79	AE-79	LABORATORY (FORMERLY NU-1) (REMOVED) 1952

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-9-80	AE-80	ROAD BLOCK (FORMERLY NU-5) (REMOVED) 1952
TA-9-81	AE-81	SEPTIC TANK (SANITARY SEWER)
TA-9-82	AE-82	MANHOLE (SANITARY SEWER)
TA-9-83	AE-83	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-84	AE-84	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-85	AE-85	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-86	AE-86	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-87	AE-87	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-88	AE-88	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-89	AE-89	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-90	AE-90	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-91	AE-91	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-92	AE-92	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-93	AE-93	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-94	AE-94	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-95	AE-95	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-96	AE-96	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-97	AE-97	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-98	AE-98	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-99	AE-99	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-100	AE-100	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-101	AE-101	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-102	AE-102	MANHOLE (ELECTRICAL) (ABANDONED)
TA-9-103	AE-103	BUTANE TANK
TA-9-104	AE-104	TRANSFORMER STATION
TA-9-105	AE-105	SEPTIC TANK (SANITARY SEWER)
TA-9-106	AE-106	SEPTIC TANK (SANITARY SEWER)
TA-9-107	AE-107	SEPTIC TANK (SANITARY SEWER)
TA-9-108	AE-108	SEPTIC TANK (SANITARY SEWER)
TA-9-109	AE-109	SEPTIC TANK (SANITARY SEWER)
TA-9-110	AE-110	SEPTIC TANK (SANITARY SEWER)
TA-9-111	AE-111	MANHOLE (SANITARY SEWER)
TA-9-112	AE-112	MANHOLE (STEAM)
TA-9-113	AE-113	MANHOLE (SANITARY SEWER)
TA-9-114	AE-114	MANHOLE (INDUSTRIAL WASTE)
TA-9-115	AE-115	MANHOLE (INDUSTRIAL WASTE)
TA-9-116	AE-116	MANHOLE (SANITARY SEWER)
TA-9-117	AE-117	MANHOLE (STEAM)
TA-9-118	AE-118	MANHOLE (SANITARY SEWER)
TA-9-119	AE-119	MANHOLE (SANITARY SEWER)
TA-9-120	AE-120	MANHOLE (SANITARY SEWER)
TA-9-121	AE-121	MANHOLE (SANITARY SEWER)
TA-9-122	AE-122	MANHOLE (INDUSTRIAL WASTE)
TA-9-123	AE-123	MANHOLE (SANITARY SEWER)
TA-9-124	AE-124	MANHOLE (SANITARY SEWER)
TA-9-125	AE-125	MANHOLE (STEAM)
TA-9-126	AE-126	RESERVE
TA-9-127	AE-127	MANHOLE (SANITARY SEWER)
TA-9-128	AE-128	MANHOLE (INDUSTRIAL WASTE)
TA-9-129	AE-129	MANHOLE (SANITARY SEWER)
TA-9-130	AE-130	MANHOLE (STEAM)
TA-9-131	AE-131	MANHOLE (STEAM)
TA-9-132	AE-132	MANHOLE (SANITARY SEWER)
TA-9-133	AE-133	MANHOLE (INDUSTRIAL WASTE)
TA-9-134	AE-134	MANHOLE (SANITARY SEWER)
TA-9-135	AE-135	MANHOLE (INDUSTRIAL WASTE)
TA-9-136	AE-136	MANHOLE (INDUSTRIAL WASTE)
TA-9-137	AE-137	MANHOLE (SANITARY SEWER)
TA-9-138	AE-138	MANHOLE (INDUSTRIAL WASTE)
TA-9-139	AE-139	MANHOLE (STEAM)
TA-9-140	AE-140	MANHOLE (SANITARY SEWER)
TA-9-141	AE-141	MANHOLE (INDUSTRIAL WASTE)
TA-9-142	AE-142	MANHOLE (INDUSTRIAL WASTE)
TA-9-143	AE-143	MANHOLE (SANITARY SEWER)
TA-9-144	AE-144	MANHOLE (INDUSTRIAL WASTE)
TA-9-145	AE-145	MANHOLE (SANITARY SEWER)
TA-9-146	AE-146	MANHOLE (SANITARY SEWER)
TA-9-147	AE-147	MANHOLE (SANITARY SEWER)
TA-9-148	AE-148	PUMPING STATION (STEAM)
TA-9-149	AE-149	TRANSFORMER STATION
TA-9-150	AE-150	MANHOLE (WATER PRV)
TA-9-151	AE-151	MANHOLE (GAS DRIP POT)
TA-9-152	AE-152	RESERVE
TA-9-153	AE-153	MANHOLE (NEVER BUILT)
TA-9-154	AE-154	MANHOLE (ELECTRICAL)
TA-9-155	AE-155	MANHOLE (ELECTRICAL)
TA-9-156	AE-156	MANHOLE (ELECTRICAL)
TA-9-157	AE-157	MANHOLE (ELECTRICAL)
TA-9-158	AE-158	MANHOLE (ELECTRICAL)

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-9-159	AE-159	MANHOLE (ELECTRICAL)
TA-9-160	AE-160	MANHOLE (ELECTRICAL)
TA-9-161	AE-161	MANHOLE (ELECTRICAL)
TA-9-162	AE-162	WIGWAG
TA-9-163	AE-163	ROAD BLOCK
TA-9-164	AE-164	ROAD BLOCK
TA-9-165	AE-165	ROAD BLOCK
TA-9-166	AE-166	ROAD BLOCK
TA-9-167	AE-167	ROAD BLOCK
TA-9-168	AE-168	ROAD BLOCK
TA-9-169	AE-169	ROAD BLOCK
TA-9-170	AE-170	ROAD BLOCK
TA-9-171	AE-171	ROAD BLOCK
TA-9-172	AE-172	ROAD BLOCK
TA-9-173	AE-173	ROAD BLOCK
TA-9-174	AE-174	BARRICADE
TA-9-175	AE-175	MANHOLE (ABANDONED)
TA-9-176	AE-176	CAMERA MOUNT (FORMERLY NU-6) (REMOVED) 1952
TA-9-177	AE-177	MANHOLE (FORMERLY NU-8) (REMOVED) 1952
TA-9-178	AE-178	MANHOLE (FORMERLY NU-9) (REMOVED) 1952
TA-9-179	AE-179	MANHOLE (SANITARY SEWER)
TA-9-180	AE-180	TRANSFORMER STATION (FORM. NU-7) (REM.)
TA-9-181	AE-181	GUARD HOUSE (ABANDONED)
TA-9-182	AE-182	FUEL TANK (ABANDONED)
TA-9-183	AE-183	ROAD BLOCK
TA-9-184	AE-184	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-185	AE-185	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-186	AE-186	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-187	AE-187	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-188	AE-188	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-189	AE-189	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-190	AE-190	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-191	AE-191	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-192	AE-192	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-193	AE-193	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-194	AE-194	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-195	AE-195	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-196	AE-196	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-197	AE-197	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-198	AE-198	SETTLING TANK (INDUSTRIAL WASTE)
TA-9-199	AE-199	SETTLING TANK (REMOVED) 1951
TA-9-200	AE-200	MANHOLE (INDUSTRIAL WASTE)
TA-9-201	AE-201	MANHOLE (INDUSTRIAL WASTE)
TA-9-202	AE-202	BASKET PIT
TA-9-203	AE-203	SEPTIC TANK (ABANDONED)

Figure TA-9-3: Structure Location Plan for TA-9 - New Site Replacing Anchor East (1955 Drawing from the LANL Technical Area Structure Location Plans)

NO.	DATE	REVISIONS	BY	CHKD	GRP. LDR.	ENG. D.O.
8	7-1-57	REVISED TO STATUS OF 7-1-57	DDS	JAS		
7		ENG-R124 REDRAWN AS ENG-R 123 AND ENG-R 124	HOB	JAS		

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-9 ANCHOR SITE EAST

CHECKED: DESIGNER — RECOMMENDED: GROUP LEADER — APPROVED: ENG. DEPT. OFFICE

DRAWN: N. BYERS — DATE: 11/8/55 — DRAWING NO.: ENG- R 123
SCALE: NONE — SHEET: 1 of 2

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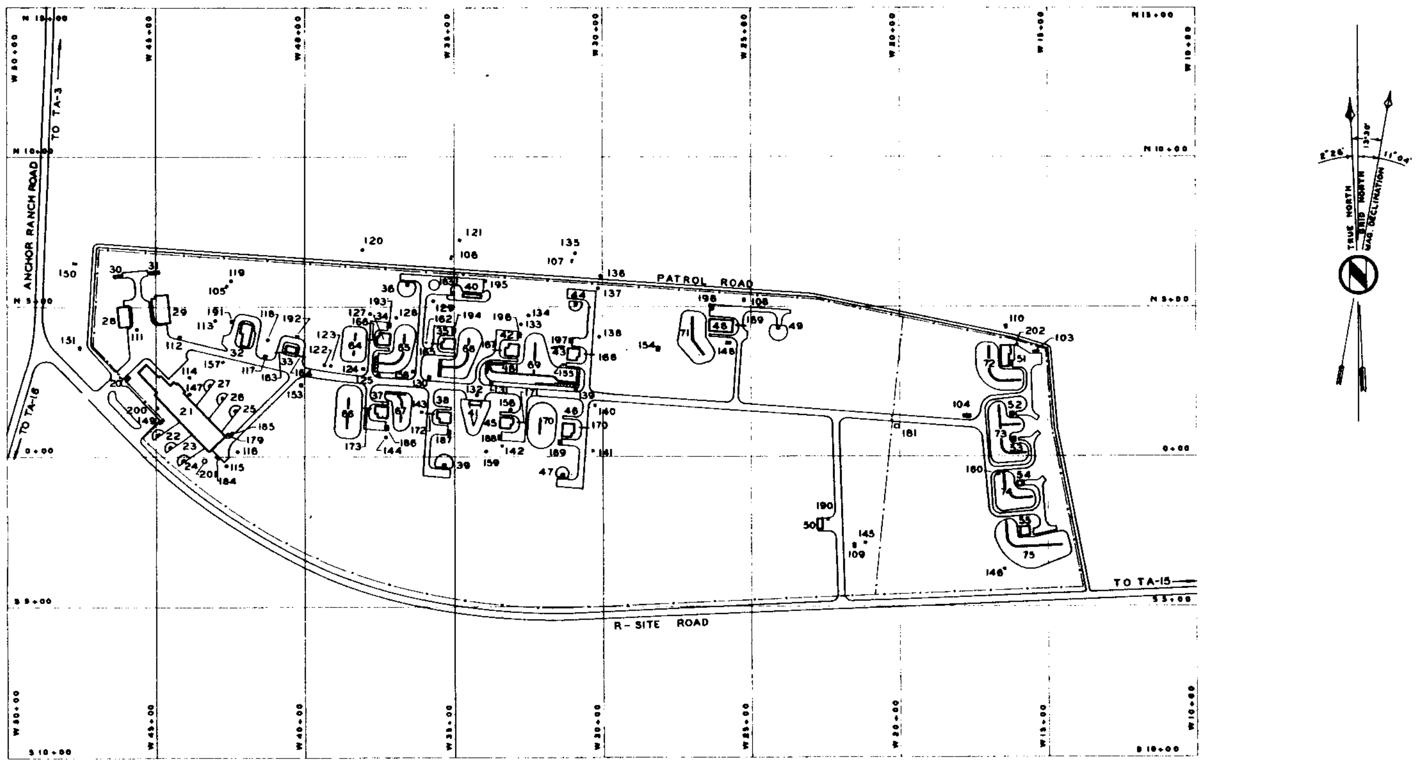

Figure TA-9-3: Structure Location Plan for TA-9 - New Site Replacing Anchor East
(1955 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

8	7-1-57	REVISED TO STATUS OF 7-1-57		
7		ENG-R124 REDRAWN AS ENG-R 123 AND ENG-R 124		
NO.	DATE	REVISIONS	BY	

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-9 ANCHOR SITE EAST

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

DRAWN: N. BYERS — DATE: 11/8/55
SCALE: 1" = 200' — SHEET: 2 of 2
ENG- R 124

TA-9(AE) - ANCHOR SITE EAST

CURRENT OPERATIONS

The Anchor Site East, often called TA-9 in early records, has not been used since the early 1950s, when a new TA-9 was built less than a mile from Anchor East. The area has been decommissioned and there are no buildings at the site.

POTENTIAL CERCLA/RCRA SITES

Anchor Ranch was very active during the war years. An x-ray facility, eventually designated TA-9-1, was located there to study implosions of small spherical charges. Estimates were that by December 1943, experimental work would be carried out at a full rate of 60 shots per week on 3/4- and 1-1/2-in. steel spheres, with a total of 500 shots expected (Anonymous 1943). Whether these plans were actually carried out is not known. A high-speed, rotating prism camera, used for implosion studies, was also located at TA-9-1. The building had both a closed and an open firing chamber. In September 1944, some of the rotating prism camera work in the open chamber was moved to TA-14 (Greisen 1944).

Plans were to have flash photography of implosions of large and medium cylindrical charges on steel tubing at the Far Detonation Point, TA-9-4 and -5, where several 500-lb shots on steel cylinders were fired (Kistiakowsky 1944). Shots of explosive lens systems weighing 125 lbs were fired regularly. A rotating prism camera was included in the equipment in this area.

TA-9-3 was a high-explosive casting facility. It was also the setting for magazines, solvent storage, explosives machining, explosives processing, and chemical pilot plants. Hazardous materials used have included solvents, acid baths, plasticizers, uranium, cyanogen, and various organics used in preparing high explosive.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the

CEARP Phase IIA Monitoring Plan for TA-9(AE). CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-9(AE) is 2.7 (Appendix B).

FIGURES

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TABLE TA-9(AE) - POTENTIAL CERCLA/RCRA SITES

TA9(AE)-1-CA-I-HW/RW (Firing sites)

Background--Group X-8 was responsible for field testing explosives charges, and in the 1940s, the firing areas for this group were at TA-9, Anchor Site East, and TA-14 (LASL 1947a:17). Anchor Site East was described in 1947 as a collection of temporary and semipermanent structures. Work close to the Anchor Ranch road involved explosive manufacturing and x-ray facilities for detonations. In addition, two large firing areas were located several hundred yards east in an open meadow (LASL 1947b:8-9).

Records indicate that during 1944, an average of 50 charges a week were being fired at Anchor Ranch (Greisen 1944). The charges were apparently being fired in the x-ray building, AE-1, where small shots were fired. This building had a closed x-ray chamber and a larger open chamber (Kistiakowsky 1944). One of the firing areas to the east was known as "Far Point" and it consisted of two firing sites, AE-4 and AE-5, as shown on engineering drawing A5-R29, dated 1947. In 1944, steel, torpex, tamped tetryl, composition B, pentolite, and aluminum were used in shots being fired at Far Point (Hoffman 1944). Depleted uranium and tungsten carbide were also apparently used.

It is also reported that in 1944, shots were taking place in "the pit," a hexagonal steel-lined pit with a heavy roof. A 1947 drawing, A5-R29, locates this pit northeast of Far Point. No information was found on what was fired here, but charges fired appeared to be smaller than at Far Detonation Point (Kistiakowsky 1944).

Undated engineering records indicate that TA-9-4 and TA-9-5 were abandoned on December 18, 1959. Recovery pit TA-9-15 was reported to have been abandoned on December 18, 1960.

In 1965, it was reported that there were three hazardous areas in TA-9-1: 1) the vacuum line, floor, and floor drains and associated piping in room 2, which had high explosive contamination, 2) the center firing chamber surrounded by steel plate and concrete, and 3) the west firing chamber. Both firing chambers had approximately 15,000 counts/min alpha and 7 mR/hr beta-gamma. When the building was removed, combustibles were to be burned in an area to the east of the site and material contaminated with high explosive was to be burned in a separate pile. The firing chamber liners were to be placed in the radioactive disposal pit. All noncombustible, noncontaminated material was to be deposited in the canyon north of TA-16-387. High-explosive drains were to be handled in a special manner and, if necessary, washed. If high explosive existed, the drains were to be buried in the high-explosive burial pit (Safety Office 1965a). The locations of the radioactive disposal pit and the high-explosive burial pit are not known.

Engineering drawing ENG-R5107 notes that TA-9-1 was removed in 1965. The same drawing also notes that TA-9-4, -5, and -15 were removed in 1963. The extent of cleanup at these firing sites is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will be conducted to determine the extent of environmental residuals of concern.

TA9(AE)-2-CA-I-HW/RW (Burning areas)

Background--In a 1949 property appraisal, a burn pit is listed and described as an irregularly shaped excavation of earth approximately 20 ft wide, 40 ft long, and 3 ft deep used to burn or destroy classified material and other material unfit for use (LASL 1949). On July 16, 1950, it was reported that there was "a small fire in the burning pit east of Anchor Ranch," (H Division 1950). Where this pit was located is not known.

As indicated in the description of the decommissioning of this site, old combustible parts of the site were piled up and burned in a region east of the site. Whether this was near the 1949 burning pit is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will be conducted to determine the presence of environmental residuals of concern in burning areas.

TA9(AE)-3-CA/ST/S-I-HW (Development and manufacture of explosives)

Background--In the late 1940s, Group X-2 was responsible for developing and producing new explosives. Laboratory space used by this group included part of Anchor Ranch East. Group X-6, responsible for studies in detonation physics, also occupied part of this area (LASL 1947a:16). Undated engineering files list AE-2 as a photo darkroom and boiler plant; AE-3 as a remote-control mixing and hydraulic press; AE-6, AE-11, and AE-18 as magazines; AE-7 and AE-8 as storage; AE-9 and AE-10 as trimming buildings; AE-12 as a personnel shelter; AE-13 as a machine shop for explosives; AE-14 as a large-scale laboratory building; AE-16 as a pump building; and AE-19 as an oven-containing building. In 1959, all of these buildings were reported to be contaminated with high explosive, and TA-9-1 and -3 were reported to have radioactive contamination (LASL 1959). It is anticipated that the drains and sumps were also contaminated with high explosive. An employee recalled that the sanitary sewage system contained high explosive (James 1959).

Apparently AE-19 was removed in 1952. The other buildings were burned in January 1960, according to undated engineering files. Then, in 1965, a decision was apparently made to remove the unburned residues. The sump and drain lines of TA-9-1, -2, -3. -13, and -14 were recognized to be highly contaminated with high explosive, and a crane was brought in to remove pipe and sumps. Items highly contaminated with high explosive were washed before being disposed of in a high-explosive burial pit (location not known, but probably at TA-54), whereas slightly contaminated items were probably disposed of in the same high-explosive burial pit without further treatment. The remaining combustibles were apparently burned. Instructions were to deposit noncombustible material in the canyon north of TA-16-387 on top of existing debris at Material Disposal Area P (Courtright 1965, Safety Office 1965b). No mention is made about removing the septic tank. Recently, Los Alamos staff reported that a utility line was installed through the old Anchor East site and that pipes and other debris were uncovered.

Engineering file 1757 has an undated note indicating a "disposal field." According to the note, the disposal field is probably a seepage pit, but no other records have been found of a possible seepage pit at Anchor Ranch East.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will be conducted to determine the presence of high-explosive residuals of concern in the environment.

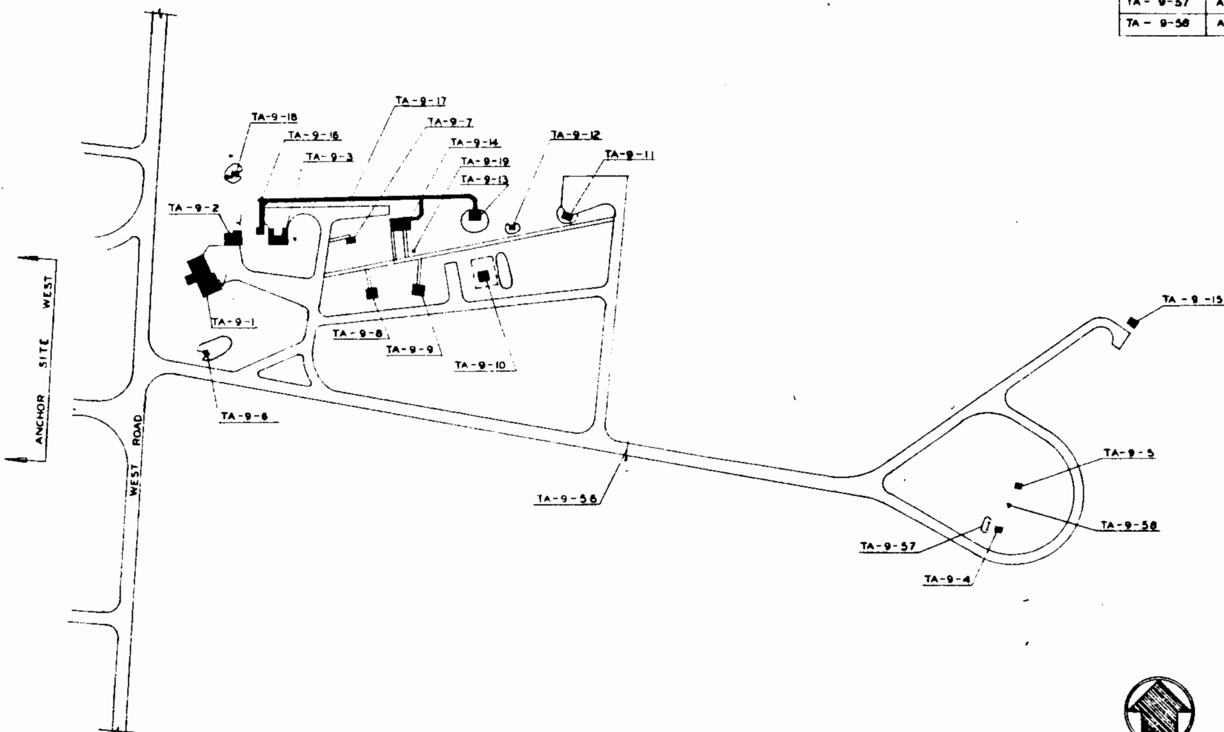
TA9(AE)-4-L-I-HW/RW (Landfill)

Background--The possibility that a waste pit for contaminated materials exists "on the high side of TA-9" is raised in engineering file 1757. Whether this was Anchor East or the "new" TA-9 is not known, nor is the location indicated by "high side," (Russo n.d.). "High side" might mean the area northwest of Far Point, near the edge of the mesa.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will be conducted in an effort to locate the landfill.

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-9-1	AE-1	FORMERLY BUILDING A-2, LABORATORY
TA-9-2	AE-2	" " BUILDING A-2A, DARKROOM-BOILER PL.
TA-9-3	AE-3	" " BUILDING A-3, MIX. & HYDR. PRESS
TA-9-4	AE-4	" " BUILDING A-6, FIRING CHAMBER
TA-9-5	AE-5	" " BUILDING A-7, FIRING CHAMBER.
TA-9-6	AE-6	" " BUILDING A-12, MAGAZINE
TA-9-7	AE-7	" " BUILDING A-13, STORAGE
TA-9-8	AE-8	" " BUILDING A-14, STORAGE
TA-9-9	AE-9	" " BUILDING A-15, TRIMMING BLDG
TA-9-10	AE-10	" " BUILDING A-16, TRIMMING BLDG
TA-9-11	AE-11	" BUILDING A-17, MAGAZINE
TA-9-12	AE-12	" " BUILDING A-18, PERS. SHELTER
TA-9-13	AE-13	" " BUILDING A-19, MACHINE SHOP
TA-9-14	AE-14	" " BUILDING A-20, LABORATORY
TA-9-15	AE-15	" " BUILDING A-23, RECOVERY PIT
TA-9-16	AE-16	" " BUILDING A-25, PUMP HOUSE
TA-9-17	AE-17	" " A-24, COVERED WALK
TA-9-18	AE-18	" " BUILDING A-21, MAGAZINE
TA-9-19	AE-19	" " BUILDING A-22, OVEN
TA-9-20 THRU TA-9-55		RESERVED
TA-9-56	AE-56	ROAD BLOCK
TA-9-57	AE-57	BARRICADE
TA-9-58	AE-58	X-UNIT CHAMBER



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AUTHORIZED FOR	LOS ALAMOS SCIENTIFIC LABORATORY DEPARTMENT OF ENGINEERING—CONSTRUCTION & MAINTENANCE GROUP
HEALTH SAFETY FIRE PR. COMM. SEC.	STRUCTURE LOCATION PLAN TA-9 ANCHOR SITE EAST

REV.	SCALE	DRAWN BY GRS	DATE	DWG. NO.
0	1" = 100'	CHKD. BY	DATE	ENG4-R124
		APPVD. BY	DATE	

Figure TA-9(AE)-1: Structure Location Plan for TA-9(AE) - Anchor Site East
(1950 Drawing from the LANL Technical Area Structure Location Plans)

TA-10 - BAYO CANYON SITE

CURRENT OPERATIONS

The Bayo Canyon Site is no longer used as a Laboratory technical area. Work ceased there between 1961 and 1963, when the site was decommissioned and decontaminated. It currently belongs to the county of Los Alamos, but because of its history, portions of it are reserved for restricted use under an agreement with DOE.

POTENTIAL CERCLA/RCRA SITES

A concerted effort has been made to clean up the Bayo Canyon Site, beginning with a massive decommissioning and decontamination in 1963, and including periodic surface sweeps and a resurvey under the Formerly Utilized Sites Remedial Action Program (FUSRAP) in the mid-1970's.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-10. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-10 is 9.0 (Appendix B).

FIGURES

Figure TA-10-1: Structure Location Plan for TA-10 - Bayo Canyon Site (1954)

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TABLE TA-10 - POTENTIAL CERCLA/RCRA SITES

TA10-1-CA-I-HW/RW (Firing sites)

Background--In September 1944, Bayo Canyon came into use for firing experiments (LASL 1947:9). The firing areas were at two locations in the canyon with two firing points at each location, according to engineering drawing ENG-R125. The southeast location included x-unit chamber TA-10-22 and electronics chamber TA-10-23 for firing point 1, and x-unit chamber TA-10-24 and electronics chamber TA-10-25 for firing point 2. Associated control building TA-10-13 and battery building TA-10-14 served both 1 and 2. The northwest location included x-unit chamber TA-10-26 and electronics chamber TA-10-27 for firing point 3, and x-unit chamber TA-10-28 and electronics chamber TA-10-29 for firing point 4; associated control building TA-10-15 and battery building TA-10-16 were used for 3 and 4.

The shots fired included natural and depleted uranium surrounded by high explosive, with radioactive lanthanum acting as a source in most shots. Strontium-90, a contaminant, was associated with the radioactive lanthanum. It is estimated that from 1944 until 1961, when firing ceased, approximately 2,000 kg of natural uranium and 3,380 kg of depleted uranium were released. The maximum strontium-90 released has been estimated at 39.6 Ci (DOE 1979:98-99). Some of the material was dispersed as a cloud, whereas fairly large pieces fell near the original firing point. The CEARP files indicate that the cloud usually dispersed over several miles and in at least one case, nearly 10 miles (H Division 1949a:1). In the late 1940s, pads were washed with water and swept after each shot. Wash water ran into the natural surface drainage (Abrahams 1963:15).

During cleanup in 1963, 90 truckloads of material were removed from around the firing site (Blackwell and Babich 1963). In addition to surface debris, the asphalt from the firing pads was removed, revealing contaminated soil. This soil was removed and transported to the disposal area (Blackwell and Babich 1963). In the years after 1963, surface cleanup was undertaken at periodic intervals (Drake, Blackwell, and Courtright 1976).

Other materials besides high explosive that might have been in the shots, but for which no documentation was found, include lead, aluminum, steel, and possibly beryllium.

In 1976, as part of FUSRAP, TA-10 was resurveyed for radioactivity, and the results indicated an average of about 1.4 pCi/g for strontium-90 (about three times the level resulting from fallout), and an average of 4.9 micrograms per gram of soil, 1.5 times natural concentrations for uranium on the surface in the vicinity of the firing sites (DOE 1979:1). Because lanthanum-140 has a half-life of 40.1 hr, it has decayed and only its stable daughter is present in Bayo Canyon.

During the 1986 CEARP field survey, pieces of cable, shrapnel, wood, and other shot residues were observed.

A photo in the archives at Los Alamos National Laboratory dated June 8, 1944, shows that Bayo Canyon may have been the area in which sand pile detonation experiments occurred. Little information is available on any possible residues.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Surveys will be conducted during supplemental Phase I to determine the extent of residual nonradiological contamination and verify cleanup of radiological contaminants.

TA10-2-S/ST/CA/O-I-HW/RW (Tanks, drains, leach fields, and outfalls)

Background--To provide the x-ray (gamma) source, radioactive lanthanum was placed in most of the shots fired. This material was obtained in a form that required purification by 1) separating lanthanum-140 from the parent barium-140, the daughter cerium-140, and impurities, including strontium-90, 2) precipitating the material, and 3) encapsulating it into a source. This process was undertaken at TA-10-1 from 1944 until 1950, when the process was moved to TA-35.

Sanitary sewage lines, septic tanks, the outfall line from TA-10-1, and the disposal pit northeast of TA-10-21 may have received some contaminated liquid waste (DOE 1979:12-13, 99). Laboratory wastes were occasionally spilled on the ground near the laboratory buildings (DOE 1979:49).

Industrial radioactive wastes from the radiochemistry building, TA-10-1, were collected and routed to stainless steel holding tanks, concrete disposal pits, and a leaching field to the north. Liquids placed or flowing into the pits drained through an outlet pipe into the earth. Liquid wastes from the storage tanks were periodically discharged directly into the stream channel. According to engineering drawing ENG-R125, the major liquid disposal area, called the "tank farm," included contaminated material pits TA-10-41, -42, and -43, manholes for the acid sewer, TA-10-50 and -51, acid septic tank TA-10-39, and sanitary septic tanks TA-10-38 and TA-10-40. A leaching field appears to have been near TA-10-41 (DOE 1979:15).

A chemist who worked at the Bayo site remembers decontamination holes located near the streambed leach field. Nitric acid and some hydrochloric acid were poured into them. Chemicals in spent liquids, which discharged to the drain in building 1, included nitric and hydrochloric acid as the major acids, and small amounts of hydrofluoric and sulfuric acid. Small amounts of lanthanum, barium, cadmium, and platinum went to the drain. Occasionally, benzene and carbontetrachloride were used. Organic and inorganic contaminants were noted to be present in the incoming radioactive lanthanum source material (H Division 1949b:1); therefore, they may also have been present in the liquid effluent.

The decision to decontaminate and decommission the remaining structures in Bayo Canyon was made in 1963. When excavations of the tank farm began, pipes were found between pits 42 and 43. Another pit, 1 ft in diameter, was found 2 ft south of pit 42, and readings taken on it indicated 10 mR/h. A second unknown pit, 2 ft square, was located 40 ft north of pit 41, and a third was found 6 ft south of pit 50, the manhole for the acid sewer. Readings taken at 1 ft from the latter were 20 mR/h. At a depth of 10 ft, pits 41, 42, and 43 were found to have a common drain filled with clay drain pipe. The maximum reading in this area was 20 mR/h. Pits 38 and 39 were decommissioned, and soil was removed between pits 39 and 50. A stainless steel pipe and three stainless steel acid tanks were found and taken with their contents to the disposal area for contaminated materials. Acid pits 50 and 51 and connecting lines were removed. Uncontaminated septic tank 38 was also removed.

Continued excavation at the tank farm showed that another leach bed was located under pit 43. After excavating to 20 ft, digging was stopped. The activity level at this point was 1.5 mR/h. It is not clear what the activity levels were at other areas in the tank farm when excavation ceased. The area west of structures 24 and 25, where sources had been washed and the liquid discharged, was checked to a depth of 4 ft and observed to be free of contamination. A pipe from pit 50 was observed to extend north to a leach field in the stream channel. Wood in the area gave a reading of 1.5 mR/h. It is not clear whether any of the leach field was removed (Blackwell and Babich 1963).

In 1973, a hole was drilled several feet east of the location of the acid waste leaching field. A maximum of 20 pCi/g of strontium-90 was detected within 5 ft of the surface. A hole drilled between the location of former pits TA-10-41 and -42 indicated strontium-90 levels up to 3.3 pCi/g within 5 ft of the surface. In 1974, the area around the old sanitary outfall to the stream was sampled and levels of gross beta, 3 to 20 times background, were detected. The subsurface region north of TA-10-41 and -42 acid pits also showed elevated levels with a maximum of 24,000 pCi/g at a depth of 13 to 14 ft, thus indicating migration, but at an appreciable depth (DOE 1979:14). Most samples were less than 10 pCi/g. Samples indicate that much of the radioactivity was removed in the 1963 cleanup (DOE 1979:100).

Apparently, no sampling has been done for any nonradioactive chemicals that may have been discharged in the effluent from the chemistry operations. No information on the disposal pit and its field northeast of TA-10-21 has been obtained.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Phase I supplemental investigations will be conducted to determine the extent of residual nonradiological contamination and to verify cleanup of radiological contaminants.

TA10-3-L-I-HW/RW (Landfills)

Background--Solid waste was disposed of at TA-10 during the years it was in operation. Engineering drawing ENG-R125 designates two disposal areas, TA-10-44 and -48. In 1963, the decision was made to remove these disposal areas. At that time, TA-10-48 was a pit divided into two sections, 5 ft square and 10 ft deep, each lined with boards, in which gloves, bottles, and laboratory equipment had been disposed of. This material was removed from TA-10-48 and taken to Area G; the pit was then excavated to a depth of 26 ft, and external radiation levels continued to be above background. Samples taken (to a depth of 4 ft at the 26-ft level) indicated between 0 to 600 dis/min/g of dry granulated soil for strontium-90 with gross alpha levels approaching background. The decision was then made to refill this pit with clean soil (Blackwell and Babich 1963). Later measurements around TA-10-48 indicated no lateral migration of strontium-90 (DOE 1979:14).

A chemist who had worked at Bayo Canyon Site remembers glassware, metal ware, platinum, and general trash being placed at TA-10-48. As far as that person can remember, the spent "soup" that was milked for the lanthanum-140 also went to this disposal area, and therefore, it appears that most of the strontium-90 contaminant in the soup also went to TA-10-48. The total strontium-90 from chemical processing that was disposed of has been estimated to be 117 Ci (DOE 1979:99).

Pit TA-10-44 had been a burial place for gloves, rags, and acid bottles, which were moved to the disposal area for contaminated materials. The pit was dug to a depth of 15 ft, where readings indicated 1.5 mR/h. The pit was refilled and leveled (Blackwell and Babich 1963).

The removal of buildings TA-10-13 and -15, both of which were bunkers, from TA-10 left concrete debris that was not contaminated. The debris was disposed of in the hole created by excavating the tank farm. When the hole was full, the remaining uncontaminated concrete was deposited at the base of the city landfill. A wall from building 1 was reported to be uncontaminated and buried in Bayo Canyon (Blackwell and Babich 1963). The location of this burial site was not indicated.

During the 1986 CEARP field survey, six survey monuments and associated guard posts were seen surrounding an area that roughly encompasses the old tank farm, radiochemistry laboratory, TA-10-1, and the area of waste disposal pit TA-10-48. The monuments are marked "buried radioactive material no excavation prior to 2142 AD see county records." The monuments were installed in 1982 (LANL 1983).

Another disposal area has been identified up the canyon from the firing sites, on the south side of the road. In the late 1940s, the firing pads were swept after each shot and the material was deposited in this disposal area. The wastes here are reported to have been burned during 1957 and the ash taken to Material Disposal Area C. No further disposal is believed to have occurred in this pit after 1957 (Abrahams 1963:15).

In 1961, radioactivity at the disposal site ranged from background to about 0.6 mR/h (Abrahams 1963:15). During the 1986 CEARP field survey, the area was observed to be covered with a dense growth of weeds, but several wires and pieces of metal were found in the area indicated to be near the disposal pit. Whether they were weathering out from the pit is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Phase I supplemental investigations will be conducted to determine the extent of residual nonradioactive environmental contamination and verify cleanup of radiological contaminants.

TA10-4-CA-I-RW (Burning of contaminated structures)

Background--A 1955 report indicates that on two occasions irradiated uranium-238 solutions deposited on plywood drums were burned in Bayo Canyon. A level of 20 mR/h of gamma at contact was reported for the ashes. The final fate of the ash is not known (H Division 1955:3).

In 1956, a work order was issued to create a burning pit for combustibles and to take the ashes and unburned residues to the radioactive disposal pit. The work order indicates that the burning pit was to be filled after the burning was completed and the ash was removed. Noncombustibles were also to be taken to the radioactive disposal area (LASL 1956).

Storage buildings TA-10-4 and -6 and cell building TA-10-31 were vacated in 1959 and were suspected of being contaminated with strontium-90 and high explosives (LASL 1959). Storage buildings TA-10-3, -5, and -19, and welding shop TA-10-32 were suspected in 1960, because of their history, to have small amounts of radioactive contamination in inaccessible places (Blackwell 1960a). That same year, buildings 19 and 32 were put in the stream bed and burned. Buildings 6 and 31 were burned in place. Buildings 3, 4, and 5 were moved to a clearing and burned. Ashes from building 6 indicated 1 to 12 mR/h, whereas those for building 4 read 8 mR/h (Blackwell 1960b).

Magazine buildings TA-10-10 and -11 were noted to be contaminated with high explosive in 1963 (Safety Office 1963). Buildings 2, storage; 8, inspection; 14, battery; 18, storage; and 21, personnel; and then 10, 11, 12, laboratories; and 34, static test, were burned, in place. The combustible sections of laboratory building 1 were placed in an open area and burned, and any radioactive residues were taken for disposal (Blackwell and Babich 1963).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

TA10-5-CA-I-HW/RW (Removal of contaminated structures)

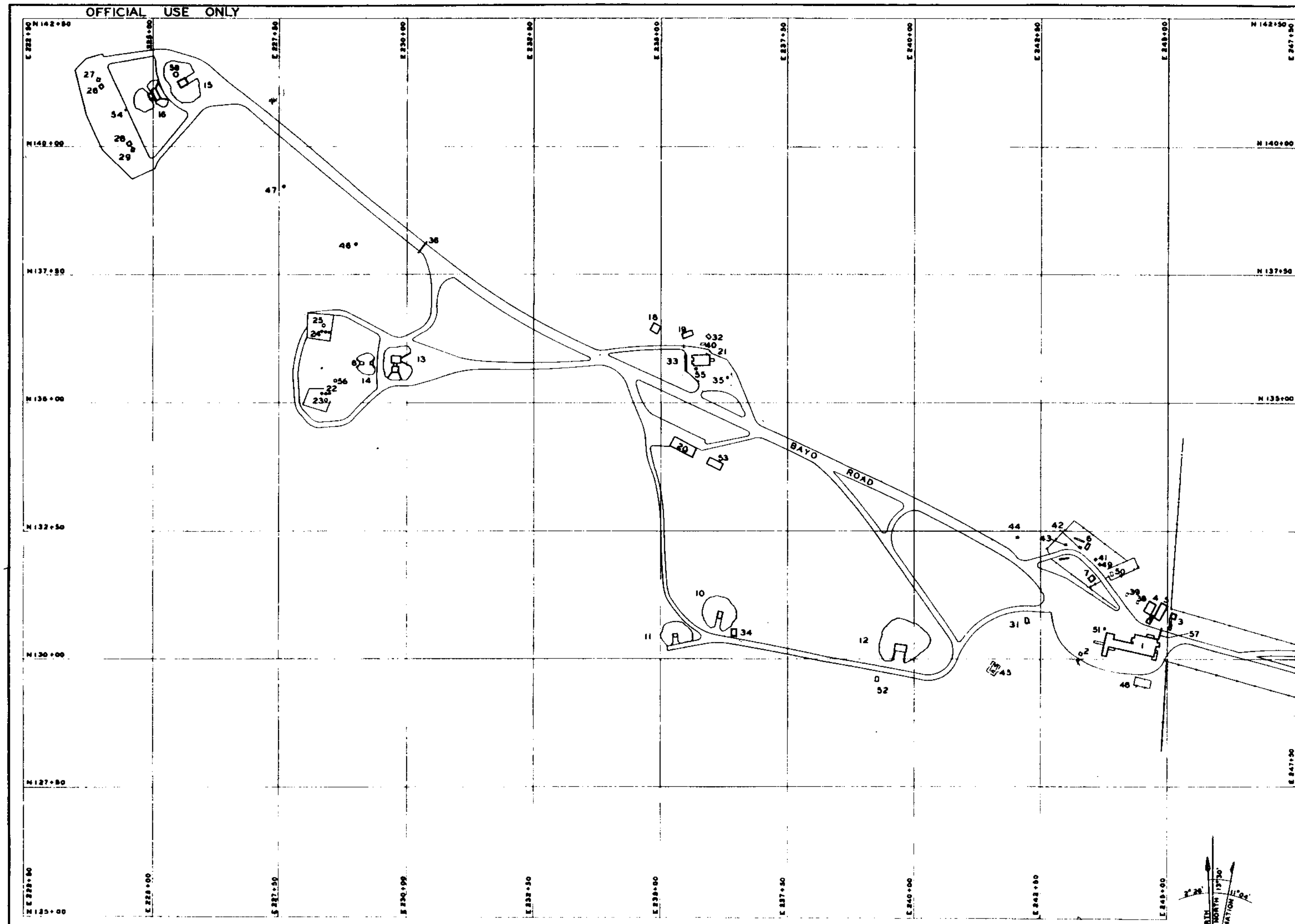
Background--Many of the buildings at TA-10 were contaminated with high explosive, strontium-90, or uranium. The decision was made in 1963 to remove the buildings from the site. Building TA-10-2, a small shed, had contained a large source shield. This and all shielding were taken to the disposal area for contaminated material. Pit 40, the septic tank for building 21 was also taken to the area along with some contaminated soil.

The x-unit pits were also taken to the disposal area. Cell building TA-10-31 was blasted and the rubble taken to the disposal area. The west end of building 1, contaminated to a level of 18 mR/h, is believed to have been disposed of in the disposal area for contaminated material. Warehouse building 20 was relocated to TA-3 (Blackwell and Babich 1963).

During a 1986 CEARP field survey, the asphalt road and a concrete pad from warehouse TA-10-20 were observed at TA-10. The area is closed to all public activities except hiking.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.



STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-10-1	BAYO-1	LABORATORY
TA-10-2	BAYO-2	STORAGE BUILDING
TA-10-3	BAYO-3	STORAGE BUILDING
TA-10-4	BAYO-4	STORAGE BUILDING
TA-10-5	BAYO-5	ANNEX - STORAGE BUILDING
TA-10-6	BAYO-6	STORAGE BUILDING
TA-10-7	BAYO-7	TRACTOR BUILDING
TA-10-8	BAYO-8	INSPECTION BLDG.
TA-10-9	BAYO-9	INSPECTION BLDG. (REMOVED)
TA-10-10	BAYO-10	MAGAZINE
TA-10-11	BAYO-11	MAGAZINE
TA-10-12	BAYO-12	LABORATORY
TA-10-13	BAYO-13	CONTROL BUILDING FIR. PT. 1&2
TA-10-14	BAYO-14	BATTERY BUILDING FIR. PT. 1&2
TA-10-15	BAYO-15	CONTROL BUILDING FIR. PT. 3&4
TA-10-16	BAYO-16	BATTERY BUILDING FIR. PT. 3&4
TA-10-17	BAYO-17	LATRINE (REMOVED)
TA-10-18	BAYO-18	STORAGE BUILDING
TA-10-19	BAYO-19	STORAGE BUILDING
TA-10-20	BAYO-20	WAREHOUSE BUILDING
TA-10-21	BAYO-21	PERSONNEL BUILDING
TA-10-22	BAYO-22	X-UNIT CHAMBER, FIR. PT. 1
TA-10-23	BAYO-23	ELECTRONICS CHAMBER, FIR. PT. 1
TA-10-24	BAYO-24	X-UNIT CHAMBER, FIR. PT. 2
TA-10-25	BAYO-25	ELECTRONICS CHAMBER, FIR. PT. 2
TA-10-26	BAYO-26	X-UNIT CHAMBER, FIR. PT. 3
TA-10-27	BAYO-27	ELECTRONICS CHAMBER, FIR. PT. 3
TA-10-28	BAYO-28	X-UNIT CHAMBER, FIR. PT. 4
TA-10-29	BAYO-29	ELECTRONICS CHAMBER, FIR. PT. 4
TA-10-30	BAYO-30	GUARD BUILDING STATION 103
TA-10-31	BAYO-31	CELL BUILDING
TA-10-32	BAYO-32	WELDING SHOP
TA-10-33	BAYO-33	BARRICADE
TA-10-34	BAYO-34	STATIC TEST BUILDING
TA-10-35	BAYO-35	SIREN PLATFORM
TA-10-36	BAYO-36	ROAD BLOCK
TA-10-37	BAYO-37	ROAD BLOCK (REMOVED) 1957
TA-10-38	BAYO-38	SEPTIC TANK (SANITARY)
TA-10-39	BAYO-39	SEPTIC TANK (ACID)
TA-10-40	BAYO-40	SEPTIC TANK (SANITARY)
TA-10-41	BAYO-41	CONTAMINATED MATERIAL PIT
TA-10-42	BAYO-42	CONTAMINATED MATERIAL PIT
TA-10-43	BAYO-43	CONTAMINATED MATERIAL PIT
TA-10-44	BAYO-44	CONTAMINATED MATERIAL PIT
TA-10-45	BAYO-45	TRANSFORMER STATION
TA-10-46	BAYO-46	PULL BOX (CONTROL)
TA-10-47	BAYO-47	PULL BOX (CONTROL)
TA-10-48	BAYO-48	CONTAMINATED MATERIAL PIT
TA-10-49	BAYO-49	DRUM STORAGE
TA-10-50	BAYO-50	MANHOLE (ACID SEWER)
TA-10-51	BAYO-51	MANHOLE (ACID SEWER)
TA-10-52	BAYO-52	PLATFORM
TA-10-53	BAYO-53	STORAGE BUILDING
TA-10-54	BAYO-54	PULL BOX (CONTROL)
TA-10-55	BAYO-5[illegible]	WATER TANK (UNDERGROUND)
TA-10-56	BAYO-[illegible]	WATER TANK (WAS TA-29-3)
TA-10-57	BAYO-5[illegible]	ROAD BLOCK (WAS TA-4-14)
TA-10-58	BAYO-58	WATER TANK

NO.	DATE	REVISIONS	BY	CHKD
8	7-1-57	REVISED TO STATUS OF 7-1-57	DDS	JAS
7	10/7/55	GENERAL REVISION TO STATUS OF JULY 1, 1955	HOB	JAS
6	4/4/54	REDRAWN TO STATUS OF 7-1-54	LCW	JAS

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-10 BAYO CANYON SITE

CHECKED / DESIGNER — RECOMMENDED / GROUP LEADER — APPROVED / ENGINEERING OFFICE

DRAWN: L C WINKS — DATE: 6-9-54 — SCALE: 1" = 100' — SHEET: 1 OF 1 — DRAWING NO.: ENG- R125

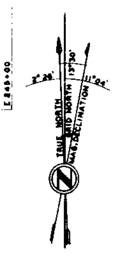


Figure TA-10-1: Structure Location Plan for TA-10 - Bayo Canyon Site
(1954 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

TA-11 - K SITE

CURRENT OPERATIONS

The major facilities in use at TA-11 are a drop tower and a shake table that are used for various environmental and effects tests on components and explosives. Drop tests for impact initiation of explosives may cause high explosives to fracture or detonate, becoming scattered about the drop tower pad. When the tests are completed, the larger high explosive pieces are picked up and removed.

POTENTIAL CERCLA/RCRA SITES

TA-11 was originally built as a betatron site where an implosion test could be studied by detonating explosives between two closely spaced, bomb-proof buildings. One building contained the high voltage source, the other the cloud chamber and recording equipment. Construction was completed in early 1945, and all equipment was installed the same year. The emphasis was put on the solid metal implosion assembly, but magnetic method measurements were also taken. For example, from May 15 to June 15, 1945, 36 major shots were fired that included 26 on 6-in. weapon mockups and 5 blank shots with 200-lb charges. Many weapon mockups had depleted uranium cores. Shots were also fired to test detonators and time sequences (Neddermeyer 1945a). The operating group, M-10, was transferred to P Division in January 1946 so that the accelerator could be used for physics experiments (Truslow 1983).

In 1949, a 9-Ci radioactive lanthanum source was dropped at TA-11. The source was believed to be contaminated and was strung up between two trees and washed off with a fire hose. It was found to be leaking, and considerable contamination spread to the surrounding area. The contaminated soil was removed (Blackwell 1949). Any residual radioactive lanthanum has since decayed, but trace amounts of strontium-90 may be left.

Tests of explosive materials under various environmental conditions began in 1956 (Brooks 1956). Acceleration and impact tests of explosives systems are described in a 1959 memo (Brooks 1959). Later testing involved both drop and burn tests on thorium oxide pellets (Gibbons 1975; Amies 1975).

In 1965, twelve different types of high explosive were buried at Material Disposal Area S. Periodically, these explosives are excavated and analyzed to determine rates of decomposition (see Material Disposal Area S).

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during Supplemental Phase I investigation will be documented in the CEARP Phase II A Monitoring Plan for TA-11. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-11 is 3.0 (Appendix B).

FIGURES

Figure TA-11-1: Structure Location Plan for TA-11 - K Site (1983)
Figure TA-11-2: Structure Location Plan for TA-11 - K Site (1961)
Figure TA-11-3: Structure Location Plan for TA-11 - K Site (1957)

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TABLE TA-11 - POTENTIAL CERCLA/RCRA SITES

TA11-1-CA-I-HW/RW (Firing sites)

Background--K Site, TA-11, was constructed in the winter of 1944-45. The eastern part of the site consisted of a heavily bunkered control and laboratory building, TA-11-1, a shop, TA-11-4, and another laboratory building, TA-11-5. In addition, two heavy concrete battleship-type structures were built to house a betatron, TA-11-2, and a cloud chamber, TA-11-3. The site also included a storage building, TA-11-9, and a shelter, TA-11-10, according to ENG-R126 (LASL 1947:9-10).

Early memos describe a firing chamber, apparently located in the laboratory building, between the "steel noses" of TA-11-2 and -3 (G-5 1944). By early 1945, shots of up to 200 lb, which included natural uranium and aluminum, (Neddermeyer 1945b) are reported to have been fired (Neddermeyer 1945a, G-5 1945, Buchanan 1945).

In addition to the firing chamber between building TA-11-2 and -3, ENG-R126 notes a firing pit, TA-11-14. The pit was located to the east of TA-11-2 and -3, either next to or under the present drop tower pad.

The 1986 CEARP field survey confirmed that buildings 2 and 3 are now controls for the drop tower. There is no known documentation on decontamination and decommissioning of TA-11-14 and the firing pit.

West K Site buildings were located north and south of the road leading to east K Site, between the present 139 and 136 sets of buildings at TA-16. According to ENG-R126, these buildings consisted of assembly building TA-11-6, magazine storage TA-11-7 and -8, and trim building TA-11-11. A firing pit, TA-11-15, was also located on the south side of the road. These structures at west K Site have all been removed. Details of possible contamination from the firing pit are lacking.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Documentation on the extent of residual contamination at the inactive firing sites, including the drop tower area, will be acquired during supplemental CEARP Phase I investigations.

TA11-2-CA-I-HW/RW (Burning pit)

Background--A burning pit for K Site is listed as early as 1948 (LASL 1948). Engineering drawing 13Y102392, dated 1973, shows this pit to have been northeast of the present drop tower pad. Because the pit is shown on the 1973 map, it may have been used extensively over the years. The material that was burned there and its possible contaminants are not known.

In 1960, mention was made of a brush fire that occurred when some high explosives detonated while being burned (H Division 1960:3).

During the 1986 CEARP field survey, an area was seen to the northeast of the drop tower pad that is still known as a burn area, but as far as the staff could remember, it had not been used in several years. Some of the staff indicated that depleted uranium and propellant had been burned there in previous years, but final disposal procedures for the residues were not known. The staff seemed to think that uranium residue might remain.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Documentation on the extent of residual contamination at the inactive burning pits will be acquired during supplemental Phase I investigations.

TA11-3-CA-I-HW/RW (Buildings and associated facilities)

Background--Several buildings are no longer at K Site. TA-11-5 was a small laboratory that, according to undated engineering notes in the CEARP files, was given to a construction contractor in 1956. Sited south of the target area, laboratory building TA-11-12 is shown on ENG-R126. In a 1950 memo, a building called "chemistry" was reported to have "active samples" and to be used for "comparatively dangerous procedures." The same memo mentions a darkroom (Ogle 1950). It is unknown whether TA-11-5 or -12 is the building referred to, whether these buildings had drains, or whether the buildings or drains were contaminated. Utility drawing ENG-R646 shows no drain for building 12. According to engineering files, TA-11-12 was removed to salvage on March 5, 1959. In 1956, it had been monitored and found to be free of radioactive contamination (Blackwell 1956). A 1952 memo mentions using "methyl borate at K Site" (H Division 1952:18), but no mention is made of where it was being used.

The same survey found assembly building TA-11-6 to be uncontaminated (Blackwell 1956). It was relocated at the site and burned in La Mesa forest fire.

Storage magazines TA-11-7 and -8, storage building TA-11-9, and shelter TA-11-10 were found to be contaminated with high explosive in 1959 (LASL 1959), and engineering files indicate they were burned on February 27, 1960. A small amount of contamination had been reported in 1956 at TA-11-10, but the contaminated material was taken to the disposal area (Blackwell 1956). The location of the disposal area is unknown.

In 1961, procedures for removing the residuals of burned buildings at TA-11 were reported to have been discussed (Safety Office 1961:2). The residual was disposed of in a disposal area north of the burning grounds, TA-16-387. The 1986 CEARP field survey found no trace of this residual.

Trim building TA-11-11 was two hutments; an engineering document now in the CEARP files reports one to have been demolished in place and the other to have been removed to the Anchor Site.

Storage tank TA-11-16 is noted to be water storage on ENG-R645, and ENG-R5108 indicates it was removed in 1967, along with storage tank TA-11-17, which was probably also a water tank.

Latrine TA-11-18 was removed in 1967, according to ENG-R5108. The document "Vacated Los Alamos Scientific Laboratory Structures" reports it to be free of contamination (LASL 1959). In 1956, Laboratory building TA-11-19 was also found to be free of contamination (see Blackwell 1956).

Building TA-11-23 was noted to join buildings 2 and 3. Undated engineering records in the CEARP files indicate that it was dismantled in 1956.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Documentation on residual environmental contamination will be acquired during supplemental Phase I.

TA11-4-CA-I-HW/RW (Gun firing)

Background--K Site's activities in the 1950s included acceleration and impact tests of explosive systems contained in impact-resistant vehicles (Brooks 1959). Large mortars such as 155-mm launchers were used (Reider 1959). A 1973 drawing (ENG-13Y102392) shows an impact area to the north of TA-11-2 and -3. No documentation on possible contamination in the launch impact area has been found.

In another experiment, an air-gun building (TA-11-24) was constructed. Using compressed gases, projectiles were shot from the air gun toward concrete blocks, known as the target area, located to the south of the gun. Apparently, no detonations of explosives occurred in the acceleration and impact tests (Brooks 1959). It appears that the projectiles may have been inert. However, there are no data on other tests that may have resulted in contamination, and additional information is needed on possible contamination in the target area.

Some of the targets for the air gun remain at the site and were observed to be in a state of disrepair during the 1986 CEARP field survey. The former air gun building is now used as an office and shop. A new, small air gun is in a temporary building near the drop tower.

When a portion of the launch-impact area was walked during the field survey, no projectiles were seen; however, the dense vegetation made examination difficult.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Data about the tests conducted here will be gathered during supplemental Phase I, and documentation about possible contamination of the target and launch impact areas will be located.

TA11-5-CA-A-HW/RW (Drop tower)

According to ENG-R126, the facilities at TA-11 have included, since the 1950s, a hoist, tower, pads, and associated equipment for dropping experiments. The 1986 CEARP field survey determined that the drop tower facilities continue to be active. The staff believed that some depleted uranium had been used in tests and that, in the past, a small amount of beryllium may have been used.

Possible contamination from high explosive (including barium residues) and other materials used in the tests may extend from the firing pad into the surrounding environment in a radius of up to 350 ft. But no field data are available on the distance or density of the contamination. In general, the high explosive in the present tests does not detonate; thus, the "break-up" is a result of impact that will not spread the fragments very far. However, if part of the explosive detonated, as it may have in previous years, the area of high explosive residue would expand.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. Drop tower operations are covered by routine LANL operations.

TA11-6-ST-A-HW (Septic tanks)

Background--Two septic tanks serve TA-11. An early utility drawing, ENG-R646, indicates that Tank TA-11-20 served the area first. Septic tank TA-11-43 was added later. The tanks overflow to a drain that allows seepage into the surrounding soil (Pan Am 1986:2).

Because photographic processing occurred (see TA-11-3), it is possible TA-11-20 received photographic chemical wastes. Whether contamination from high explosive is present is not known, but the drains probably connect only to sinks and sanitary facilities. Both septic tanks were located during the 1986 CEARP field survey.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. Active septic tanks are covered by routine LANL operations.

TA11-7-O/S/CA-A-HW (High-explosive sumps and catch basins)

Background--After a drop from the drop tower occurs, the large pieces of high explosive are picked up and taken to the burning ground. At frequent intervals, the pad near the tower is hosed down and the smaller residue is washed into a sump, TA-11-39. The drain from the sump goes to a catch basin, TA-11-51, which then decants to an outfall to the canyon. Catch basins TA-11-50 and -52 are on either side of the outer paved area of the drop tower and they also decant to outfalls. The catch basins and sumps are regularly cleaned and the high explosive taken to the drying beds at S Site.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active high-explosive sumps and catch basins are covered by routine LANL operations.

TA11-8-O-A-HW (Cooling water and other pipes)

Background--During the 1986 CEARP field survey, TA-11-30 was observed to contain an electrodynamic vibration facility. The electrical equipment is water-cooled and the water, in turn, is cooled by circulation in a wet cooling tower. The blowdown from the tower is discharged to the canyon on the north. In addition to this discharge pipe, another pipe was observed several feet to the west. This pipe may connect to the floor drains in the building.

Another pipe was observed during the field survey south of TA-11-2 and -3. It discharges to the canyon on the south. It is not known at present where the pipe originates and what its function is. The boiler in building 24 was also observed to be discharging onto the pavement at the time of the field survey. Discoloration indicated that this may be a frequent occurrence.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Residual contamination in the environment from past discharges will be evaluated during supplemental Phase I of CEARP. The active outfalls are covered by routine LANL operations.

TA11-9-OL-I-HW (Open landfill)

Background--An open landfill was seen in the head of the canyon south of TA-11-4. It appears to contain very large concrete slabs, which may have served as targets for the air gun or for mortars. During the 1986 CEARP field survey, a small amount of what may be debris from buildings was also observed It appears that the area is free of toxic contaminants.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The landfill and its contents will be investigated during supplemental Phase I.

TA11-10-CA-I-HW (Boneyard)

Background--During the 1986 CEARP field survey, an inactive boneyard containing concrete, large pieces of iron, a gun, and other equipment was found south of the old target area. Whether contamination is present is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Whether the boneyard contains contaminants will be determined during supplemental Phase I.

TA11-11-CA-A-HW (Vibration facility)

Background--In 1957, a vibration facility came into operation at TA-11-30. Because an electrodynamic method rather than a hydraulic method was used, no oils or oil storage were required. Drains and cooling water for this facility are discussed in other sections of this report.

The 1986 CEARP field survey team found no evidence of incidents that might have resulted in contamination of the building.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. Vibration facility operations are covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-11-1	K-1	STORAGE BUILDING		S57+50 E17+50
TA-11-2	K-2	CONTROL BUILDING		S57+50 E20+00
TA-11-3	K-3	CONTROL BUILDING		S57+50 E20+00
TA-11-4	K-4	CONTROL BUILDING		S57+50 E17+50
TA-11-5	K-5		REMOVED 1956	
TA-11-6	K-6		DEMOLISHED 1977	
TA-11-7	K-7		REMOVED 1960	
TA-11-8	K-8		REMOVED 1960	
TA-11-9	K-9		REMOVED 1960	
TA-11-10	K-10		REMOVED 1960	
TA-11-11	K-11		REMOVED 1949	
TA-11-12	K-12		REMOVED 1959	
TA-11-13	K-13	MANHOLE	ELECTRICAL	S57+50 E20+00
TA-11-14	K-14		REMOVED 1958	
TA-11-15	K-15		REMOVED 1952	
TA-11-16	K-16		REMOVED 1967	
TA-11-17	K-17		REMOVED 1967	
TA-11-18	K-18		REMOVED 1967	
TA-11-19	K-19		REMOVED 1956	
TA-11-20	K-20	TANK, SEPTIC		S57+50 E17+50
TA-11-21	K-21	SUBSTATION		S57+50 E15+00
TA-11-22	K-22	MANHOLE, ELECTRICAL		S57+50 E17+50
TA-11-23	K-23		REMOVED 1958	
TA-11-24	K-24	AIR-GUN BUILDING		S57+50 E20+00
TA-11-25	K-25	DROP TOWER		S57+50 E20+00
TA-11-26	K-26	CONCRETE PAD		S57+50 E20+00
TA-11-27	K-27	HOIST & FOUNDATION		S57+50 E20+00
TA-11-28	K-28	HOIST & FOUNDATION		S57+50 E20+00
TA-11-29	K-29	MANHOLE, ELECTRICAL		S57+50 E20+00
TA-11-30	K-30	VIBRATION TEST BUILDING		S57+50 E15+00
TA-11-31	K-31	SUBSTATION		S57+50 E15+00
TA-11-32	K-32	MANHOLE, ELECTRICAL		S57+50 E15+00
TA-11-33	K-33	EQUIPMENT SHELTER		S57+50 E17+00
TA-11-35	K-35		REMOVED 1970	
TA-11-36	K-36	MAGAZINE		S60+00 E15+00
TA-11-37	K-37	CAMERA SHIELD		S57+50 E20+00
TA-11-38	K-38	CAMERA SHIELD		S57+50 E20+00
TA-11-39	K-39	SUMP PIT		S57+50 E20+00
TA-11-40	K-40	INSTRUMENTATION SHIELD		S57+50 E20+00
TA-11-41	K-41	DROP PAD		S57+50 E20+00
TA-11-42	K-42	DROP PAD		S57+50 E20+00
TA-11-43	K-43	TANK, SEPTIC		S57+50 E17+50
TA-11-44	K-44	MANHOLE, WATER		S57+50 E20+00
TA-11-45	K-45	INSTRUMENTATION ENCLOSURE		S57+50 E20+00
TA-11-46	K-46	PERSONNEL BARRIER		S57+50 E20+00
TA-11-47	K-47	PERSONNEL BARRIER		S55+00 E15+00
TA-11-48	K-48	PERSONNEL BARRIER		S55+00 E15+00
TA-11-49	K-49	TRANSFORMER STATION		S60+00 E12+50
TA-11-50	K-50	CATCH BASIN		S57+50 E22+50
TA-11-51	K-51	CATCH BASIN		S60+00 E22+50
TA-11-52	K-52	CATCH BASIN		S60+00 E22+50
TA-11-53	K-53	SPHERE IMPACT TARGET		S60+00 E17+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV	DATE	REVISION	BY	CKD	APP
16	8-22-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-27-83	HS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-11 K-SITE

SEC CLASSIFICATION
CLASS u
REVIEWER
DATE 9-20-83

SUBMITTED RECOMMENDED APPROVED

DRAWN SALGADO
CHECKED

DATE 8-22-83
SHEET NO. 1 OF 2
DRAWING NO. ENG-R 5108

Figure TA-11-1: Structure Location Plan for TA-11 - K-Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

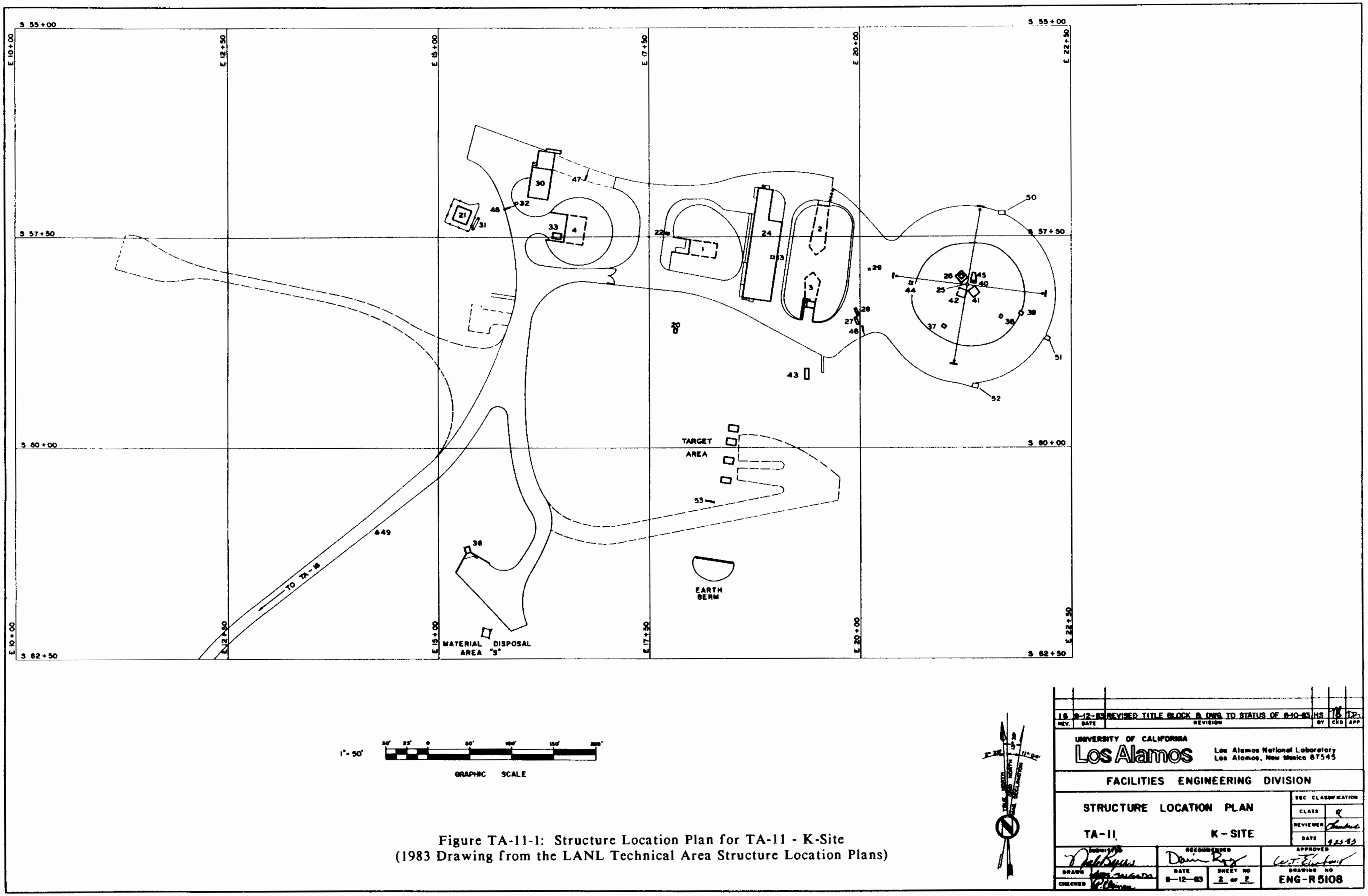


Figure TA-11-1: Structure Location Plan for TA-11 - K-Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-11-1	K-1	STORAGE BUILDING		S 57+50 E 17+50
TA-11-2	K-2	CONTROL BUILDING		S 57+50 E20+00
TA-11-3	K-3	CONTROL BUILDING		S 57+50 E20+00
TA-11-4	K-4	CONTROL BUILDING		S 57+50 E 17+50
TA-11-5	K-5		REMOVED 1956	
TA-11-6	K-6	LABORATORY BUILDING	DEMOLISHED 1977	
TA-11-7	K-7		REMOVED 1960	
TA-11-8	K-8		REMOVED 1960	
TA-11-9	K-9		REMOVED 1960	
TA-11-10	K-10		REMOVED 1960	
TA-11-11	K-11		REMOVED 1949	
TA-11-12	K-12		REMOVED 1959	
TA-11-13	K-13	MANHOLE	ELECTRICAL	S 57+50 E20+00
TA-11-14	K-14		REMOVED 1958	
TA-11-15	K-15		REMOVED 1952	
TA-11-16	K-16		REMOVED 1967	
TA-11-17	K-17		REMOVED 1967	
TA-11-18	K-18		REMOVED 1967	
TA-11-19	K-19		REMOVED 1956	
TA-11-20	K-20	SEPTIC TANK	SANITARY	S 57+50 E 17+50
TA-11-21	K-21	SUBSTATION		S 57+50 E 15+00
TA-11-22	K-22	MANHOLE	ELECTRICAL	S 57+50 E 17+50
TA-11-23	K-23		REMOVED 1958	
TA-11-24	K-24	AIR-GUN BUILDING		S 57+50 E20+00
TA-11-25	K-25	DROP TOWER		S 57+50 E20+00
TA-11-26	K-26	CONCRETE PAD		S 57+50 E20+00
TA-11-27	K-27	HOIST & FOUNDATION		S 57+50 E20+00
TA-11-28	K-28	HOIST & FOUNDATION		S 57+50 E20+00
TA-11-29	K-29	MANHOLE	ELECTRICAL	S 57+50 E20+00
TA-11-30	K-30	VIBRATION TEST BUILDING		S 57+50 E 15+00
TA-11-31	K-31	SUBSTATION		S 57+50 E 15+00
TA-11-32	K-32	MANHOLE	ELECTRICAL	S 57+50 E 15+00
TA-11-33	K-33	EQUIPMENT SHELTER		S 57+50 E 17+00
TA-11-35	K-35		REMOVED 1970	
TA-11-36	K-36	MAGAZINE		S 60+00 E 15+00
TA-11-37	K-37	CAMERA SHIELD		S 57+50 E 20+00
TA-11-38	K-38	CAMERA SHIELD		S 57+50 E 20+00
TA-11-39	K-39	SUMP	FILTER BASKET	S 57+50 E 20+00
TA-11-40	K-40	INSTRUMENTATION ENCLOSURE	SHIELD	S 57+50 E 20+00
TA-11-41	K-41	DROP PAD		S 57+50 E 20+00
TA-11-42	K-42	DROP PAD		S 57+50 E 20+00
TA-11-43	K-43	SEPTIC TANK	SANITARY	S 57+50 E 17+50
TA-11-44	K-44	MANHOLE	WATER VALVE	S 57+50 E20+00
TA-11-45	K-45	INSTRUMENTATION ENCLOSURE		S 57+50 E20+00
TA-11-46	K-46	PERSONNEL BARRIER		S 57+50 E20+00
TA-11-47	K-47	PERSONNEL BARRIER		S 55+00 E 15+00
TA-11-48	K-48	PERSONNEL BARRIER		S 55+00 E 15+00
TA-11-49	K-49	TRANSFORMER STATION		S 60+00 E 12+50
TA-11-50	K-50	CATCH BASIN		S 57+50 E22+50
TA-11-51	K-51	CATCH BASIN		S 60+00 E22+50
TA-11-52	K-52	CATCH BASIN		S60+00 E22+50
TA-11-53	K-53	SPHERE IMPACT TARGET		S60+00 E 17+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REVIEWER W. D. Kinkel
CLASS U DATE 1/24/77

NO	DATE	REVISIONS	BY	CHKD	GRP LDR	ENG D. O.
15	4-15-77	REVISED DWG NO (FORMERLY R2427)	MM			
14	1-19-73	REVISED TO STATUS OF 1-19-73	DAD			
13	9-16-71	REVISED TO STATUS OF 9-16-71	DAD			
12	8-6-69	REVISED TO STATUS OF 8-6-69	DAD			
11	8-31-65	REVISED TO STATUS OF 8-26-65	ERW			
10	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R128)	DDS			

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-11 K-SITE

CHECKED / PROJ ENG	RECOMMENDED / GROUP LEADER	APPROVED / ENG DEPT OFFICE
DESIGNER	DATE 8-15-61	DRAWING NO ENG-R 5108
DRAWN D.D. SIMES	SHEET NO 1	
SCALE NONE		

Figure TA-11-2: Structure Location Plan for TA-11 - K-Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)

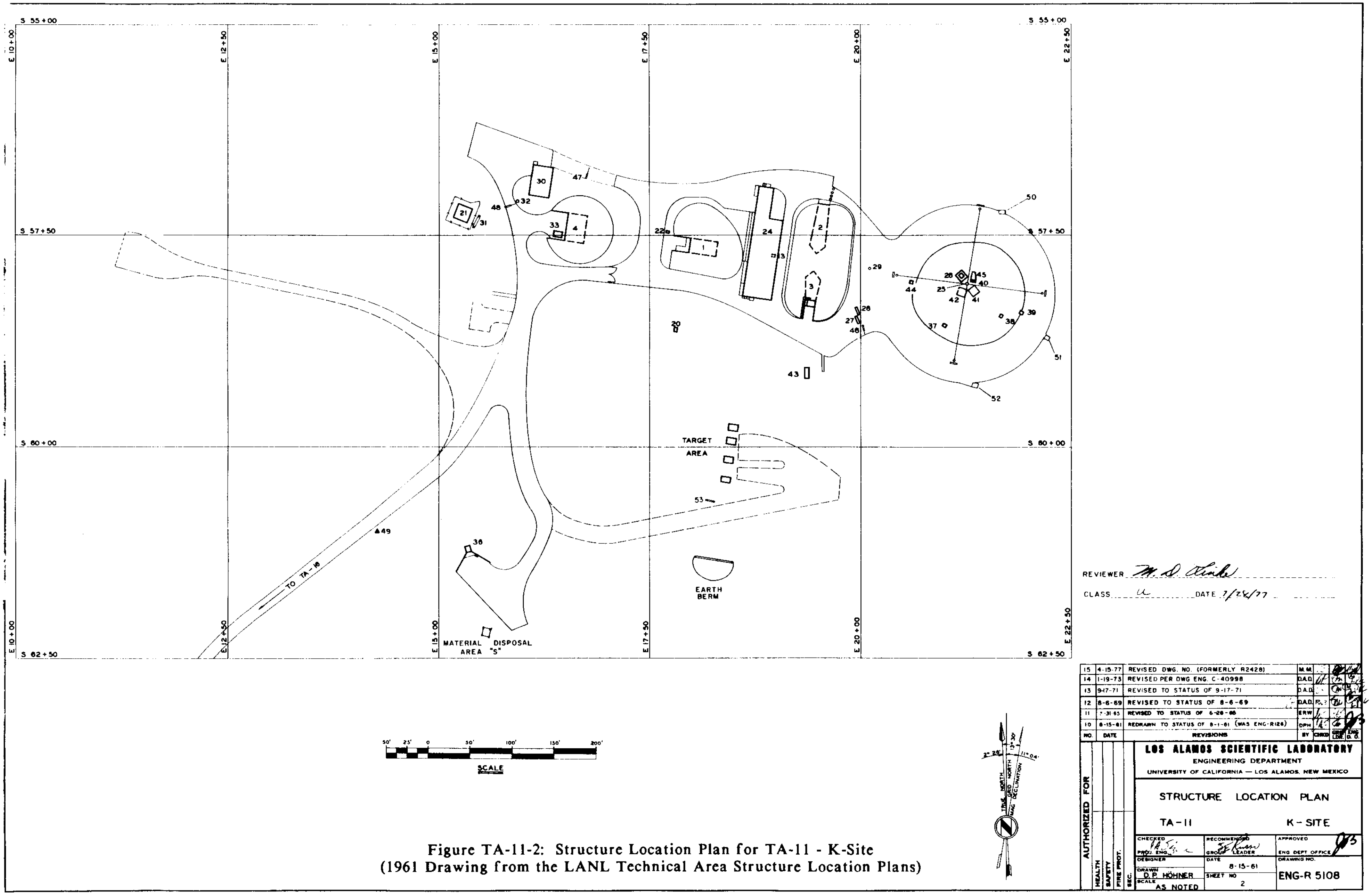


Figure TA-11-2: Structure Location Plan for TA-11 - K-Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

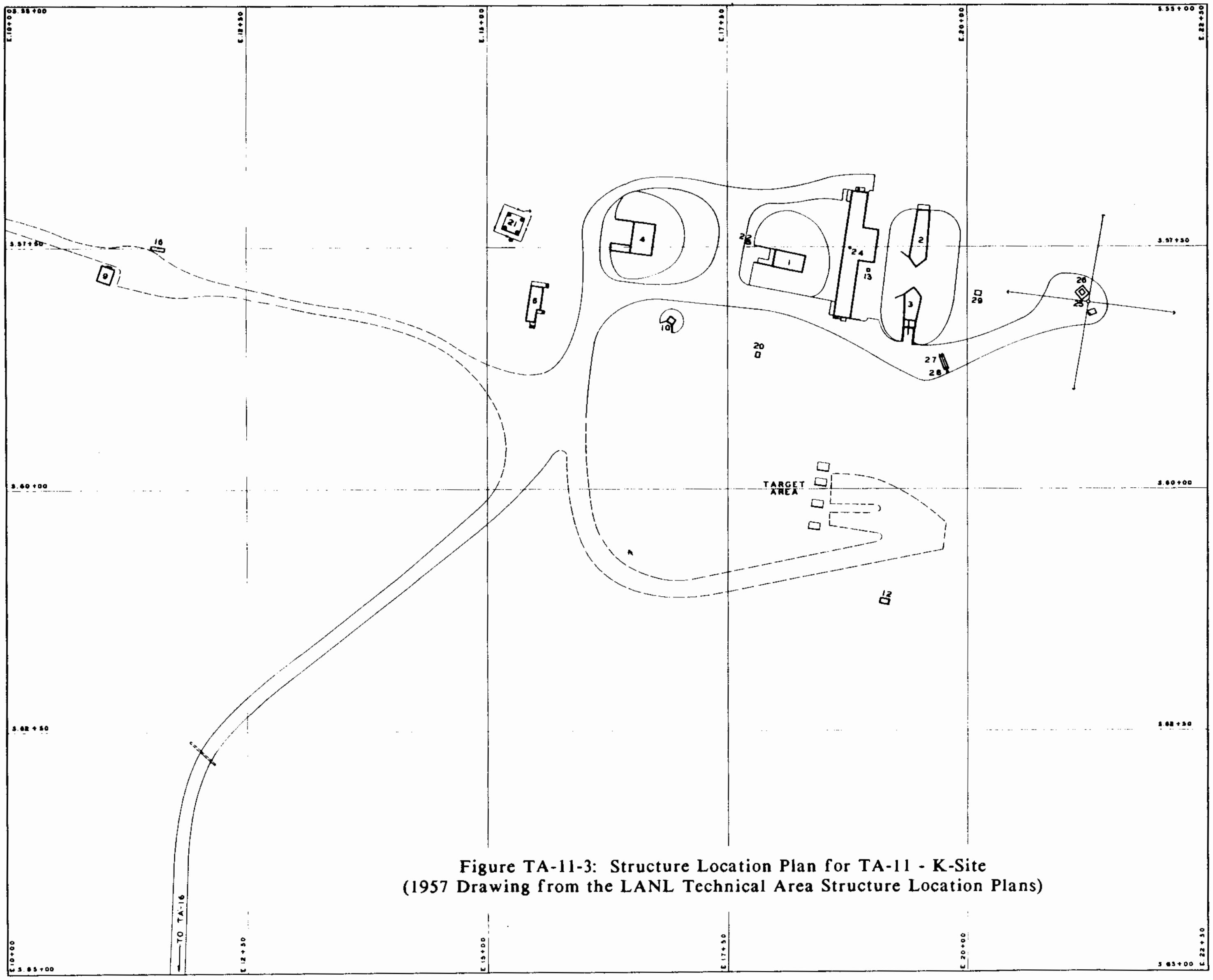
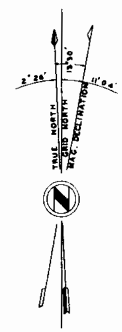


Figure TA-11-3: Structure Location Plan for TA-11 - K-Site
(1957 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-11-1	K-1	CONTROL BUILDING
TA-11-2	K-2	BETATRON BUILDING
TA-11-3	K-3	CLOUD CHAMBER BUILDING
TA-11-4	K-4	MACHINE SHOP
TA-11-5	K-5	LABORATORY BLDG. (REMOVED) 1956
TA-11-6	K-6	ASSEMBLY BUILDING
TA-11-7	K-7	MAGAZINE (ABANDONED)
TA-11-8	K-8	MAGAZINE (ABANDONED)
TA-11-9	K-9	STORAGE BUILDING (ABANDONED)
TA-11-10	K-10	SHELTER (ABANDONED)
TA-11-11	K-11	TRIMMING BUILDING (REMOVED) 1949
TA-11-12	K-12	LABORATORY BLDG. (ABANDONED)
TA-11-13	K-13	MANHOLE (ELECTRIC)
TA-11-14	K-14	FIRING PIT (REMOVED)
TA-11-15	K-15	ROAD BLOCK (REMOVED)
TA-11-16	K-16	STORAGE TANK (ABANDONED)
TA-11-17	K-17	STORAGE TANK (ABANDONED)
TA-11-18	K-18	LATRINE (ABANDONED)
TA-11-19	K-19	LABORATORY BLDG (REMOVED) 1956
TA-11-20	K-20	SEPTIC TANK (SANITARY)
TA-11-21	K-21	SUBSTATION
TA-11-22	K-22	MANHOLE (ELECTRIC)
TA-11-23	K-23	LABORATORY BLDG. (REMOVED) 1956
TA-11-24	K-24	AIR-GUN BUILDING
TA-11-25	K-25	DROP-TOWER, GUYS, ANCHORS, & SHEAVE
TA-11-26	K-26	CONCRETE PAD
TA-11-27	K-27	HOIST & FOUNDATION
TA-11-28	K-28	MOTOR STARTER
TA-11-29	K-29	MANHOLE (ELECTRIC)



NO.	DATE	REVISIONS	BY	CHKD
8	4-12-57	REDRAWN TO SHOW NEW CONSTRUCTION	P. R.	JAS

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

STRUCTURE LOCATION PLAN

TA-11 K-SITE

CHECKED: PROJ. ENG. RECOMMENDED: GROUP LEADER APPROVED: ENG. DEPT OFFICE
DESIGNER
DRAWN P. ROSS
SCALE 1" = 50'
DATE 4-12-57
SHEET 1 OF 1
DRAWING NO. ENG-R 126

OFFICIAL USE ONLY

TA-12 - L SITE

CURRENT OPERATIONS

TA-12 was considered abandoned as a firing site in 1953. It has been used a few times since then for small experiments. Currently, no work involving toxic materials is done at this location.

POTENTIAL CERCLA/RCRA SITES

L Site was first used during World War II for explosive test firing by the Terminal Observation Group, X-1B. In the early 1950s, the site was used for many different types of work and then abandoned in 1953. The facilities included a magazine, enclosed firing pit, open pits, control building, and trim building.

In 1950, an experiment was performed using a 1,000-Ci lanthanum-140 source from TA-10. The source was raised out of its container (a "pig") into a tall Lucite guide tube, which extended some distance above the ground. Several measurements were then taken (Walsh 1950). The trace contaminant of radioactive lanthanum, strontium-90, was still detectable on the tube in 1966 (Blackwell 1966). In 1962, a can containing 1/2 lb of high explosive was found near the firing pit--it was later destroyed in a fire (Anderson 1962).

Although a number of abandoned buildings were decommissioned by burning in 1960, the burned debris remains in place.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-12. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-12 is 6.7 (Appendix B).

FIGURES

Figure TA-12-1: Structure Location Plan for TA-12 - L Site (1950)

REFERENCES

Anderson, J. C. 1962. "TSR #4: Disposal of Scrap Explosive at L-Site," Los Alamos Scientific Laboratory memorandum to A. D. Van Vessem, October 26, 1962.

Blackwell, Charles D. 1966. "Radiation Survey of L-Site TA-12," Los Alamos Scientific Laboratory memorandum to Dean D. Meyer, April 12, 1966.

Ehrenkranz, T. E. 1968. "Mortar Locator Experiment (Acetylene Gas Gun)," Los Alamos Scientific Laboratory memorandum to N-4 file, December 11, 1968.

LASL. 1947. "A Technical Maintenance Group Report on General Background Data Concerning the Los Alamos Scientific Laboratory Required for Planning Purposes," Los Alamos Scientific Laboratory report LAB-A-5, September 11, 1947.

LASL. 1959. "Vacated Los Alamos Scientific Laboratory Structures," Los Alamos Scientific Laboratory document, October 2, 1959.

Walsh, L. R. 1950. "L-Site Mesa Radiation Experiment," Los Alamos Scientific Laboratory memorandum, May 2, 1950.

Wilson, Paul A. 1953. Memorandum to the Los Alamos Scientific Laboratory Engineering Department, May 20, 1953.

TABLE TA-12 - POTENTIAL CERCLA/RCRA SITES

TA12-1-CA-I-HW/RW (Firing sites)

Background--TA-12, known as L Site, was constructed in the early spring of 1945. A steel-lined pit with a heavy, earth-filled cover of bridge-like construction was used for certain recovery experiments. A Los Alamos employee recalls conducting small implosion shots and drop tests for detonators in the steel-lined pit. Materials used included explosives, aluminum, copper, and possibly uranium-238. According to another employee, the steel-lined pit was later used for gap tests, which did not involve the use of radionuclides. An open section of the mesa just east of the pit was used for several months as a site for charges of up to 200 lb. An employee remembers that these included some uranium-238. A hutment was set up and two small magazines were built (LASL 1947:10).

In the mid-1950s, the firing sites were abandoned (Wilson 1953). In 1959, an inspection record indicated that TA-12-1, the trim building, TA-12-2, the control building, TA-12-3, a magazine, and TA-12-4, a firing pit, were all contaminated with high explosive, but were free of radioactive contamination. The record indicated that TA-12-5, the generator building, and TA-12-6, a junction shelter, were free of radionuclide and high-explosive contamination (LASL 1959). Undated engineering records show that on February 14, 1960, TA-12-1, -2, -3, -5, and -6 were burned. The firing pit, TA-12-4, was left in place. The 1987 CEARP field survey indicated that today the large steel-lined pit remains. Although the other buildings were burned, the noncombustible residual remains in place.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the firing site residuals will be evaluated to determine if their concentrations are of environmental concern.

TA12-2-CA-I-HW/RW (Source holder and radiation test building)

Background--In 1950, the Health Division used the site for a radiation experiment on animals. A 1,000-Ci RaLa (radioactive lanthanum) source was placed in a lead pot. By using a wire operated from a radiation shelter, the source was raised out of the pit and up a Lucite tube supported by a telephone pole (Walsh 1950). The source must have been contaminated with strontium and must have leaked, because in 1959, a survey was made of TA-12, and the radiation test building and pole were found to be contaminated with both high explosive and strontium-90 (LASL 1959). In 1966, the area was resurveyed and the lead pig (shielded container) and lid were found to be contaminated to a level of 4 mR/h gamma and 20 mR/h beta (Blackwell 1966). The radiation test building and the telephone pole were seen onsite during the 1987 CEARP field survey.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will be conducted to determine if there is residual contamination of environmental concern.

TA12-3-CA-I-HW (Mortar locator experiment)

Background--In 1968, mortar locator experiments using an acetylene-gas gun were performed (Ehrenkranz 1968). The remains of the experiment were observed at the site during the 1987 CEARP field survey.

There is no indication of residual contamination of environmental concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

TA12-4-CA-I-HW (Burn area)

Background--In 1962, some explosive was found east of the old firing point. This material was disposed of by clearing a space on the old road, adding excelsior and kerosene to the high explosive, and burning it. The burn area was 150 to 200 ft from the old steel firing point, which was used as the structure from which the high explosive was originally ignited (Anderson 1962).

There is no indication of the presence of residual contamination in the environment.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

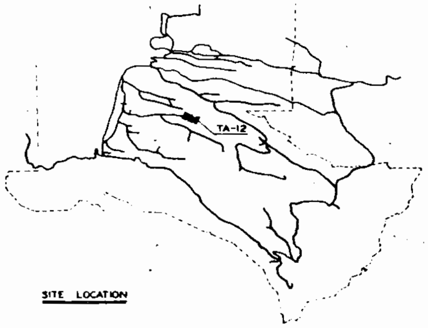
TA12-5-CA-I-HW/RW (Pipe)

Background--During the 1987 CEARP field survey, the top of an aluminum pipe about 18 in. in diameter was observed at ground level. Because the pipe was filled with liquid, the total length of the buried pipe is not known. The type and extent of possible contamination is also not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The liquid will be sampled for high explosive and radioactivity during supplemental Phase I.

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-12-1	L-1	TRIMMING BUILDING
TA-12-2	L-2	CONTROL CHAMBER
TA-12-3	L-3	STORAGE MAGAZINE
TA-12-4	L-4	FIRING PIT
TA-12-5	L-5	GENERATOR BUILDING . REMOVED
TA-12-6	L-6	JUNCTION BUILDING
TA-12-7	L-7	ROAD BLOCK



SITE LOCATION

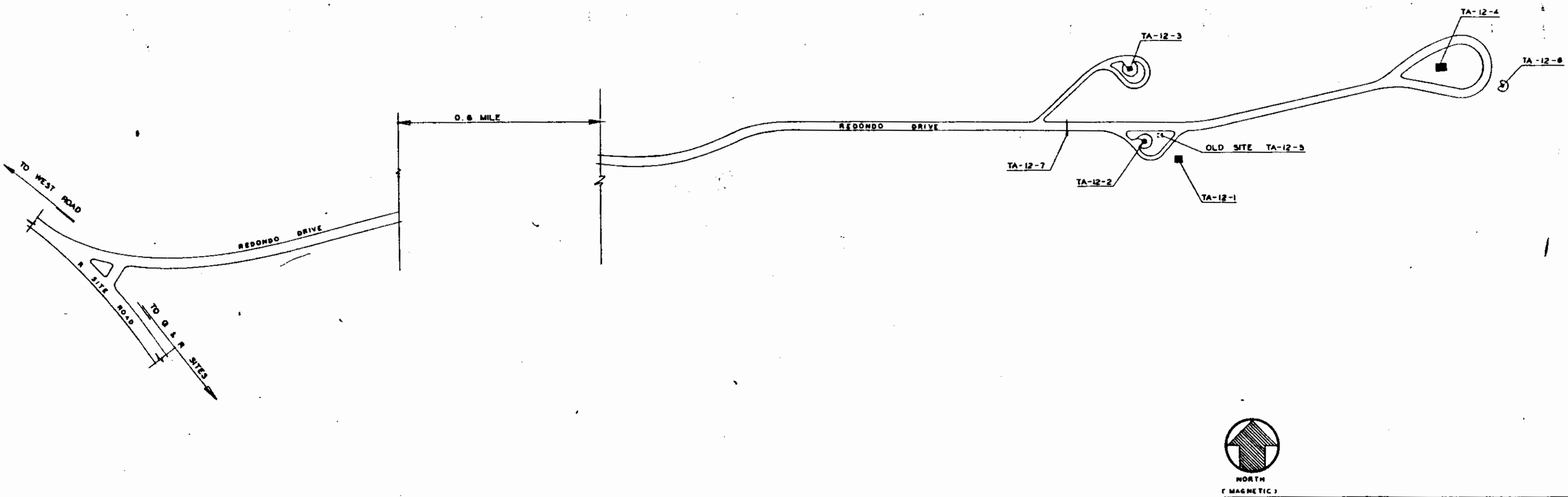


Figure TA-12-1: Structure Location Plan for TA-12 - L Site (1950)
(1950 Drawing from the LANL Technical Area Structure Location Plans)

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PR., COMM., SEC.	LOS ALAMOS SCIENTIFIC LABORATORY DEPARTMENT OF ENGINEERING—CONSTRUCTION & MAINTENANCE GROUP
REV.	STRUCTURE LOCATION PLAN TA - 12 L - SITE

SCALE	DRAWN BY: GRS	DATE: 3-31-50	DWG. NO.
1" = 100'	CHKD. BY: S.P.	DATE: 3/ /50	ENG4-R127
	APPVD. BY:	DATE: 12-24-50	

TA-13 - P SITE

CURRENT OPERATIONS

TA-13 is now part of TA-16. Current operations are discussed under TA-16.

POTENTIAL CERCLA/RCRA SITES

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been completed. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-13. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-13 is 3.0 (Appendix B).

FIGURES

Figure TA-13-1: Structure Location Plan for TA-13 - P Site (1950)

REFERENCES

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Buckland, Carl. 1948. "TA-33 and P-Site," Los Alamos Scientific Laboratory memorandum to Roger Westcott, July 22, 1948.

H Division. 1951. "H Division Progress Report," Los Alamos Scientific Laboratory, June 20-July 20, 1951.

LASL 1947. "A Technical Maintenance Group Report on General Background Data Concerning the Los Alamos Scientific Laboratory Required for Planning Purposes," Los Alamos Scientific Laboratory report LAB-A-5, September 11, 1947.

Parratt, L. G. 1945. "Monthly Progress Report of Group G-2, Jan. 15-Feb. 15," Los Alamos Scientific Laboratory memorandum to R. F. Bacher, February 19, 1945.

Tenney, Gerald H. 1944. "X-1 'T' Site Progress Report," Los Alamos Scientific Laboratory document, October 10, 1944.

Westcott, R. J. 1947. "Minutes M-Division Safety Meeting," Los Alamos Scientific Laboratory document, June 3, 1947.

Westcott, R. J. 1948. "Minutes, M-Division Safety Committee," Los Alamos Scientific Laboratory document, July 2, 1948.

Williams, G. L. 1946. "Disposal of Contaminated Wastes at the Los Alamos Scientific Laboratory," Los Alamos Scientific Laboratory memorandum to R. C. Hill, October 11, 1946.

TABLE TA-13 - POTENTIAL CERCLA/RCRA SITES

TA13-1-CA-I-HW/RW (Firing sites)

Background--This site was constructed in the early fall of 1944 for x-ray work in connection with explosives experiments (LASL 1947:10). It is on the 1948 topo map, and drawing ENG-R126 shows that it consists of an office and shop building (TA-13-1), laboratory and test buildings (TA-13-2, -3, and -4), an experimental chamber (TA-13-6), a magazine (TA-13-7), and a storage building (TA-13-8).

TA-13-3 and -4 were built as concrete "battleship" bunkers so that test equipment could withstand the explosives experiments (LASL 1947:10). According to engineering records in the CEARP files, building 2 was apparently the control building for TA-13-3 and -4.

In addition to having a firing site, TA-13-6 was noted to have an experimental chamber located in an octagonal building. It is probable that it was used as a firing chamber. An early report mentions a fairly large number of hemispheres, lenses, and charges for P Site (Tenney 1944:2). An early note in the CEARP files indicates that a 203-lb test charge damaged the steel plates on buildings 3 and 4 and that repairs were required.

A shot of frequency of one shot every 10 minutes in relation to x-ray photographic work was also reported (Parratt 1945).

Between 1945 and 1947, the site was used for a variety of experiments (LASL 1947:10). A 1946 memo mentions considerable polonium contamination in the easternmost bunker (Buckland 1946).

A 1947 report mentions that P Site was monitored, and that a fairly high alpha count was found on the floor of one of the buildings (Westcott 1947). Whether this was polonium or another radionuclide, or whether beryllium was also present is not known.

A 1948 memo states that the "hot" building had been painted and that contaminated material and equipment located in it were removed to the disposal area for contaminated material (Westcott 1948). The location of this disposal area is not known.

A 1946 report mentions small quantities of chemical wastes being at TA-13, but does not identify them or describe their disposal (Williams 1946).

According to ENG-R132, all the buildings except TA-13-2, -3, and -4 had been removed by the 1950s. TA-13-2, -3, and -4 were absorbed into the S Site complex, TA-16, and were renumbered TA-16-476, -477, and -478, respectively.

Today, the battleship aspect of the two old TA-13 buildings protects workers during remote machining, in which "overtests" are conducted on new processes to ensure that the machining can be safely performed during routine operations. The old firing site area is located behind the battleship area.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will be conducted to determine the extent of residual environmental contamination.

TA13-2-CA/L/OL-I-HW/RW (Covered and open landfills)

Background--A 1947 report said that miscellaneous experiments had taken place "as the result of which a fair amount of radioactive contamination has been scattered on the shelf area leading down into the canyon on the northeast side of the firing area" (LASL 1947:10). No mention was made of the types of radionuclides in the contamination.

A 1948 memo mentioned that contaminated items in the canyon at P Site had been disposed of in the disposal area for contaminated material (Westcott 1948). Whether all the contamination on the shelf area was removed is not clear, and the location of the disposal area is unknown. Another 1948 report stated, "All contaminated materials have been removed from P Site and the entire site including the shot area surface is considered free from any form of contamination." However, it also states that an employee "claims that years back, some shot areas were covered over by bulldozing. If this is true and you expect to excavate in the vicinity of the shot area at any time, call us so that we may monitor during operations" (Buckland 1948). This statement implies that either high explosive or radionuclide contamination might be present in the subsurface soil.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will be conducted to determine the extent of residual environmental contamination.

TA13-3-CA-I-HW/RW (Burning pits)

Background--A 1951 report mentions burning pits at P Site, but their location is unknown (H Division 1951:8).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--An effort will be made in supplemental Phase I to locate and sample these burning pits.

TA13-4-ST-I-HW/RW (Septic tank)

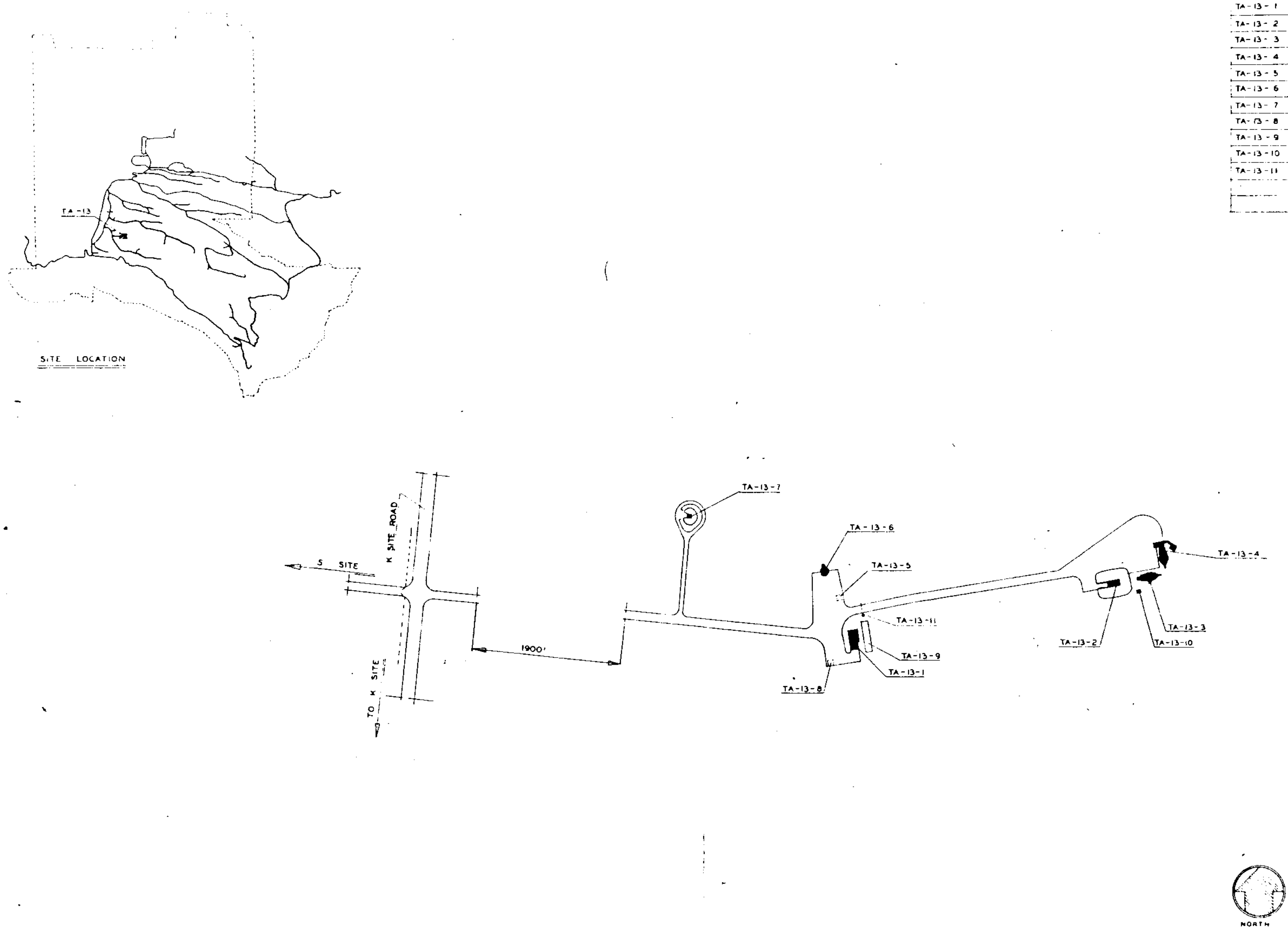
Background--ENG-R132 indicates that TA-13-12 was a septic tank and that it was removed in 1951. Details on its removal and possible contamination, as well as possible contamination from its overflowing, are unavailable. A U.S. Engineer's Office construction drawing of P Site shows the septic tank to have a drain field to the northwest of the tank.

Ditches from P-3 and P-4 are shown draining to the canyon. Whether these were storm drains is not known. A large manhole (TA-13-10) is shown to the south of building 3. It is now designated as TA-16-484 and is listed as a control manhole on ENG-R5111.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A supplemental Phase I investigation will be conducted to determine the extent of residual environmental contamination.

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-13-1	P-1	OFFICE & SHOP BUILDING
TA-13-2	P-2	LABORATORY BUILDING
TA-13-3	P-3	LABORATORY BUILDING
TA-13-4	P-4	LABORATORY & MACHINE TEST BLDG
TA-13-5	P-5	STORAGE BUILDING, REMOVED
TA-13-6	P-6	EXPERIMENTAL CHAMBER
TA-13-7	P-7	MAGAZINE
TA-13-8	P-8	STORAGE BUILDING, REMOVED
TA-13-9	P-9	BARRICADE
TA-13-10	P-10	MANHOLE
TA-13-11	P-11	ROAD BLOCK



AUTHORIZED FOR

HEALTH
SAFETY
FIRE PR.
COMM.
SEC.

REV. 0

LOS ALAMOS SCIENTIFIC LABORATORY
DEPARTMENT OF ENGINEERING—CONSTRUCTION & MAINTENANCE GROUP

STRUCTURE LOCATION PLAN
TA-13 P-SITE

SCALE 1" = 100'
DRAWN BY: GRS DATE 3-3-50
CHKD BY: DATE
APPYD BY: DATE
DWG NO. ENG4-R128

Figure TA-13-1: Structure Location Plan for TA-13 - P Site
(1950 Drawing from the LANL Technical Area Structure Location Plans)

TA-14 - Q SITE

CURRENT OPERATIONS

TA-14 is a firing site used by the Explosives Technology Group (M-1) and the Explosives Application Group (M-8). M-1 fires explosives to test their sensitivity and/or performance. Group M-8 operates the bullet firing facility. All types of bullets, including copper jacketed lead, plastic, steel, and depleted uranium, are used. To allow firing in a certain bore size, plastic spacers may be used. The bullets are fired into a 10-ft-diam steel tube so that the test material is usually contained in the tube or is vaporized.

POTENTIAL CERCLA/RCRA SITES

The principal use for this technical area has remained the same since it was first constructed in 1944--testing and observing explosives of all kinds, many involving radioactive materials. Open and closed firing chambers, firing points, magazines, and related structures were built in the area. When the site was renovated in 1952, a number of structures were removed; however, little information is available about any contamination that was found. Renovations included building a new and extensive firing complex and gun firing site, both of which are still being used.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-14. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-14 is 7.0 (Appendix B).

FIGURES

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TABLE TA-14 - POTENTIAL CERCLA/RCRA SITES

TA14-1-CA-A/I-HW/RW (Firing sites)

Background--TA-14, known as Q Site, was constructed in the fall of 1944 for close observation work on small explosive charges. It included a closed chamber, an open chamber, a small stadium with a central firing point, control buildings and rooms for the firing chambers and points, several small magazines, and trimming buildings. After several firings, the closed chamber failed structurally and was abandoned (LASL 1947:11).

The explosives used probably included pentolite, torpex, tamped tetryl, Composition B, baratol, and 2,4,6-trinitrotoluene (TNT). Lead and steel were used in the early shots (Hoffman 1945). Several shots involving RaLa (radioactive lanthanum) were fired in the open chamber at firing site Q-5 (LASL 1945). The extent of strontium contamination in the shots is not known.

In 1949, a memo indicated that uranium and beryllium were fired at Q Site and that lead was mobilized from the litharge cement (Schulte 1949). No data are given as to which firing chamber was being used.

In 1952, the site was apparently completely renovated. Engineering drawing ENG-R129 indicates that the following structures were removed in 1952: control room, TA-14-3, explosive preparation building, TA-14-4, electric shop, TA-14-7, storage building, TA-14-8, magazine, TA-14-9, storage, TA-14-10, magazine, TA-14-11, instrument chamber and firing point, TA-14-12, and firing pedestal, TA-14-17. All structures except TA-14-17 are shown on ENG-R129, dated 1950. Unfortunately, no information on possible contaminants and removal was found. In particular, structures 12 and 17 may have been contaminated. This removal left TA-14-1, magazine, -2, closed chamber, -5, control building, -6, shop and darkroom, -13, magazine, and -14 and -15, chambers, remaining of the original structures.

In the early 1950s, a new and apparently extensive firing complex was built, including control building TA-14-23; associated firing pads to the south, TA-14-25, -26, -27, -28, and -29; and associated magazines, TA-14-22 and -30. These structures are shown on ENG-R129 and remain at the site today. No information on shots fired from the 1950s to the present has been collected, but the records are available from Group M-1.

In 1958, a new gun-firing site, TA-14-34, was constructed. This facility allowed rounds to be fired at cased high-explosive charges (LASL 1958). The 1986 CEARP field survey observed that this facility is still operating. It has fired bullets containing copper jacketed lead, plastic, steel, and uranium-238. Occasionally, some uranium-238 escapes and causes a fire in the nearby woods.

In 1959, TA-14-1, -5, -13, -14, and -15 were surveyed and found to be free of radioactive contamination, but all were contaminated with high explosive (LASL 1959). In 1960, TA-14-1 and -13 were burned, as undated engineering records indicate. Sometime during this period, an additional firing pad, TA-14-35, was constructed. Later, camera building TA-14-38, high-explosive test facility TA-14-37, and instrumentation building TA-14-40 were built.

In the early 1970s, the decision was made to remove closed chamber TA-14-2 before the high-explosives test facility was built--it was to be located in the same area. A survey of the bunker showed the building to be contaminated with uranium to the following levels: floor, 1,200 dis/min over 60 cm^2 alpha; walls, 1,000 to 4,000 dis/min over 60 cm^2 alpha; and ceiling, 2,000 to 12,000 dis/min over 60 cm^2 alpha. In addition, a floor drain was found (Buckland 1973). The plating on the steel wall that was contaminated with uranium was removed, and the contaminated sand at the side of the building was taken to the radioactive disposal pit at TA-54. Apparently, the building was then burned. The remaining noncombustible building materials with minimal high explosive and radionuclide contamination were placed in the canyon north of TA-16-387 (see Material Disposal Area P). Pieces contaminated with high explosive went to Area J (see Material Disposal Area J), and radioactive pieces went to Area G (see Material Disposal Area G) (LASL 1973). The high-explosive sump was removed at this time. Asphalt in the surrounding area, which had been found to be contaminated with uranium, was apparently also removed and taken to Area G (Gibbons 1973).

During its long history, TA-14 has remained an active firing site. During the 1986 CEARP field survey, it was observed that at present, in addition to firing bullets, explosives are fired to test their sensitivity and/or performance. In previous years, uranium has been involved in the tests. The sensitivity tests sometimes result in high explosive being scattered. Although larger pieces are gathered up, smaller pieces are left in the surrounding area. It is not known how much residual high explosive may be in surrounding soils. Detonation/burn tests are also carried out.

No documentation was found as to the extent of uranium, beryllium, and lead contamination in areas surrounding active and inactive pads.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination resulting from firing site activities at the inactive firing sites will be determined during supplemental Phase I of CEARP. The active firing sites are covered by routine LANL operations.

TA14-2-CA-I-HW/RW (Trash burning area)

Background--In the 1950s, a trash burning area was established at the east end of TA-14, as shown on drawing ENG-R129. Depleted uranium, beryllium, and lead contamination may have occurred.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the extent of residual environmental contamination at the trash burning area will be determined.

TA14-3-IN-A-HW/RW (Incinerator)

Background--The CEARP field survey observed that a drum-type incinerator is being used to burn solvents and paper contaminated with explosives, as well as laboratory equipment contaminated with high explosive. The TA-14-23 area south of the building is also being used for disposal of explosives by detonation.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active incinerator is covered by routine LANL operations.

TA14-4-OL-A-HW/RW (Sandbags)

Background--At the bullet firing facility at TA-14, sandbags surrounding the area disintegrate because of the pressure of the blasts. The split bags of sand are deposited in certain areas at the site to control erosion.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The current disposal practice for sandbags is covered by routine LANL operations.

TA14-5-CA/ST-A-HW/RW (Septic tank, filter box, and drain lines)

Background--According to engineering drawings R685 and R686, building 6 is served by septic tank 19, whose overflow goes to a drain line. This building was used as a shop and darkroom. What chemicals discharged to the septic tank and associated drain line are unknown.

Control building 23 is served by filter box TA-14-31, as shown on ENG-R5109. The filter and drain are probably contaminated with high explosive. ENG-R686 indicates that the filter box has a drain line that appears to discharge to the surrounding soil. The septic line from building 23 joins the filter box's exit drain line before the final discharge. The extent of chemical/high explosive contamination in the surrounding soil is not known. A note on R686 says that the pipes could not be located.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active septic tank, filter box, and drain lines are covered by routine LANL operations.

TA14-6-CA-I-HW (Control building)

Background--In 1959, control building TA-14-5 was used to store cyanogen and hydrogen cyanide (Rutledge 1959). The cyanogen was removed in the 1970s. This building currently houses control equipment used in conjunction with an experiment conducted just outside the building.

There is no evidence of environmental contamination of concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

TA14-7-CA-A-HW (Storage)

Background--Buildings TA-14-23 and -22 are used for satellite storage of scrap high explosive. The scrap is stored in less than 5-gal. amounts and is removed from the area at frequent intervals.

There is no evidence of environmental contamination of concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted by CEARP. The active facilities are covered by routine LANL operations.

TA14-8-L-I-HW (Landfill)

Background--A long-time employee remembers putting some classified material in a drainage system at TA-14 and covering it. The employee does not remember the exact location of the burial and does not believe that the classified material contained toxicants.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, further effort will be made to locate the disposal area and identify its contents.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-14-1	Q-1		REMOVED 1960	
TA-14-2	Q-2		REMOVED 1973	
TA-14-3	Q-3		REMOVED 1952	
TA-14-4	Q-4		REMOVED 1952	
TA-14-5	Q-5		REMOVED 1982	
TA-14-6	Q-6	STORAGE BUILDING		S20+00 E40+00
TA-14-7	Q-7		REMOVED 1952	
TA-14-8	Q-8		REMOVED 1952	
TA-14-9	Q-9		REMOVED 1952	
TA-14-10	Q-10		REMOVED 1952	
TA-14-11	Q-11		REMOVED 1952	
TA-14-12	Q-12		REMOVED 1952	
TA-14-13	Q-13		REMOVED 1960	
TA-14-14	Q-14		REMOVED 1957	
TA-14-15	Q-15		REMOVED 1957	
TA-14-16	Q-16		REMOVED 1952	
TA-14-17	Q-17		REMOVED 1952	
TA-14-18	Q-18	TRANSFORMER STATION		S20+00 E40+00
TA-14-19	Q-19	SEPTIC TANK, SANITARY		S20+00 E40+00
TA-14-20	Q-20		CANCELLED	
TA-14-21	Q-21		REMOVED 1964	
TA-14-22	Q-22	MAGAZINE		S20+00 E37+50
TA-14-23	Q-23	CONTROL BUILDING		S22+50 E40+00
TA-14-24	Q-24	EQUIP. BLDG		S22+50 E40+00
TA-14-25	Q-25	PULLBOX	CONTROL	S22+50 E40+00
TA-14-26	Q-26	PULLBOX	CONTROL	S22+50 E40+00
TA-14-27	Q-27	PULLBOX	CONTROL	S25+00 E40+00
TA-14-28	Q-28	PULLBOX	CONTROL	S25+00 E40+00
TA-14-29	Q-29	PULLBOX	CONTROL	S25+00 E40+00
TA-14-30	Q-30	EXPLOSIVES PREP. BLDG.		S20+00 E32+50
TA-14-31	Q-31	FILTER BOX		S22+50 E40+00
TA-14-32	Q-32	STAIRWAY		S25+00 E40+00
TA-14-33	Q-33		RELOCATED TO TA-40-38	
TA-14-34	Q-34	BULLET TEST FACILITY		S22+50 E32+50
TA-14-35	Q-35	FIRING PAD		S22+50 E40+00
TA-14-36	Q-36	ROAD BLOCK	FORMERLY TA-9-187	S22+50 E40+00
TA-14-37	Q-37		CANCELLED	
TA-14-38	Q-38	CAMERA BUILDING		S22+50 E32+50
TA-14-39	Q-39	HIGH EXPLOSIVE TEST FACILITY		S22+50 E32+50
TA-14-40	Q-40	INSTRUMENTATION BUILDING		S22+50 E32+50
TA-14-41	Q-41	BARRICADE		S22+50 E32+50
TA-14-42	Q-42	BARRICADE		S22+50 E32+50
TA-14-43	Q-43		CANCELLED	

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV	DATE	REVISION	BY	CKD	APP
17	8-3-83	REVISED TITLE BLOCK & DWG TO STATUS OF 7-26-83	H.S.	[illegible]	[illegible]

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-14 Q - SITE

SEC CLASSIFICATION — CLASS: U — REVIEWER: [illegible] — DATE: 9-23-83

SUBMITTED — RECOMMENDED — APPROVED

DRAWN: [illegible] — CHECKED: [illegible] — DATE: 8-3-83 — SHEET NO. 1 OF 2 — DRAWING NO. ENG-R 5109

Figure TA-14-1: Structure Location Plan for TA-14 - Q-Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

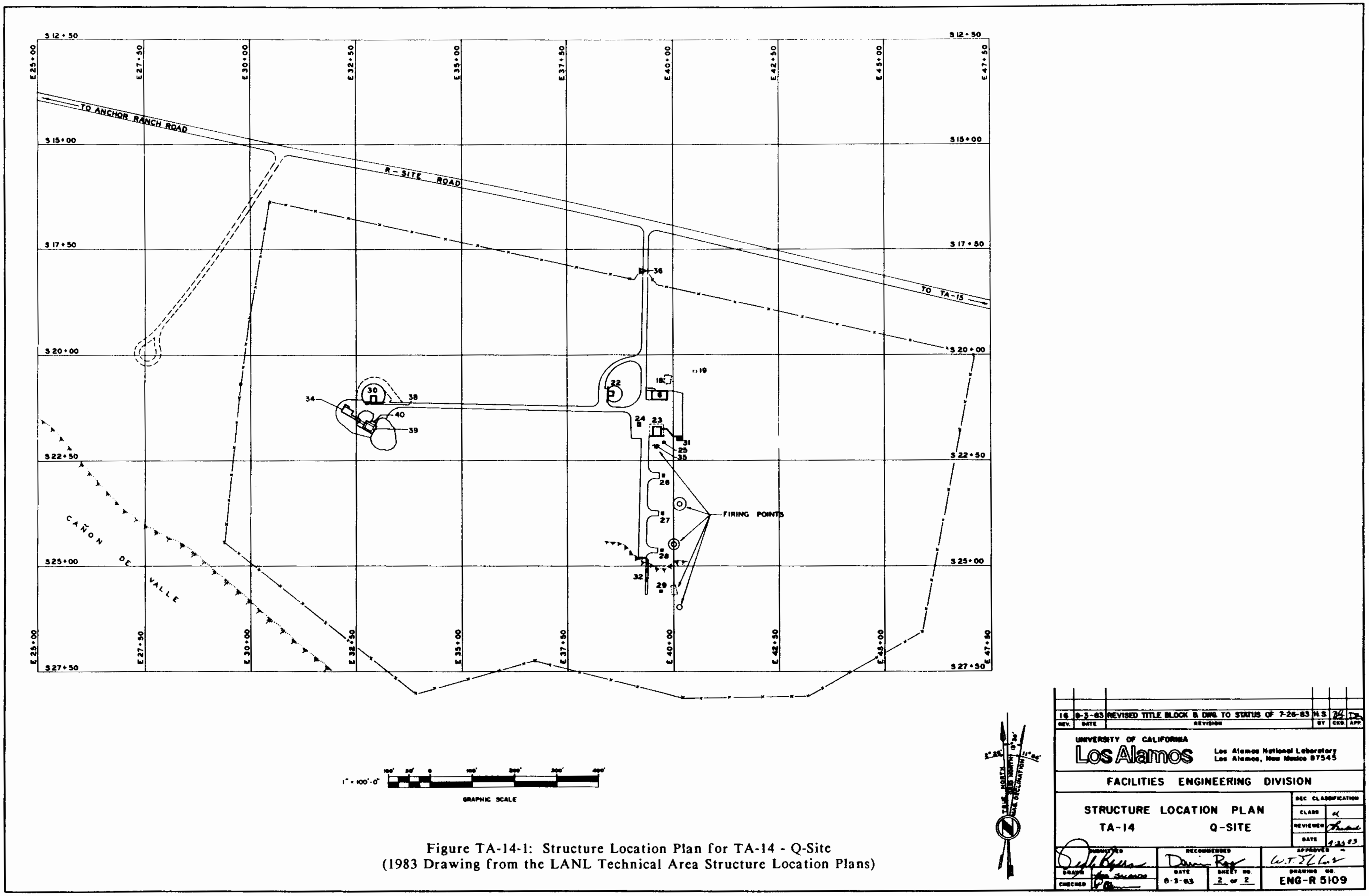

Figure TA-14-1: Structure Location Plan for TA-14 - Q-Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-14-1	Q-1		REMOVED 1960	
TA-14-2	Q-2		REMOVED 1973	
TA-14-3	Q-3		REMOVED 1952	
TA-14-4	Q-4		REMOVED 1952	
TA-14-5	Q-5	TOXIC GAS STORAGE BLDG		S22+50 E42+50
TA-14-6	Q-6	STORAGE BUILDING		S20+00 E40+00
TA-14-7	Q-7		REMOVED 1952	
TA-14-8	Q-8		REMOVED 1952	
TA-14-9	Q-9		REMOVED 1952	
TA-14-10	Q-10		REMOVED 1952	
TA-14-11	Q-11		REMOVED 1952	
TA-14-12	Q-12		REMOVED 1952	
TA-14-13	Q-13		REMOVED 1960	
TA-14-14	Q-14		REMOVED 1957	
TA-14-15	Q-15		REMOVED 1957	
TA-14-16	Q-16		REMOVED 1952	
TA-14-17	Q-17		REMOVED 1952	
TA-14-18	Q-18	SUBSTATION		S20+00 E40+00
TA-14-19	Q-19	SEPTIC TANK	SANITARY	S20+00 E40+00
TA-14-20	Q-20		UNASSIGNED	
TA-14-21	Q-21		REMOVED 1964	
TA-14-22	Q-22	MAGAZINE		S20+00 E37+50
TA-14-23	Q-23	CONTROL BUILDING		S22+50 E40+00
TA-14-24	Q-24	MAGAZINE		S22+50 E40+00
TA-14-25	Q-25	PULLBOX	CONTROL	S22+50 E40+00
TA-14-26	Q-26	PULLBOX	CONTROL	S22+50 E40+00
TA-14-27	Q-27	PULLBOX	CONTROL	S25+00 E40+00
TA-14-28	Q-28	PULLBOX	CONTROL	S25+00 E40+00
TA-14-29	Q-29	PULLBOX	CONTROL	S25+00 E40+00
TA-14-30	Q-30	EXPLOSIVES PREP. BLDG.		S20+00 E32+50
TA-14-31	Q-31	FILTER BOX		S22+50 E40+00
TA-14-32	Q-32	STAIRWAY		S25+00 E40+00
TA-14-33	Q-33		REMOVED 1959	
TA-14-34	Q-34	BULLET TEST BUILDING		S22+50 E32+50
TA-14-35	Q-35	FIRING PAD		S22+50 E40+00
TA-14-36	Q-36	ROAD BLOCK	FORMERLY TA-9-167	S22+50 E40+00
TA-14-38	Q-38	CAMERA BUILDING		S22+50 E32+50
TA-14-39	Q-39	HIGH EXPLOSIVE TEST FACILITY		S22+50 E32+50
TA-14-40	Q-40	INSTRUMENTATION BUILDING		S22+50 E32+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REVIEWER M. D. Lmile
CLASS U DATE 7/28/77

NO.	DATE	REVISIONS	BY	CHKD	GRP LDR	ENG D. O.
16	4-15-77	REVISED DWG NO (FORMERLY R2429)	M M			
15	8-5-74	REVISED PER ENG DWG C 41804	B H			
14	8-22-73	REVISED PER LASL W/O 5-625-001	DAD			
13	1-19-73	REVISED TO STATUS OF 1-19-73	DAD			
12	9-17-71	REVISED TO STATUS OF 9-17-71	DAD			
11	8-7-69	REVISED TO STATUS OF 8-7-69	DAD			
10	8-26-65	REVISED TO STATUS OF 8-24-65	ERW			
9	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R129)	DDS			

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-14 Q-SITE

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

CHECKED: PROJ. ENG.
RECOMMENDED: GROUP LEADER
APPROVED: ENG. DEPT. OFFICE
DESIGNER:
DRAWN: D.D SIMES
SCALE: NONE
DATE: 8-15-61
SHEET NO: 1
DRAWING NO.: ENG-R 5109

Figure TA-14-2: Structure Location Plan for TA-14 - Q-Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)

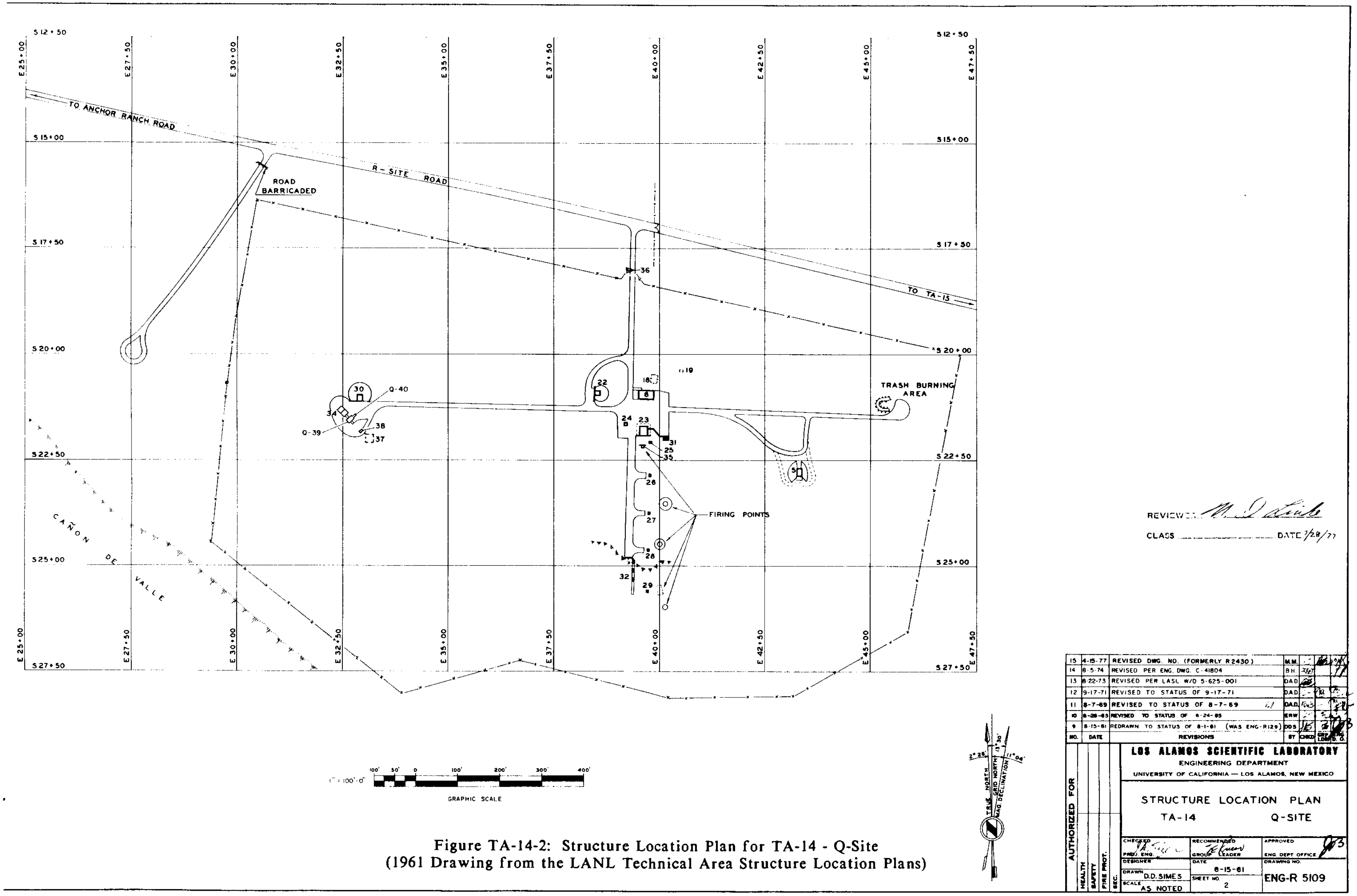

Figure TA-14-2: Structure Location Plan for TA-14 - Q-Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)

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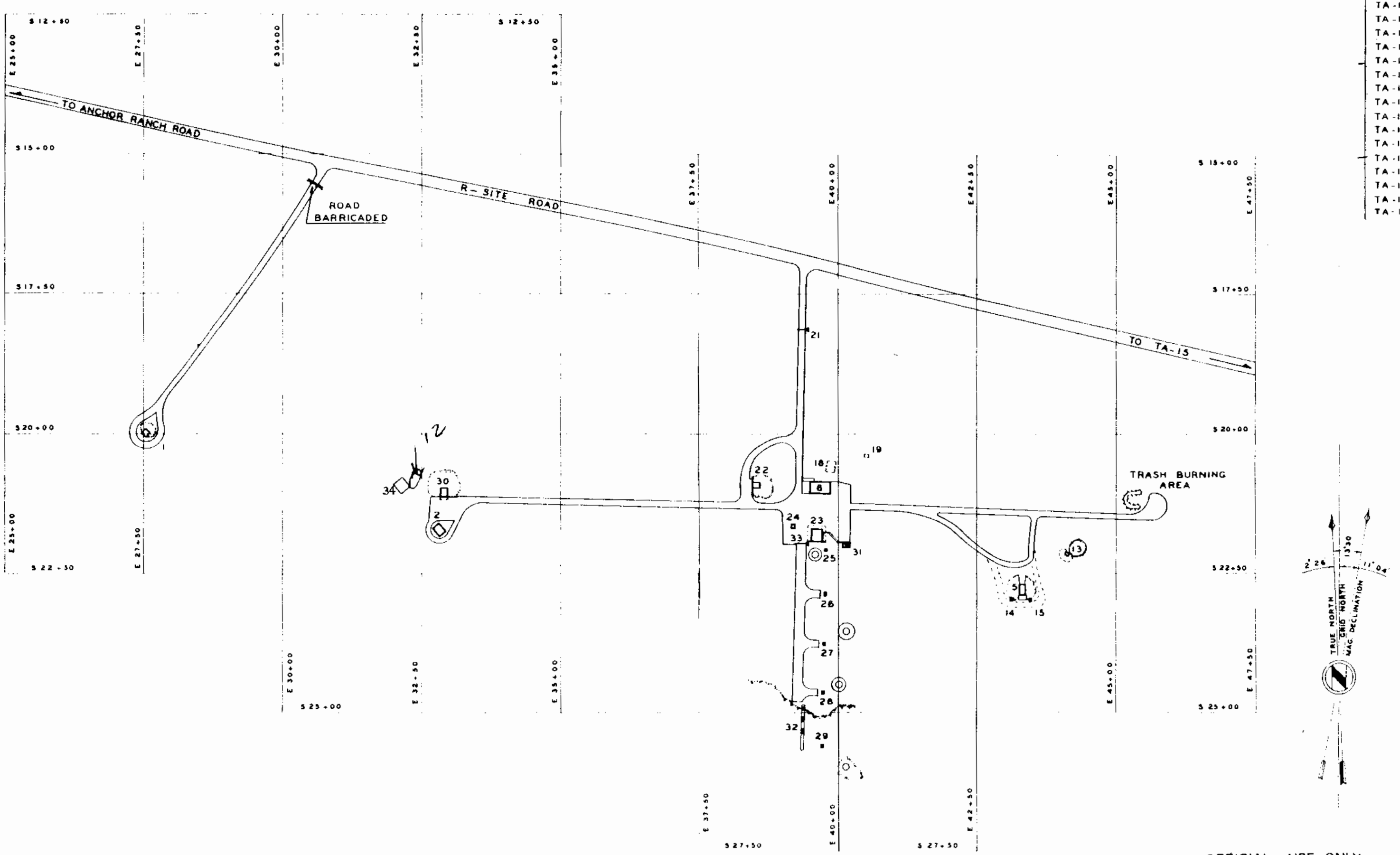
Figure TA-14-3: Structure Location Plan for TA-14 - Q-Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-14-1	Q-1	MAGAZINE (ABANDONED)
TA-14-2	Q-2	CLOSED CHAMBER
TA-14-3	Q-3	CONTROL ROOM (REMOVED)1952
TA-14-4	Q-4	EXPL PREP BLDG (REMOVED)1952
TA-14-5	Q-5	CONTROL BLDG (ABANDONED)
TA-14-6	Q-6	SHOP & DARK ROOM
TA-14-7	Q 7	ELECTRIC SHOP (REMOVED)1952
TA-14-8	Q-8	STORAGE BLDG (REMOVED)1952
TA-14-9	Q-9	MAGAZINE (REMOVED)1952
TA-14-10	Q-10	STORAGE (REMOVED)1952
TA-14-11	Q-11	MAGAZINE (REMOVED)1952
TA-14-12	Q-12	JUNCTION BOX SHELTER (REMOVED)1952
TA-14-13	Q-13	MAGAZINE (ABANDONED)
chamber 1 TA-14-14	Q-14	EQUIPMENT BOX NO.1 (ABANDONED)
2 TA-14-15	Q-15	EQUIPMENT BOX NO.2 (ABANDONED)
TA-14-16	Q-16	ROAD BLOCK (REMOVED)1952
TA-14-17	Q-17	FIRING PEDESTAL (REMOVED)1952
TA-14-18	Q-18	SUBSTATION
TA-14-19	Q-19	SEPTIC TANK (SANITARY)
TA-14-20	Q-20	RESERVE
TA-14-21	Q-21	BARRICADE GATE
TA-14-22	Q-22	MAGAZINE
TA-14-23	Q-23	CONTROL BLDG
TA-14-24	Q-24	MAGAZINE
TA-14-25	Q-25	PULL BOX (CONTROL)
TA-14-26	Q-26	PULL BOX (CONTROL)
TA-14-27	Q-27	PULL BOX (CONTROL)
TA-14-28	Q-28	PULL BOX (CONTROL)
TA-14-29	Q-29	PULL BOX (CONTROL)
TA-14-30	Q-30	MAGAZINE
TA-14-31	Q-31	FILTER BOX
TA-14-32	Q-32	STAIRWAY
TA-14-33	Q-33	BARRICADE GATE
TA-14-34	Q-34	BULLET TEST BUILDING (PROPOSED)



NO	DATE	REVISIONS	BY	CHKD
8	7-7-57	REVISED TO STATUS OF 7-1-57	PR	JAS
7		REDRAWN TO STATUS OF JULY 1, 1955	NOB	JAS

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT, SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-14 Q SITE

CHECKED — DESIGNER; RECOMMENDED — GROUP LEADER; APPROVED — ENG. DEPT. OFFICE
DRAWN: N BYERS — DATE: 9/30/55 — DRAWING NO.: ENG- R 129
SCALE: 1" = 100' — SHEET 1 OF 1

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TA-15 - R SITE

CURRENT OPERATIONS

R Site is occupied by two groups, Hydrodynamics (M-4) and Explosives Applications (M-8). R Site has principally been a firing site since it came into being in 1944 and is still used as a firing site for various hydrodynamic studies. The two main machines at TA-15, PHERMEX (Pulse High Energy Radiographic Machine Emitting X Rays) and Ector, make radiographs of exploding or imploding systems.

POTENTIAL CERCLA/RCRA SITES

In 1944, TA-15, R Site, consisted of a control building, a laboratory, a trimming building, a few hutments and small magazines, and several firing points (LASL 1947a:11). Experiments and tests involving explosives and radionuclides were performed at many locations at this site through the years, and firing sites and firing chambers were built--and abandoned--as needed. Documentation on decommissioning of facilities at TA-15 is incomplete.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plans for TA-15. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-15 is 9.9 (Appendix B).

FIGURES

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TABLE TA-15 - POTENTIAL CERCLA/RCRA SITES

TA15-1-CA-I-HW/RW (Firing sites)

Background--A 1944 report describes a firing point 3/8 mile from the control building that was used for charges of up to about 50 lbs and a second firing point 1/2 mile distant with a large barricade, camera base, and subsurface instrument room (LASL 1944). Engineering drawing R5110 indicates that firing platforms TA-15-176 and -177 were removed in 1947. Whether they are the two firing points referred to above and where they were located is not known.

In 1944, a blast test was reported in "the Gulch" 1 mile below R Site. Charges of up to 300 lb of Composition B and 500 lb of ammonium picrate were set off (Linschitz 1944:2). Apparently, no further tests were done here.

In 1945, 2,500-lb shots were reported for TA-15 (Bradbury 1945). Then, in 1946, the decision was made to designate the site a permanent location for firing explosives experiments involving charges of up to 2 tons. A series of small, permanent firing chambers and a new, large-scale firing site with an underground timber control building were constructed (LASL 1947a:11).

In 1947, Group M-4 was using firing points A, B, C, D, and the "recently completed firing points E and F" at TA-15 (LASL 1947b:10-12).

Firing point A was located southwest of existing building TA-15-183 and was designated TA-15-14 on the ENG-R131 location plan, dated 1957. Firing point B was a few hundred yards southwest of point A and was designated TA-15-74 on the same location plan.

According to a former employee, by 1957 neither of these firing points was being used. In 1965, a contamination survey indicated nondetectable levels of both high explosive and radionuclides at TA-15-14 and -74 (Courtright 1965; Buckland 1965a). No further documentation on decommissioning has been found. During the 1986 CEARP field survey, it was noted that the x-unit chamber firing points and associated structures are no longer at the site. Engineering drawings also indicate their absence.

Firing point C is identified as TA-15-35 on location plan ENG-R130. It was at the junction of the road to E-F Site and I-J Site, according to ENG-R131, dated 1957. Firing point D, TA-15-34, was on the south side of the road between existing structures TA-15-41 and firing point C, as shown on ENG-R131.

ENG-R130 shows C and D to have been abandoned by the mid-1950s. A 1949 report does not mention C or D being active; thus, operations had probably been discontinued even by that date (LASL 1949). The 1986 CEARP field survey indicated that there are no remaining structures. No written documentation on decommissioning has been found. In a 1983 interview, a former employee mentioned that south of the road leading to E-F Site is an area that may have contamination from various tests (Employee Interviews 1983). The reference is probably to firing sites C and D.

Firing points E and F have been a major firing site at TA-15 since the 1940s. ENG-R131, dated 1957, shows firing point E, TA-15-26, on the north and F, TA-15-36, on the south in the area around control building TA-15-27, which remains in place today. The site is near the north rim of Potrillo Canyon. By the 1950s, x-unit chambers TA-15-36 and -26 were noted to have been removed, according to drawing ENG-R5110, dated 1983. A large, central site with two mounded walls was apparently built and remained in operation until a few years ago. It was referred to as E-F. At the time of the field survey, E-F was indicated to be inactive.

Many materials have been fired at E-F, including steel, aluminum, lithium hydride, uranium, mercury, lead, beryllium, boron, cadmium, gold, and possibly tritium. The types of high explosive that have been used include HMX, cyclonite (RDX), 2,4,6-trinitrotoluene (TNT), pentaerythritol tetranitrate (PETN), cyclotol, and baratol, which is an explosive containing barium (Schiager 1973). Thorium was also fired (H Division 1950a).

The DOE Onsite Discharge Information System lists the total amount of natural uranium expended at TA-15 as of July 12, 1982, as 13.950 Ci, uranium-238 as 11.085 Ci, and tritium as 23,444.992 Ci.

A former employee stated that E-F Site and Site R-44 (a later firing site) shared "equally in the amount of uranium expended at inactive sites at TA-15." He also said that E-F, R-44, and R-45 were the three major sites for beryllium shots and that each probably fired equal amounts. CEARP files show many shots, some of which involved kilogram quantities of beryllium, to have been fired at TA-15.

Concentrations of the residues from shots in surrounding soils have been studied for a number of years. As early as 1948, samples of beryllium in soil were being taken. The background was found to be 0.13-0.15 micrograms/g of sand for beryllium, with concentrations of up to 2.9 micrograms/g of sand after a shot (Hayes 1948a,b). These data are believed to come from E-F Site, but they could have come from another site. One report mentions that "an appreciable quantity of beryllium was found at a distance of 2,000 ft from the firing point," (H Division 1958:5). The firing point is not identified, however.

In 1976, a survey of E-F firing points was made for radionuclides using a Phoswich meter. Berms on both sides of the firing point were found to be highly contaminated with uranium. Nowhere in the immediate area was there less than 10,000 counts/min, and most of the area was more than 100,000 counts/min (Eliott 1976). During another survey, uranium concentrations greater than 3,000 micrograms/g of soil were found in the surface soil of some areas at E-F Site (Hanson and Miera 1976:31-32).

A memo discussing recent work by HSE-12 indicates that 1) beryllium is present in the E-F surface soils at slightly elevated levels but is probably not present in soluble form, 2) lead in the surface soil is bordering on phytotoxic levels, and 3) uranium is present at the several-thousand-ppm level in the surface soil and is of concern as a toxic heavy metal. The uranium is oxidizing into a soluble form and is moving downward into the lower soils (Cokal 1985). The field survey found a large amount of shrapnel around E-F.

By 1949 firing points G and H were in use, in addition to firing points A, B, E, and F, (Reider 1949). ENG-R130 indicates that TA-15-9 was the control chamber and TA-15-28 the X-unit chamber for G. An employee remembers that the firing was done between these two structures. ENG-R2431 indicates that TA-15-28 was removed in 1967, and this was verified during the 1986 CEARP field survey. Small pieces of uranium were found on top of TA-15-9 during the 1987 CEARP survey. Firing site H, located to the southeast of G near the present PHERMEX machine (according to ENG-R130) had an instrument chamber, TA-15-17, and a camera chamber, TA-15-92. ENG-R2431 notes that these were removed by 1967. However, the 1987 CEARP field survey found what appears to be these structures still in place. Pieces of uranium were found in what appears to have been the old firing area on top of TA-15-92.

By 1949, firing points I and J were also in operation. At that time, they were designated TA-15-32 and -31. They were transferred to Kappa Site in the late 1970s or early 1980s and are no longer part of TA-15.

By 1954, TA-15-44 and -45 had been built. During the 1986 CEARP field survey, R-44 was being used for ballistic studies, and a gun was located at the site. Site R-45 was not active at the time of the field surveys. TA-15-44 and -45, established later than E-F, appear to have been the location at which large quantities of uranium, beryllium, and lead were fired. However, the environmental studies performed at E-F have not included these two major firing sites. One would expect soil concentrations of beryllium and heavy metals to be elevated above background at these sites, as they are at E-F. A 1957 report indicates up to 1.7 micrograms of beryllium/g of soil at R-44 (GMX-4 1957). In 1965, dirt around R-44 was sampled for uranium-238 and tritium; elevated levels were found (Gibbons 1965a). The 1987 field survey found uranium widely scattered throughout the firing area at R-44. Material from the firing pad, including uranium, had been scraped to the nearby canyon edge. Soil and firing residue that included uranium were noted to be moving down small drainage areas into the canyon. During the 1987 CEARP field survey it was stated that a new firing area had been constructed at R-45 and the old firing area covered with fill material.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I studies will be conducted to determine the extent of residual contamination in the environment from activities of the now inactive firing sites.

TA15-2-CA-A-HW/RW (Firing sites: PHERMEX and Ector)

Background--TA-15 has two large firing sites in use at the moment: the PHERMEX machine and associated firing pad, and the Ector machine and associated firing facilities.

The PHERMEX machine, TA-15-184, is used for radiographic studies of explosives and explosive-driven metal systems; thus, the experiment itself is "exploded" on the pad next to PHERMEX. The facility was built on the south rim of Potrillo Canyon in the early 1960s (Mader, Neal, and Dick 1980:1). Materials studied and fired include aluminum, copper, nickel, mercury, lead, thorium, uranium, and beryllium (Mader, Neal, and Dick 1980:22,29). Large amounts of uranium have been involved in the shots, and one memo indicates that small amounts of gallium were also fired (LASL 1966).

Cleaning to remove plutonium contamination was noted at building 186, part of PHERMEX, in 1967 (GMX-11 1967). In 1975, upgrading for PHERMEX was undertaken. The instructions were, "Prior to any work in areas contaminated with 238-uranium and beryllium in front of the PHERMEX building, R-184, Zia should clean the immediate area of debris and 2-4 inches of loose surface soil and sand, and remove all metal plates," (Engineering 1975:12). Where this material was taken is not known.

Another machine, Ector, was imported from England. The control building is designated TA-15-280 with firing point chamber TA-15-276. The same type of studies are done here as at the PHERMEX facility. Very little data are available on the extent of contamination in the areas surrounding PHERMEX and Ector.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. PHERMEX and Ector are covered by routine LANL operations.

TA15-3-CA-I-HW/RW (Shafts)

Background--A series of shafts, TA-15-264, -265, -270, and -271, are located on the north side of the site near Three-Mile Canyon. They are between 125 and 130 ft deep with 6-ft diameters. In 1970, 4000 lb of TNT was fired in one shaft (Peterson 1970). Somewhat later, an experiment in another of the shafts took place in which less than 200 g of beryllium, some lead, approximately 500 lb of LX-09PBX, 200 to 2000 Ci of tritium, and small amounts of other materials were involved.

The 1987 CEARP field survey found a wooden cover over the shaft used for the high-explosive experiment. A small shed covers the other experimental shaft. The other two shafts have not been used and are covered with wood and metal.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigation of the shafts will be conducted to determine the extent of residual environmental contamination.

TA15-4-CA-I-HW/RW (Burning area)

Background--A 1950 report states that a test was conducted at R Site to determine the feasibility of collecting by flypaper uranium oxide particles that had been dispersed into the air by burning depleted uranium with gasoline and high explosive, (H Division 1950b:12).

In 1979, small-scale burn tests of uranium turnings in contact with uranium rods took place near E-F Site (LASL 1979, Elder and Tinkle 1979). Oil-soaked natural uranium turnings and scrap were also burned (Ahlquist 1980).

During the 1986 CEARP field survey, one former employee recalled two occasions on which oil/uranium mixtures were burned 100-150 yards west of E-F Site and other occasions on which uranium was burned at E-F Site itself.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The burning area will be sampled for residual uranium contamination during supplemental Phase I.

TA15-5-CA/OL-I-HW/RW (Disposal near E-F)

Background--In 1954, a bulldozer was used at the E-F point firing pit, apparently to prepare a new pit after an old shot. Soil samples for uranium in this area showed concentrations of 0.1 percent, and beryllium was also present in concentrations high enough to require a respirator for the bulldozer operator (Robbins 1954).

In 1955, a report said that the pit area was watered, the ground was broken with a chisel, and soil material was removed with a clam shovel to dump trucks and disposed of in the canyon about 150 yards southeast of the pit. All workers wore respirators, which, when analyzed, showed beryllium in a truck driver's and bulldozer operator's filter (Robbins and Eutsler 1955). The quantity of soil material removed was reported to be approximately 100 cubic yards (H Division 1955:20). Whether soil material was also disposed of at other times is not known.

In 1965, a large, concrete chamber was reported to have exploded on the edge of the canyon, approximately 500 ft south of E point. It was contaminated with 1 mR/h beta-gamma, and 7,000 counts/min alpha was reported. Metal frames and boxes on the edge of the canyon, approximately 400 ft south of E point, showed 300-500 counts/min alpha. Other debris in the two areas gave up to 5,000 counts/min alpha (Gibbons 1965b:3). An employee remembers bulldozers being used to push firing pad residues to the edge of the canyons.

During containment experiments, vessels were washed out near TA-15-285. One employee remembered uranium contamination being found and soil being removed from the area.

A 1959 note stated that it was all right for the PHERMEX facility contractor to use the disposal area for contractors. Where it was located is not known (Engineering 1959). It may be Area M. (See Material Disposal Area M.)

It was reported in 1983 that depleted uranium was disposed of in several areas, including a chemical waste disposal area, and in trash on the canyon edge (LANL 1983:1). The identity and location of the areas is not known. The canyon edge might be Material Disposal Area Z. (See Material Disposal Area Z.)

In the 1986 CEARP field survey, a small amount of concrete and building debris was observed to have been disposed of behind R-22. The 1987 CEARP field survey also found uranium in a pile of soil material across the road and to the south of TA-15-9.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--The inactive disposal areas will be surveyed during supplemental Phase I to locate the areas where possibly contaminated soil material and debris, as well as chemicals, were disposed of.

TA15-6-CA-I-HW/RW (Decommissioned building areas)

Background--The site had many buildings that are no longer present, according to engineering document R5110, dated 1983. Except for the date of removal, no information was found for decommissioning the following structures:

Structure	Use	Date of Removal
TA-15-175	Equipment Platform	1945
TA-15-176	Firing Platform	1947
TA-15-197	Firing Platform	1947
TA-15-24	Storage	1951
TA-15-79	Underground Tank	1952
TA-15-6	Control Chamber "A"	1959
TA-15-3	Storage	1955
TA-15-4	Storage	1955
TA-15-5	Trimming Building	1962
TA-15-1	Laboratory and Shops	1962
TA-15-7	Office and Darkroom	1962
TA-15-11	Magazine	1967
TA-15-12	Magazine	1967
TA-15-13	Magazine	1967
TA-15-33	Radioactive Source Building	1967

Whether the office and darkroom, and drains and sumps from the laboratory and shops were removed is not known. Their state of contamination and the status of contamination in the source building are also unknown.

A mercury spill is known to have occurred in building 7 (H Division 1952:22). Thorium contamination was found in building 1 (Buckland 1950). Mercury was used in experiments in building 1 (GMX-11 1966).

On a 1948 topographical map, what appears to be a bunker is shown near the present disposal area, N. Engineering records from 1957, ENG-R130 and R131, indicate this structure is no longer present, as was verified in the 1986 CEARP survey.

Early in 1965, the following structures were surveyed and found to be free of high explosive and radionuclide contamination: TA-15-2, warehouse; TA-15-10, magazine; TA-15-15, control room; TA-15-16, instrument chamber; TA-15-21, -38, -68, -69, magazines; TA-15-71, plate barricade; TA-15-76 and -77, personnel shelters; TA-15-78, septic tank; TA-15-80, camera chamber; TA-15-98, control chamber; and TA-15-135, storage (Courtright 1965; Buckland 1965a). Later, in 1965, structures TA-15-18, a magazine, and TA-15-34 and -35, control chambers, were monitored and found to be free of radionuclides (Gibbons 1965b). These structures were all removed in 1967.

In 1965, R-71, a plate barricade, and R-125 and R-126, manholes, were found to be contaminated, and the recommendation was to remove them to a contaminated landfill (Buckland 1965b). ENG-R5110, dated 1967, notes they were removed in 1967.

Although no documentation on the decommissioning of buildings at TA-15 has been found, disposal area N is noted to be "a pit located east of building R-23, TA-15, containing remnants of several structures from R Site, which had been exposed to explosives or chemical contamination," (Engineering 1965). Unless the pit was left open, disposal area N must contain only buildings removed before 1965. How the buildings were disposed of during the 1967 work is not known. (See Material Disposal Area N.)

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination will be determined during supplemental Phase I.

TA15-7-CA-I-RW/HW (Bunkers and other structures)

Background--The dirt bunkers, TA-15-44 and -45, and E firing points are noted to contain low levels of uranium (Balo and Warren 1986:61). Cleaning to remove beryllium in building R-233, the inactive betatron building, was noted in 1969 (GMX-11 1969). Beryllium contamination of the oil in diffusion pumps is reported for R-50 (LASL 1961a). Building R-233 is now used as a carpentry shop.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination will be determined during supplemental Phase I.

TA15-8-S/ST/O-I-HW/RW (Inactive sumps, drains, outfalls, and septic tanks)

Background--As mentioned in section TA-15-4, there is no information on drains from buildings 1, 5, and 7. The 1986 CEARP field survey indicated that inactive building R-23 has a septic tank, but the tank is probably not contaminated with high explosive. This may be tank 80, noted on ENG-R5110 to be abandoned.

ENG-R716 indicates that in 1958, the sanitary sewer from building 92 (camera firing point), removed in 1967, went to the edge of the canyon either with a seepage field or outfall. Whether this drain was contaminated with chemicals or high explosive and whether it was removed is not known.

ENG-R692 indicates that in 1958, shop building 8 was served by septic tank 147, which is still in place. The tank does not appear to be active. In a 1972 survey, this tank was noted to have possible high-explosive contamination (Miller 1972). ENG-R694, dated 1958, shows building 20, an assembly building, to have a drain connection that appears to go to a canyon outfall. In the 1986 CEARP field survey, building 20 was observed to have floor drains. The area of discharge of these drains is not known. At one time the building was used for high-explosive work, an employee reported, and there is a small possibility of contamination from high explosive. In addition, building 20 had a drain to septic tank 51, the effluent from which also drained to a canyon outfall. In the field survey, a septic system, probably TA-15-51, was observed near building 194. This tank appears to have a drain field at the edge of the canyon.

The overflow from septic tank 63, which served building 40, appears to have gone to an outfall, as shown on ENG-R694, dated 1958. Building 27, a control unit firing at E-F, was served by septic tank 72, which may have drained to a canyon outfall (ENG-R709 1958). This system is no longer active and the possibility of contamination in the system and drainage area is not known.

In the 1960s, building R-194 had a vapor degreaser and strip tanks (LASL 1961b). Besides the degreaser, solutions included sulfuric acid, chromate, and hydrochloric acid. In 1978, plans were drawn for a dry well (R-309) approximately 4 ft in diameter and 50 ft deep to connect to the existing drain at R-194 (Roybal 1978). In the 1987 CEARP field survey, it was observed that the dry well located on the edge of the canyon is currently covered with soil. The vapor degreaser and septic tanks are no longer being used.

In the 1960s, building R-50 was noted to have two acid cleaning tanks draining to a sump "located at the edge of canyon," (LASL 1960). Another memo indicated that the drain might go into the canyon (Westfall 1959). R-50 is now being used as a shop, and the sinks have been removed, according to the 1986 CEARP field survey. However, the drain from the sinks was observed to exit the building and connect with the drainage ditch, which goes into the canyon. The building was also observed to have floor drains. Building 203 used to have several sources that discharged cooling water to the canyon.

An old, undated NPDES map indicates that there were two outfalls at building 40. The northwest outfall included photographic wastes, whereas the outfall to the northeast was for cooling water and may have included chemicals. Cooling water discharge from R-44 is also shown.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with inactive sumps, drains, outfalls, and septic tanks, as well as contaminated areas resulting from past discharges will be determined during supplemental Phase I.

TA15-9-S/ST/O-A-HW/RW (Active sumps, drains, outfalls, and septic tanks)

Background--During the 1987 CEARP field survey, a hole was found with liquid flowing into it near TA-15-144. The source of the liquid is not known. Cooling water from building TA-15-203 is routed to a drainage ditch outside the building. The ditch runs to the edge of the canyon.

The chemical drains in building TA-15-183, including one down which developer is poured, were observed to lead to an outfall behind the building. During the 1986 CEARP field survey, the building was observed to have floor drains through which cooling water was routed; however, the destination of the drains is unknown.

In the PHERMEX facility, floor drains from the buildings are routed to an outside ditch. An oil spill in the facility resulted in oil, which appears to have been PCB free, discharging to the ditch. Routinely, cooling water discharges to the floor drains, and therefore, also to the ditch. This facility is also served by a wet cooling tower. In 1971, the volume of blowdown from the tower was indicated to be 360,000 gal./yr; organic chelates were being used to control dissolved solids (Miller 1971:5).

Building TA-15-263 was observed during the 1986 CEARP field survey to house a laser using once-through cooling water that discharges to a ditch.

The Ector facility includes water-cooled lasers. It was observed during the CEARP field survey that the water goes to a ditch that drains into the canyon.

For active septic tanks TA-15-51 and -61, the overflow goes to a seepage pit; for TA-15-62, the overflow goes to a drain line and appears to go to the canyon (information from ENG-R699 and an untitled 1981 Zia report); for TA-15-63, the overflow goes to a seepage pit; for TA-15-195, the overflow goes to a seepage pit, requires pumping, and has a scum layer that may result from "nonsanitary waste" being disposed of in it; for TA-15-205 and -282, the overflow goes to leach fields; and for TA-15-293, the overflow goes to a seepage pit (Pan Am 1986:2-3).

Septic tank 284 serves TA-15-233, the betatron building, and tank -286 serves TA-15-285, the confinement and test facility.

A 1972 survey indicated that tank TA-15-51 was possibly contaminated with high explosive (Miller 1972). In 1981, the tank was found to be "daylighting" (surfacing) to the canyon. Samples were taken, and no high explosive was detected (Stump, Paxton, and Gonzales 1981:6). The extent of chemical release to sanitary systems over the years of operation and contamination of drains, seepage pits, and leach fields is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with past discharges will be determined during supplemental Phase I. The active facilities are covered by routine LANL operations.

TA15-10-UST-A-PP (Underground storage tanks)

Background--On ENG-R5110, underground fuel tank TA-15-48 is shown near the old shop, and underground fuel tank TA-15-52 was observed in the 1986 CEARP field survey near old assembly building TA-15-20. It was also observed that underground storage tank TA-15-266 is used to store oil for the Marx generators for PHERMEX. The survey indicated that underground tank TA-15-287 was empty at the moment. Some confusion exists about these two underground tanks and their status (i.e., -287 may be in use, but not -266).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active tanks are covered by routine LANL operations.

TA15-11-CA-A-HW (PCBs)

Background--A broken capacitor containing PCBs was reported for TA-15-183 in 1961 (LASL 1961c). During the 1986 CEARP field survey, all capacitors in TA-15-183 were observed to contain PCBs.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The capacitors are covered by routine LANL operations.

TA15-12-CA-A-HW (High-explosive detonation)

Background--In addition to being used as a site for experiments, the PHERMEX facility, TA-15-184, is also used for waste treatment. Waste scraps of high explosive are detonated there to dispose of them safely, as was observed during the 1986 CEARP field survey.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The detonation activities are covered by routine LANL operations.

TA15-13-CA-A-HW (Bunkers)

Background--Bunkers TA-15-41 and -242 are used to store scrap high explosive for short periods of time until it can be disposed of safely.

There is no evidence of residual contamination of environmental concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted. The active bunkers are covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-15-1	R-1		REMOVED 1962	
TA-15-2	R-2		REMOVED 1967	
TA-15-3	R-3		REMOVED 1955	
TA-15-4	R-4		REMOVED 1955	
TA-15-5	R-5		REMOVED 1962	
TA-15-6	R-6		REMOVED 1959	
TA-15-7	R-7		REMOVED 1962	
TA-15-8	R-8	SHOP BUILDING		S20+00E 65+00
TA-15-9	R-9	CONTROL CHAMBER	FIRING POINT G	S65+00E 60+00
TA-15-10	R-10		REMOVED 1967	
TA-15-11	R-11		REMOVED 1967	
TA-15-12	R-12		REMOVED 1967	
TA-15-13	R-13		REMOVED 1967	
TA-15-14	R-14		REMOVED 1967	
TA-15-15	R-15		REMOVED 1967	
TA-15-16	R-16		REMOVED 1967	
TA-15-17	R-17		REMOVED 1967	
TA-15-18	R-18		REMOVED 1967	
TA-15-19	R-19		REMOVED 1960	
TA-15-20	R-20	BRANCH SHOP & LAB BLDG.		S35+00E 65+00
TA-15-21	R-21		REMOVED 1967	
TA-15-22	R-22	EXPLOSIVES PREPARATION BLDG		S30+00E 55+00
TA-15-23	R-23	LABORATORY BUILDING	FORMERLY TA-20-1	S30+00E 70+00
TA-15-24	R-24		REMOVED 1951	
TA-15-25	R-25		REMOVED 1951	
TA-15-26	R-26		REMOVED 1952	
TA-15-27	R-27	CONTROL BUILDING	FIRING POINTS E&F	S50+00E 95+00
TA-15-28	R-28		REMOVED 1967	
TA-15-29	R-29		REMOVED 1967	
TA-15-30	R-30	GUARD STATION		S35+00E 65+00
TA-15-31	R-31	CONTROL BUILDING	RENUMBERED TA-36-56	
TA-15-32	R-32		REMOVED 1967	
TA-15-33	R-33		REMOVED 1967	
TA-15-34	R-34		REMOVED 1967	
TA-15-35	R-35		REMOVED 1967	
TA-15-36	R-36		REMOVED 1954	
TA-15-37	R-37	AIR COMPRESSOR BUILDING		S20+00E 65+00
TA-15-38	R-38		REMOVED 1967	
TA-15-39	R-39		REMOVED 1951	
TA-15-40	R-40	OFFICE BUILDING		S30+00E 70+00
TA-15-41	R-41	STORAGE BUILDING		S35+00E 90+00
TA-15-42	R-42	MAGAZINE		S35+00E110+00
TA-15-43	R-43	MAGAZINE		S35+00E110+00
TA-15-44	R-44	CONTROL BUILDING		S35+00E120+00
TA-15-45	R-45	CONTROL BUILDING		S25+00E 95+00
TA-15-46	R-46	LABORATORY BUILDING		S30+00E 70+00
TA-15-47	R-47	WATER TOWER		S25+00E 65+00
TA-15-48	R-48	TANK, FUEL U.G.		S20+00E 65+00
TA-15-49	R-49		REMOVED 1959	
TA-15-50	R-50	SHOP & LABORATORY BLDG.		S35+00E 65+00
TA-15-51	R-51	TANK, SEPTIC		S35+00E 65+00
TA-15-52	R-52	TANK, FUEL U.G.		S35+00E 65+00
TA-15-53	R-53		REMOVED 1959	
TA-15-54	R-54	TRANSFORMER STATION		S45+00E 90+00
TA-15-55	R-55	TRANSFORMER STATION		S30+00E 70+00
TA-15-56	R-56	TRANSFORMER STATION		S50+00E 95+00
TA-15-57	R-57	TRANSFORMER STATION		S30+00E105+00
TA-15-58	R-58	TRANSFORMER STATION	RENUMBERED TA-36-59	
TA-15-59	R-59	WIGWAG		S35+00E105+00
TA-15-60	R-60	WIGWAG		S35+00E110+00
TA-15-61	R-61	TANK, SEPTIC		S30+00E 95+00
TA-15-62	R-62	TANK, SEPTIC		S35+00E120+00
TA-15-63	R-63	TANK, SEPTIC		S30+00E 70+00
TA-15-64	R-64	TRANSFORMER STATION		S35+00E 90+00
TA-15-65	R-65	TRANSFORMER STATION		S25+00E 70+00
TA-15-66	R-66	TANK, WATER U.G.	RENUMBERED TA-36-60	
TA-15-67	R-67	TANK, SEPTIC	RENUMBERED TA-36-61	
TA-15-68	R-68		REMOVED 1967	
TA-15-69	R-69		REMOVED 1967	
TA-15-70	R-70	TANK, WATER U.G.		S50+00E100+00
TA-15-71	R-71		REMOVED 1967	
TA-15-72	R-72	TANK, SEPTIC		S50+00E 95+00
TA-15-73	R-73		REMOVED 1967	
TA-15-74	R-74	FIRING UNIT CHAMBER	ABANDONED 1962	S50+00E 65+00
TA-15-75	R-75		REMOVED 1967	
TA-15-76	R-76		REMOVED 1967	
TA-15-77	R-77		REMOVED 1967	
TA-15-78	R-78		REMOVED 1967	
TA-15-79	R-79		REMOVED 1952	
TA-15-80	R-80	TANK, SEPTIC	ABANDONED 1961	S30+00E 70+00
TA-15-81	R-81	GUARD HOUSE	RELOCATED TO TA-16-1000	
TA-15-82	R-82		REMOVED 1965	
TA-15-83	R-83		REMOVED 1950	
TA-15-84	R-84		REMOVED 1951	
TA-15-85	R-85		REMOVED 1962	
TA-15-86	R-86		REMOVED 1958	
TA-15-87	R-87	ROAD BLOCK	RELOCATED TO TA-33-109	
TA-15-88	R-88	ROAD BLOCK	RELOCATED TO TA-33-115	
TA-15-89	R-89		REMOVED 1959	
TA-15-90	R-90	WIGWAG		S45+00E110+00
TA-15-91	R-91		REMOVED 1967	
TA-15-92	R-92		REMOVED 1967	
TA-15-93	R-93		REMOVED 1959	
TA-15-94	R-94	WIGWAG		S40+00E 95+00
TA-15-95	R-95		CANCELLED	
TA-15-96	R-96		REMOVED 1951	
TA-15-97	R-97		REMOVED 1967	
TA-15-98	R-98		REMOVED 1967	
TA-15-99	R-99	TANK, FUEL	RELOCATED TO TA-33-137	
TA-15-100	R-100		REMOVED 1967	
TA-15-101	R-101		REMOVED 1967	
TA-15-102	R-102		REMOVED 1967	
TA-15-103	R-103		REMOVED 1967	
TA-15-104	R-104		REMOVED 1967	
TA-15-105	R-105		REMOVED 1967	
TA-15-106	R-106		REMOVED 1967	
TA-15-107	R-107	STORAGE BUILDING	RELOCATED TO TA-36-44	
TA-15-108	R-108	MANHOLE, PUMP PIT		S25+00E 65+00
TA-15-109	R-109		REMOVED 1967	
TA-15-110	R-110		REMOVED 1967	
TA-15-111	R-111		REMOVED 1967	
TA-15-112	R-112		REMOVED 1967	
TA-15-113	R-113		REMOVED 1967	
TA-15-114	R-114		DESTROYED	
TA-15-115	R-115		DESTROYED	
TA-15-116	R-116		DESTROYED	
TA-15-117	R-117		DESTROYED	
TA-15-118	R-118		DESTROYED	
TA-15-119	R-119		DESTROYED	
TA-15-120	R-120		DESTROYED	
TA-15-121	R-121	MANHOLE, ELECTRICAL		S35+00E120+00
TA-15-122	R-122	MANHOLE, ELECTRICAL		S35+00E120+00
TA-15-123	R-123	MANHOLE, SANITARY		S35+00E120+00
TA-15-124	R-124	MANHOLE, ELECTRICAL		S50+00E 95+00
TA-15-125	R-125		REMOVED 1967	
TA-15-126	R-126		REMOVED 1967	
TA-15-127	R-127	MANHOLE, ELECTRICAL		S50+00E 95+00
TA-15-128	R-128	MANHOLE, ELECTRICAL		S50+00E100+00
TA-15-129	R-129	MANHOLE, ELECTRICAL		S50+00E100+00
TA-15-130	R-130	MANHOLE, ELECTRICAL		S50+00E100+00
TA-15-131	R-131	MANHOLE, ELECTRICAL		S50+00E100+00
TA-15-132	R-132	MANHOLE, ELECTRICAL		S50+00E100+00
TA-15-133	R-133	MANHOLE, ELECTRICAL		S50+00E100+00
TA-15-134	R-134	FIRING UNIT CHAMBER	REPLACED TA-15-26	S45+00E100+00
TA-15-135	R-135		REMOVED 1967	
TA-15-136	R-136	SHOP BUILDING	RELOCATED TO TA-36-45	
TA-15-137	R-137		REMOVED 1967	
TA-15-138	R-138		DESTROYED	
TA-15-139	R-139		REMOVED 1965	
TA-15-140	R-140	STORAGE BUILDING		S25+00E 70+00
TA-15-141	R-141		DESTROYED	
TA-15-142	R-142		DESTROYED	
TA-15-143	R-143		REMOVED 1962	
TA-15-144	R-144	RETAINING WALL		S35+00E 65+00
TA-15-145	R-145		REMOVED 1959	
TA-15-146	R-146		UNASSIGNED	
TA-15-147	R-147	TANK, SEPTIC		S20+00E 65+00
TA-15-148	R-148		REMOVED 1967	
TA-15-149	R-149	MANHOLE, SANITARY		S30+00E 70+00
TA-15-150	R-150	MANHOLE, INDUSTRIAL WASTE		S35+00E 65+00
TA-15-151	R-151	MANHOLE, INDUSTRIAL WASTE		S35+00E 65+00
TA-15-152	R-152		REMOVED 1967	
TA-15-153	R-153		REMOVED 1967	
TA-15-154	R-154		REMOVED 1967	
TA-15-155	R-155		REMOVED 1967	
TA-15-156	R-156		REMOVED 1967	
TA-15-157	R-157	MANHOLE, TELEPHONE		S30+00E100+00
TA-15-158	R-158	MANHOLE, TELEPHONE		S30+00E100+00
TA-15-159	R-159	MANHOLE, TELEPHONE		S30+00E105+00
TA-15-160	R-160	MANHOLE, TELEPHONE		S30+00E110+00
TA-15-161	R-161	MANHOLE, TELEPHONE		S30+00E110+00
TA-15-162	R-162	MANHOLE, TELEPHONE		S30+00E115+00
TA-15-163	R-163	MANHOLE, TELEPHONE		S30+00E115+00
TA-15-164	R-164	MANHOLE, ELECTRICAL	RENUMBERED TA-36-62	
TA-15-165	R-165	MANHOLE, ELECTRICAL	RENUMBERED TA-36-63	
TA-15-166	R-166		REMOVED 1967	
TA-15-167	R-167	MANHOLE, ELECTRICAL	RENUMBERED TA-36-64	
TA-15-168	R-168	MANHOLE, ELECTRICAL		S50+00E100+00
TA-15-169	R-169	MANHOLE, ELECTRICAL		S45+00E100+00
TA-15-170	R-170		REMOVED 1960	
TA-15-171	R-171		REMOVED 1959	
TA-15-172	R-172	FIRING UNIT BARRICADE		S45+00E100+00
TA-15-173	R-173	TANK, WATER U.G.		S20+00E 65+00
TA-15-174	R-174		REMOVED 1945	
TA-15-175	R-175		REMOVED 1945	
TA-15-176	R-176		REMOVED 1947	
TA-15-177	R-177		REMOVED 1947	
TA-15-178	R-178		REMOVED 1947	
TA-15-179	R-179		REMOVED 1967	
TA-15-180	R-180		REMOVED 1967	
TA-15-181	R-181		REMOVED 1967	
TA-15-182	R-182	SOLVENT STORAGE SHED		S30+00E 70+00
TA-15-183	R-183	LABORATORY & OFFICE BUILDING		S46+00E 65+00
TA-15-184	R-184	PHERMEX CHAMBER		S75+00E105+00
TA-15-185	R-185	POWER CONTROL BUILDING		S75+00E105+00
TA-15-186	R-186	DETECTION CHAMBER		S75+00E110+00
TA-15-187	R-187	MANHOLE, ELECTRICAL		S75+00E110+00
TA-15-188	R-188	MANHOLE, ELECTRICAL		S75+00E110+00
TA-15-189	R-189	FIRING POINT SUBSTATION		S75+00E105+00
TA-15-190	R-190		DESTROYED	
TA-15-191	R-191	SUBSTATION		S35+00E 65+00
TA-15-192	R-192	TANK, FUEL	RELOCATED TO TA-49-56	
TA-15-193	R-193		REMOVED 1963	
TA-15-194	R-194	ELECTRON GUN BUILDING		S35+00E 65+00
TA-15-195	R-195	TANK, SEPTIC		S45+00E 65+00
TA-15-196	R-196	TRANSFORMER STATION		S45+00E 65+00
TA-15-197	R-197	SUBSTATION		S70+00E 95+00
TA-15-198	R-198	TUNNEL		S75+00E105+00
TA-15-199	R-199	TUNNEL		S75+00E105+00
TA-15-200	R-200	TUNNEL		S75+00E110+00
TA-15-201	R-201	TUNNEL		S75+00E110+00
TA-15-202	R-202	COOLING TOWER		S75+00E100+00
TA-15-203	R-203	PHERMEX CAVITY SHELTER		S35+00E 65+00
TA-15-204	R-204	CDU CHAMBER		S75+00E105+00
TA-15-205	R-205	TANK, SEPTIC		S75+00E105+00
TA-15-206	R-206	SUBSTATION	FORMERLY TA-16-578	S35+00E 65+00
TA-15-207	R-207	GUN EMPLACEMENT	RENUMBERED TA-36-56	
TA-15-208	R-208		REMOVED 1961	
TA-15-209	R-209	ROAD BLOCK	FORMERLY TA-3-98	S40+00E 65+00
TA-15-211	R-211	PLATFORM		S65+00E 65+00
TA-15-212	R-212	TRANSFORMER STATION		S25+00E 70+00
TA-15-213	R-213	PLATFORM		S35+00E 65+00
TA-15-214	R-214	SIREN		S70+00E100+00
TA-15-215	R-215	ROAD BLOCK	FORMERLY TA-18-212	S35+00E 65+00
TA-15-216	R-216	MANHOLE, ELECTRICAL		S70+00E100+00
TA-15-217	R-217	MANHOLE, ELECTRICAL		S70+00E100+00
TA-15-218	R-218	MANHOLE, ELECTRICAL		S75+00E100+00
TA-15-219	R-219	MANHOLE, ELECTRICAL		S75+00E100+00
TA-15-220	R-220	MANHOLE, ELECTRICAL		S75+00E105+00
TA-15-221	R-221	MANHOLE, ELECTRICAL		S75+00E105+00
TA-15-222	R-222	MANHOLE, SANITARY		S75+00E105+00
TA-15-223	R-223	MANHOLE, SANITARY		S75+00E105+00
TA-15-224	R-224	DISTRIBUTION BOX, SANITARY		S75+00E105+00
TA-15-225	R-225	MANHOLE, SANITARY		S45+00E 65+00
TA-15-226	R-226	DISTRIBUTION BOX, SANITARY		S45+00E 65+00
TA-15-227	R-227	MANHOLE, WATER		S70+00E100+00
TA-15-228	R-228	MOTOR GENERATOR PAD		S35+00E 65+00
TA-15-229	R-229	MANHOLE, WATER		S30+00E 65+00
TA-15-230	R-230		DESTROYED	
TA-15-231	R-231	RADIO STATION		S25+00E 65+00
TA-15-232	R-232	GAS CHAMBER		S75+00E105+00
TA-15-233	R-233	BETATRON BUILDING	REPLACES R-193	S65+00E 85+00
TA-15-234	R-234	ROAD BLOCK		S50+00E 65+00
TA-15-235	R-235	SIREN CONTROL PANEL		S70+00E100+00
TA-15-236	R-236	BARRICADE		S50+00E100+00
TA-15-237	R-237	MONITOR CONDUIT PAD		S75+00E105+00
TA-15-238	R-238	MONITOR CONDUIT PAD		S75+00E110+00
TA-15-239	R-239	PASSAGEWAY		S35+00E 65+00
TA-15-241	R-241	READY MAGAZINE		S50+00E70+00
TA-15-242	R-242	MAKE UP BUILDING		S45+00E70+00
TA-15-243	R-243	MAIN MAGAZINE		S45+00E70+00
TA-15-245	R-245	PASSAGEWAY		S35+00E65+00
TA-15-246	R-246	TRANSFORMER STATION		S25+00E60+00
TA-15-247	R-247	TRANSFORMER STATION	RENUMBERED TA-0-472	
TA-15-248	R-248	TRANSFORMER STATION		S35+00E65+00
TA-15-249	R-249	TRANSFORMER STATION		S65+00E80+00
TA-15-250	R-250	EXTERNAL SHOT ALIGNMENT MOUNT		S75+00E110+00
TA-15-251	R-251	BARRICADE		S50+00E70+00
TA-15-252	R-252	BARRICADE		S45+00E70+00
TA-15-253	R-253	BARRICADE		S45+00E70+00
TA-15-254	R-254	VOLTAGE REGULATOR STATION		S35+00E65+00
TA-15-255	R-255	RETAINING WALL		S35+00E65+00
TA-15-256	R-256	TRANSFORMER STATION		S50+00E70+00
TA-15-257	R-257	TRANSFORMER STATION		S65+00E100+00
TA-15-258	R-258	CAPACITOR STATION		S65+00E100+00
TA-15-259	R-259	METERING STATION		S25+00E65+00
TA-15-260	R-260	METERING STATION		S30+00E65+00
TA-15-261	R-261	TANK, OIL STORAGE		S35+00E65+00
TA-15-262	R-262	TRANSFORMER STATION		S50+00E95+00
TA-15-263	R-263	LABORATORY BLDG		S25+00E95+00
TA-15-264	R-264	TEST HOLE		S25+00E100+00
TA-15-265	R-265	TEST HOLE		S25+00E100+00
TA-15-266	R-266	TANK, STORAGE U.G.		S75+00E105+00

REV	DATE	REVISION	BY	CHD	APP
18	9-19-83	REVISED TITLE BLOCK & DWG TO STATUS OF 7-26-83	HS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-15 R-SITE

SEC CLASSIFICATION — CLASS: U — DATE: 10-19-83

SUBMITTED / RECOMMENDED / APPROVED
DRAWN / CHECKED
DATE 9-19-83 — SHEET NO 1 of 3 — DRAWING NO ENG-R5110

Figure TA-15-1: Structure Location Plan for TA-15 - R Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-15-267	R-267	MANHOLE, ELECTRICAL		S35+00 F120+00
TA-15-268	R-268	TRANSFORMER STATION	NOT SHOWN	
TA-15-269	R-269		CANCELLED	
TA-15-270	R-270	TEST HOLE		S25+00 E100+00
TA-15-271	R-271	TEST HOLE		S25+00 E100+00
TA-15-272	R-272	TEST HOLE		S25+00 E100+00
TA-15-273	R-273	TEST HOLE		S25+00 E100+00
TA-15-274	R-274	TANK		S75+00 E105+00
TA-15-275	R-275	CONTAINMENT VESSEL	"JUMBO"	S75+00 E110+00
TA-15-276	R-276	FIRING POINT CHAMBER		S40+00 E105+00
TA-15-277	R-277	TRANSFORMER STATION		S65+00 E80+00
TA-15-278	R-278	TRANSFORMER STATION		S60+00 E120+00
TA-15-279	R-279	CABLE TERMINAL BOX AND CONDUIT RUNS		S75+00 E110+00
TA-15-280	R-280	CONTROL BLDG		S40+00 E105+00
TA-15-281	R-281	BARRICADE	NOT SHOWN	
TA-15-282	R-282	TANK, SEPTIC		S40+00 E105+00
TA-15-283	R-283		CANCELLED	
TA-15-284	R-284	TANK, SEPTIC		S65+00 E85+00
TA-15-285	R-285	CONFINEMENT & TEST FAC.		S50+00 E60+00
TA-15-286	R-286	TANK, SEPTIC		S50+00 E60+00
TA-15-287	R-287	TANK, STORAGE U.G		S75+00 E105+00
TA-15-288	R-288	"JUMBO" CONC. PAD		S75+00 E110+00
TA-15-289	R-289	CAMERA BUNKER		S75+00 E110+00
TA-15-290	R-290	SIGNAL CHAMBER		S75+00 E110+00
TA-15-291	R-291	TANK, FUEL 15,000 GAL.		S75+00 E105+00
TA-15-292	R-292	TRANSFORMER STATION	NOT SHOWN	
TA-15-293	R-293		CANCELLED	
TA-15-294	R-294	PUMP SHED		S40+00 E105+00
TA-15-295	R-295	GATE	NOT SHOWN	
TA-15-296	R-296	TRANSFORMER STATION		S40+00 E105+00
TA-15-297	R-297	TRAILER, SHOP	FORMERLY TA-0-307	S45+00 E80+00
TA-15-298	R-298	TRAILER, STORAGE	FORMERLY TA-0-622	S70+00 E105+00
TA-15-299	R-299	TRAILER, STORAGE	FORMERLY TA-0-543	S75+00 E105+00
TA-15-300	R-300	TRAILER, LABORATORY	FORMERLY TA-0-544	S75+00 E105+00
TA-15-305	R-305	TRANSPORTABLE OFFICE BLDG.	FORMERLY TA-0-1200	S30+00 E70+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

Figure TA-15-1: Structure Location Plan for TA-15 - R Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

REV.	DATE	REVISION	BY	CKD.	APP.
6	9-16-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-26-83	HS		

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-15 R-SITE

SEC. CLASSIFICATION
CLASS. U
REVIEWER
DATE 10-19-83

SUBMITTED
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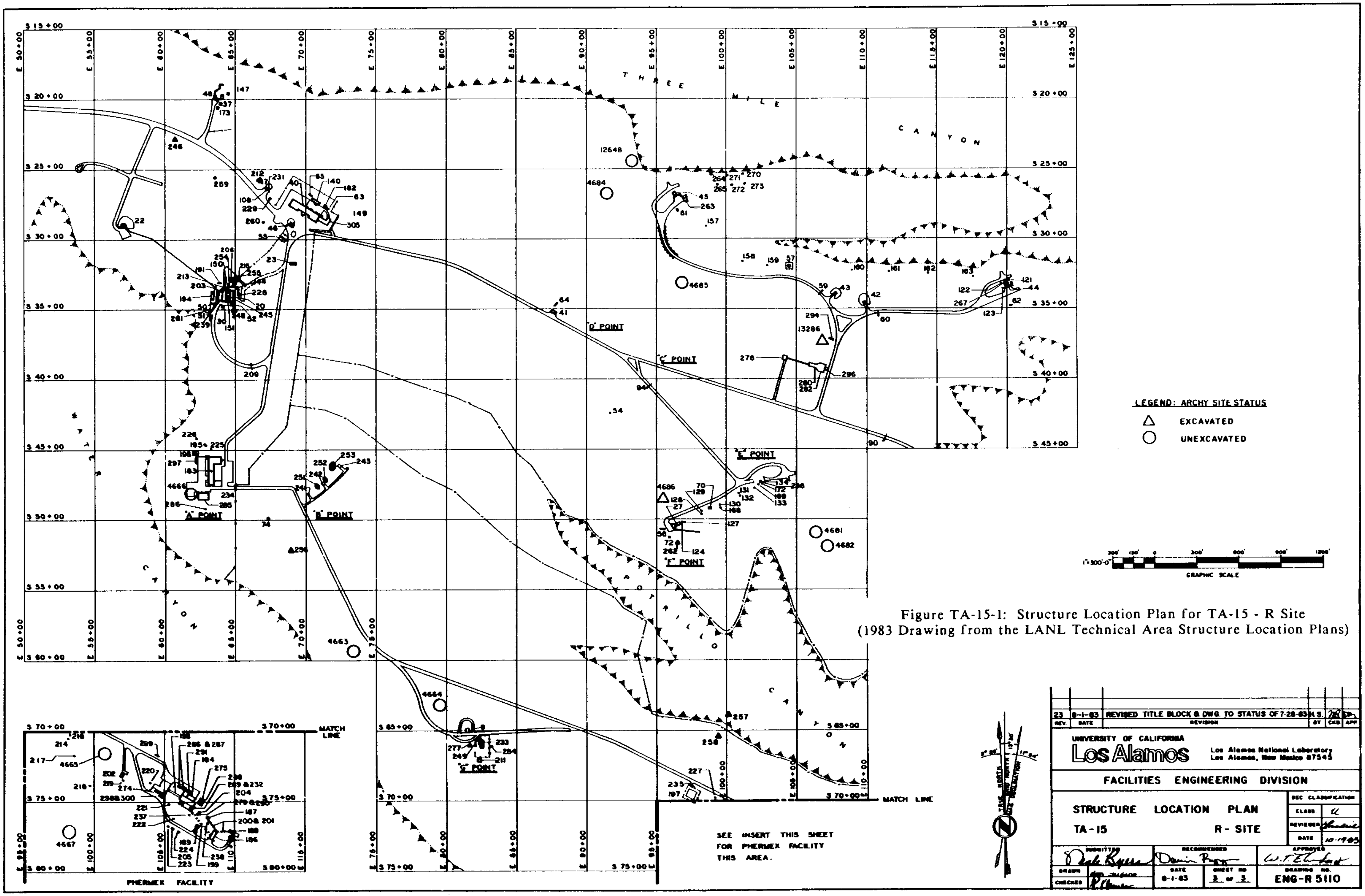

Figure TA-15-1: Structure Location Plan for TA-15 - R Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

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STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-15-1	R-1	LABORATORY & SHOP
TA-15-2	R-2	WAREHOUSE (REMOVED)
TA-15-3	R-3	STORAGE BUILDING (REMOVED 1955)
TA-15-4	R-4	STORAGE BUILDING (REMOVED 1955)
TA-15-5	R-5	TRIMMING BUILDING
TA-15-	R-6	CONTROL CHAMBER FIRING POINT 'A'
TA-15-	R-7	OFFICE & DARK ROOM
TA-15-8	R-8	SHOP
TA-15-9	R-9	CONTROL CHAMBER FIRING POINT 'G'
TA-15-10	R-10	DETONATOR MAGAZINE
TA-15-11	R-11	MAGAZINE
TA-15-12	R-12	MAGAZINE
TA-15-13	R-13	MAGAZINE
TA-15-14	R-14	X-UNIT CHAMBER FIRING POINT 'A'
TA-15-15	R-15	CONTROL ROOM FOR BUILDING R-8
TA-15-16	R-16	BARRICADE FIRING POINT 'G'
TA-15-17	R-17	INSTRUMENT CHAMBER FIRING POINT 'H'
TA-15-18	R-18	MAGAZINE FIRING POINT 'A'
TA-15-19	R-19	GUARD TOWER 'A' AT ASSEMBLY BLDG.
TA-15-20	R-20	ASSEMBLY BUILDING
TA-15-21	R-21	MAGAZINE
TA-15-22	R-22	MAGAZINE
TA-15-23	R-23	GMX MANOR
TA-15-24	R-24	STORAGE (REMOVED) 1951
TA-15-25	R-25	WATER TANK (REMOVED) 1951
TA-15-26	R-26	X-UNIT CHAMBER FIRING POINT 'E'
TA-15-27	R-27	CONTROL BUILDING FIRING POINT 'E&F'
TA-15-28	R-28	X-UNIT CHAMBER FIRING POINT 'G'
TA-15-29	R-29	X-UNIT BARRICADE
TA-15-30	R-30	GUARD STATION AT ASSEMBLY BLDG
TA-15-31	R-31	CONTROL BUILDING FIRING POINT 'I'&'J'
TA-15-32	R-32	X-UNIT CHAMBER FIRING POINT 'J'
TA-15-33	R-33	RADIOACTIVE SOURCE BUILDING
TA-15-34	R-34	CONTROL CHAMBER FIRING POINT 'D' (ABANDONED)
TA-15-35	R-35	CONTROL CHAMBER FIRING POINT 'C' (ABANDONED)
TA-15-36	R-36	X-UNIT CHAMBER (ABANDONED)
TA-15-37	R-37	AIR COMPRESSOR BUILDING FOR BLDG. R-8
TA-15-38	R-38	MAGAZINE
TA-15-39	R-39	ROAD BLOCK (REMOVED) 1951
TA-15-40	R-40	LABORATORY & OFFICE BLDG
TA-15-41	R-41	STORAGE BUILDING
TA-15-42	R-42	MAGAZINE
TA-15-43	R-43	MAGAZINE
TA-15-44	R-44	CONTROL BUILDING
TA-15-45	R-45	CONTROL BUILDING
TA-15-46	R-46	GUARD HOUSE (STATION 530)
TA-15-47	R-47	WATER TOWER
TA-15-48	R-48	BUTANE TANK
TA-15-49	R-49	ROAD BLOCK
TA-15-50	R-50	STORAGE SHELTER
TA-15-51	R-51	SEPTIC TANK (SANITARY)
TA-15-52	R-52	UNDERGROUND TANK (FUEL OIL)
TA-15-53	R-53	SIREN POLE
TA-15-54	R-54	SIREN POLE
TA-15-55	R-55	TRANSFORMER STATION
TA-15-56	R-56	TRANSFORMER STATION
TA-15-57	R-57	TRANSFORMER STATION
TA-15-58	R-58	TRANSFORMER STATION
TA-15-59	R-59	WIGWAG
TA-15-60	R-60	WIGWAG
TA-15-61	R-61	SEPTIC TANK (SANITARY)
TA-15-62	R-62	SEPTIC TANK (SANITARY)
TA-15-63	R-63	SEPTIC TANK (SANITARY)
TA-15-64	R-64	TRANSFORMER STATION
TA-15-65	R-65	TRANSFORMER STATION
TA-15-66	R-66	WATER TANK
TA-15-67	R-67	SEPTIC TANK (SANITARY)
TA-15-68	R-68	DAY MAGAZINE
TA-15-69	R-69	CAP MAGAZINE
TA-15-70	R-70	WATER TANK
TA-15-71	R-71	PLATE BARRICADE
TA-15-72	R-72	SEPTIC TANK (SANITARY)
TA-15-73	R-73	PLATE BARRICADE FIRING POINT 'B' (ABANDONED)
TA-15-74	R-74	X-UNIT CHAMBER FIRING POINT 'B' (ABANDONED)
TA-15-75	R-75	ELECTRIC MANHOLE FIRING POINT 'A'
TA-15-76	R-76	PERSONNEL SHELTER FIRING POINT 'A'
TA-15-77	R-77	PERSONNEL SHELTER FIRING POINT 'A'
TA-15-78	R-78	PERSONNEL SHELTER FIRING POINT 'A'
TA-15-79	R-79	UNDERGROUND TANK (REMOVED) 1952
TA-15-80	R-80	SEPTIC TANK (SANITARY)
TA-15-81	R-81	GUARD BLDG. (REMOVED) 1950
TA-15-82	R-82	TELEPHONE BOOTH (NEAR TA-14)
TA-15-83	R-83	ROAD BLOCK (REMOVED)
TA-15-84	R-84	ROAD BLOCK (REMOVED) 1951
TA-15-85	R-85	ROAD BLOCK
TA-15-86	R-86	ROAD BLOCK
TA-15-87	R-87	ROAD BLOCK (REMOVED) NOW HP-109, TA-33 1954
TA-15-88	R-88	ROAD BLOCK (REMOVED) NOW HP-115, TA-33 1956
TA-15-89	R-89	ROAD BLOCK
TA-15-90	R-90	WIGWAG
TA-15-91	R-91	BARRICADE
TA-15-92	R-92	CAMERA CHAMBER FIRING POINT 'H'
TA-15-93	R-93	BARRICADE FIRING POINT 'H'
TA-15-94	R-94	WIGWAG
TA-15-95	R-95	MAGAZINE (CANCELLED)
TA-15-96	R-96	BARRICADE (REMOVED)
TA-15-97	R-97	BARRICADE
TA-15-98	R-98	CONTROL CHAMBER (ABANDONED)
TA-15-99	R-99	PROPANE TANK
TA-15-100	R-100	MANHOLE (ELECTRICAL)
TA-15-101	R-101	MANHOLE (ELECTRICAL)
TA-15-102	R-102	MANHOLE (ELECTRICAL)
TA-15-103	R-103	MANHOLE (ELECTRICAL)
TA-15-104	R-104	MANHOLE (ELECTRICAL)
TA-15-105	R-105	MANHOLE (ELECTRICAL)
TA-15-106	R-106	MANHOLE (ELECTRICAL)
TA-15-107	R-107	STORAGE BUILDING (REMOVED) NOW KAPPA-44, TA-36
TA-15-108	R-108	MANHOLE (PUMP PIT)
TA-15-109	R-109	MANHOLE (ELECTRICAL)
TA-15-110	R-110	MANHOLE (ELECTRICAL)
TA-15-111	R-111	MANHOLE (ELECTRICAL)
TA-15-112	R-112	MANHOLE (ELECTRICAL)
TA-15-113	R-113	MANHOLE (ELECTRICAL)
TA-15-114	R-114	MANHOLE (ELECTRICAL)
TA-15-115	R-115	MANHOLE (ELECTRICAL)
TA-15-116	R-116	MANHOLE (ELECTRICAL)
TA-15-117	R-117	MANHOLE (SANITARY)
TA-15-118	R-118	MANHOLE (ELECTRICAL)
TA-15-119	R-119	MANHOLE (ELECTRICAL)
TA-15-120	R-120	MANHOLE (ELECTRICAL)
TA-15-121	R-121	MANHOLE (ELECTRICAL)
TA-15-122	R-122	MANHOLE (ELECTRICAL)
TA-15-123	R-123	MANHOLE (SANITARY)
TA-15-124	R-124	MANHOLE (ELECTRICAL)
TA-15-125	R-125	MANHOLE (ELECTRICAL)
TA-15-126	R-126	MANHOLE (ELECTRICAL)
TA-15-127	R-127	MANHOLE (ELECTRICAL)
TA-15-128	R-128	MANHOLE (ELECTRICAL)
TA-15-129	R-129	MANHOLE (ELECTRICAL)
TA-15-130	R-130	MANHOLE (ELECTRICAL)
TA-15-131	R-131	MANHOLE (ELECTRICAL)
TA-15-132	R-132	MANHOLE (ELECTRICAL)
TA-15-133	R-133	MANHOLE (ELECTRICAL)
TA-15-134	R-134	BARRICADE, X-UNIT
TA-15-135	R-135	STORAGE BUILDING
TA-15-136	R-136	SHOP BUILDING (REMOVED) NOW KAPPA-45 AT TA-36
TA-15-137	R-137	BARRICADE
TA-15-138	R-138	BARRICADE
TA-15-139	R-139	BARRICADE
TA-15-140	R-140	STORAGE BUILDING
TA-15-141	R-141	BARRICADE
TA-15-142	R-142	BARRICADE
TA-15-143	R-143	BARRICADE
TA-15-144	R-144	RETAINING WALL
TA-15-145	R-145	SIREN POLE
TA-15-146	R-146	WIGWAG (NEVER BUILT)
TA-15-147	R-147	SEPTIC TANK (SANITARY)
TA-15-148	R-148	MANHOLE (ELECTRICAL)
TA-15-149	R-149	MANHOLE (SANITARY)
TA-15-150	R-150	MANHOLE (INDUSTRIAL WASTE)
TA-15-151	R-151	MANHOLE (INDUSTRIAL WASTE)
TA-15-152	R-152	MANHOLE (ELECTRICAL)
TA-15-153	R-153	MANHOLE (ELECTRICAL)
TA-15-154	R-154	MANHOLE (ELECTRICAL)
TA-15-155	R-155	MANHOLE (ELECTRICAL)
TA-15-156	R-156	MANHOLE (ELECTRICAL)
TA-15-157	R-157	MANHOLE (ELECTRICAL)
TA-15-158	R-158	MANHOLE (ELECTRICAL)
TA-15-159	R-159	MANHOLE (ELECTRICAL)
TA-15-160	R-160	MANHOLE (ELECTRICAL)
TA-15-161	R-161	MANHOLE (ELECTRICAL)
TA-15-162	R-162	MANHOLE (ELECTRICAL)
TA-15-163	R-163	MANHOLE (ELECTRICAL)
TA-15-164	R-164	MANHOLE (ELECTRICAL)
TA-15-165	R-165	MANHOLE (ELECTRICAL)
TA-15-166	R-166	MANHOLE (ELECTRICAL)
TA-15-167	R-167	MANHOLE (ELECTRICAL)
TA-15-168	R-168	MANHOLE (ELECTRICAL)
TA-15-169	R-169	MANHOLE (ELECTRICAL)
TA-15-170	R-170	TRANSFORMER STATION
TA-15-171	R-171	PERSONNEL SHELTER
TA-15-172	R-172	BARRICADE, X-UNIT
TA-15-173	R-173	UNDERGROUND TANK (WATER)
TA-15-174	R-174	BARRICADE (REMOVED) 1945
TA-15-175	R-175	EQUIPMENT PLATFORM (REMOVED) 1945
TA-15-176	R-176	FIRING PLATFORM (REMOVED)
TA-15-177	R-177	FIRING PLATFORM (REMOVED)
TA-15-178	R-178	BARRICADE (REMOVED)
TA-15-179	R-179	MANHOLE (ELECTRICAL)
TA-15-180	R-180	EXPERIMENTAL CONCRETE SLAB
TA-15-181	R-181	MANHOLE (ELECTRICAL)
TA-15-182	R-182	SOLVENT STORAGE SHED
TA-15-183	R-183	RESERVE
TA-15-184	R-184	" "
TA-15-185	R-185	" "
TA-15-186	R-186	" "
TA-15-187	R-187	" "
TA-15-188	R-188	" "
TA-15-189	R-189	" "
TA-15-190	R-190	" "
TA-15-191	R-191	TRANSFORMER STATION

Figure TA-15-2: Structure Location Plan for TA-15 - R Site (1957 Drawing from the LANL Technical Area Structure Location Plans)

NO.	DATE	REVISIONS	BY	CHKD
8	7-12-57	REVISED TO STATUS OF 7-1-57	PR	JAS
7	8/19/55	GENERAL REVISION TO STATUS OF JULY 1, 1955	NOB	JAS
6	7-7-54	ENG-R 130 REDRAWN AS ENG-R 130 AND ENG-R 131	LCW	JAS

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-15 R-SITE

CHECKED: DESIGNER — RECOMMENDED: GROUP LEADER — APPROVED: ENG. DEPT. OFFICE

DRAWN: LC WINKS — DATE: 7-7-54 — DRAWING NO.: ENG-R 130
SCALE: NONE — SHEET: 1 OF 2

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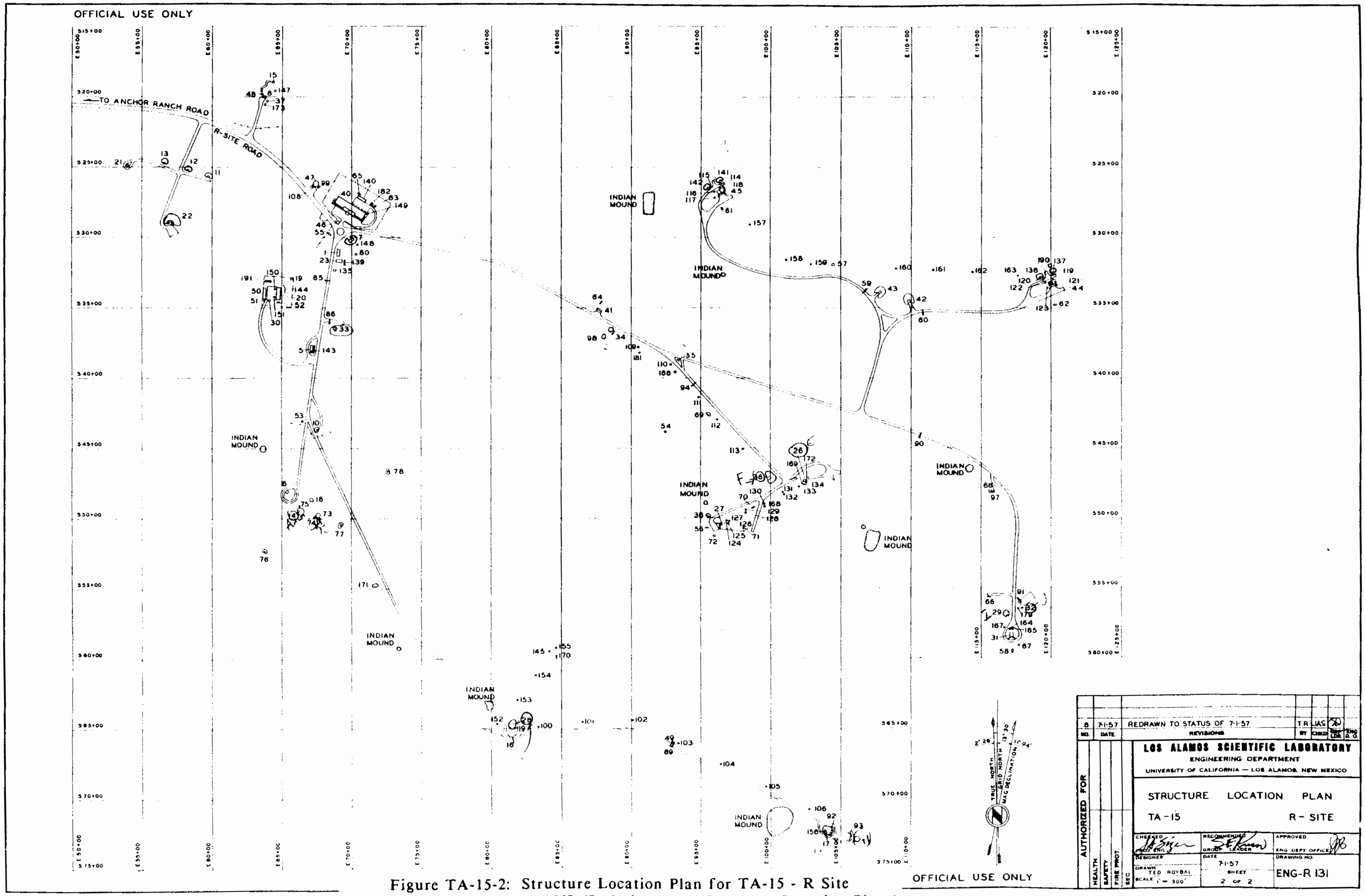

Figure TA-15-2: Structure Location Plan for TA-15 - R Site
(1957 Drawing from the LANL Technical Area Structure Location Plans)

TA-16 - S SITE

CURRENT OPERATIONS

Activities at TA-16 center around production of high explosives for applications in both weapons and nonweapons research and development. TA-16 is divided into isolated operational areas and contains nearly 200 buildings or manmade structures. This separation precludes sympathetic detonation of high explosives between operational areas in case of an accident.

The administration area houses a steam plant, fire station, service station, cafeteria, warehouse, shops building, main administration building, laundry, and several transportable office buildings. The new tritium facility, still under construction at TA-16, is not associated with high-explosive research and development. Structures 530 through 535 are an onsite sewage treatment facility.

The remainder of this section concerns facilities involved with high-explosive research and development. High-explosive pressing operations are performed at building 430. High-explosive material is brought into this facility in plastic-coated granular form, placed into molds, and subjected to very high pressures. This process produces solid pieces of high explosive in various shapes and sizes. Building 370 houses a machine shop that fabricates nonnuclear metal components required by research and development programs conducted at TA-16. High explosive obtained from commercial vendors is inspected at building 380. This is primarily a visual inspection for accepting or rejecting commercial material. Assembly operations are conducted at the complex comprising buildings 410 through 415. High-explosive casting, inert materials, and plastics operations are conducted at the complex comprising buildings 300 through 307. Building 300 is used for operations involving inert materials. These operations produce mock high-explosive components for a variety of display or testing purposes. Building 302 is currently used for explosives casting operations. Plastics operations are performed in buildings 304 and 306; they are strictly controlled, and high explosives are never brought into these buildings. Buildings 340 and 342 house high-explosive preparation and development operations. Activities in these buildings include coating high-explosive granules with plastics, developing new types of high explosives, and working with crystallization processes. High-explosive machining operations are conducted in building 260. Several support buildings surround building 260 and are used to store material not being actively worked. Radiography and other nondestructive testing is done in the complex made up of buildings 220 to 225. Building 222 contains two photographic processing units capable of processing film; however, only one of these units is operational.

POTENTIAL CERCLA/RCRA SITES

About 30 buildings in the central portion of TA-16 were part of the World War II high-explosive operations. Most of these buildings are old, and many have been abandoned. Many are contaminated with high explosive, primarily 2,4,6-trinitrotoluene (TNT). Many structures at the site were removed by burning or bulldozing in the 1950s and 1960s. Residual high explosive may remain in the environment at two firing sites that were used for high-explosive test firing during World War II. High-explosive and solvent/oil contamination may remain at a burning ground.

Old drawings of firing sites indicate two locations, P Site and K Site, which were used for high-explosive test firing during World War II. The sites are addressed under TA-11 and TA-13.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-16. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-16 is 3.0 (Appendix B).

FIGURES

TA-16-1: Structure Location Plan for TA-16 - S Site (1983)
TA-16-2: Structure Location Plan for TA-16 - S Site (1957)

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TABLE TA-16 - POTENTIAL CERCLA/RCRA SITES

TA16-1-CA-I-HW (Razed buildings)

Background--TA-16 was constructed early in 1944 and consisted of six buildings, including a steam plant. Several expansions took place, and by the end of the war, the site included about 80 buildings of various sizes that were used for explosives manufacture, storage, treatment, and testing (LASL 1947).

Though the primary mission of TA-16 did not change, many structures built during World War II became obsolete. Therefore, these structures were removed by burning during the 1950s and 1960s. The structures that were removed are listed as follows by structure number, name, removal date, and hazardous substance used (Blackwell 1983). Noncombustible materials were disposed of at Mesita del Buey or in the canyon north of the burning ground.

Structure Number	Structure Nomenclature	Removal Date	Hazardous Substance Used
TA-16-1	Admin. building	1956	None
TA-16-2	Office	1956	None
TA-16-3	Zia elect. building	1956	None
TA-16-4	Inflam. stock storage	1956	Various chemicals
TA-16-5	Instrument shop	1956	None
TA-16-6	Zia repair shop	1956	None
TA-16-8	Zia cabinet shop	1956	None
TA-16-9	Motor pool dispatch off.	1956	None
TA-16-11	Storage	1956	None
TA-16-12	Warehouse	1956	None
TA-16-15	Laundry and locker room	1956	High explosive
TA-16-17	Plumbing shop	1956	High explosive
TA-16-18	Steam washing house	1960	High explosive
TA-16-19	Pump house	1956	High explosive
TA-16-20	Water pump pit	1953	High explosive
TA-16-22	Office	1961	None
TA-16-23	Storage	1951	None
TA-16-24	Analytical lab.	1968	High explosive
TA-16-25	Process building	1960	High explosive
TA-16-26	Process building	1968	High explosive
TA-16-28	Water cooling tower	1968	None
TA-16-29	Fuel oil tank	1956	None
TA-16-30	Magazine	1960	High explosive
TA-16-31	Machine building	1960	High explosive
TA-16-32	Machine Building	1960	High explosive
TA-16-33	Machine Building	1960	High explosive
TA-16-34	Magazine	1960	High explosive
TA-16-35	Equipment room	1960	High explosive
TA-16-36	Steam cleaning	1960	High explosive
TA-16-37	Explosive testing	1960	High explosive
TA-16-38	Experimental casting	1960	High explosive

TA-16-39	Radiographic building	1960	Uranium-238, cobalt-60, radium-226
TA-16-40	Radiographic building	1960	Uranium-238, cobalt-60, radium-226
TA-16-41	Process lab.	1960	High explosive
TA-16-42	Process building	1960	High explosive
TA-16-43	Process building	1960	High explosive
TA-16-44	Process building	1960	High explosive
TA-16-45	Process building	1960	High explosive
TA-16-46	Process building	1960	Uranium-238, high explosive
TA-16-47	Equipment building	1960	High explosive
TA-16-48	Smoking room	1960	Uranium-238
TA-16-49	Analytical lab.	1960	High explosive
TA-16-50	Experimental casting	1960	High explosive
TA-16-51	Steam cleaning	1960	High explosive
TA-16-52	Explosive material	1960	High explosive
TA-16-53	Optical equip. storage	1960	High explosive
TA-16-55	Grinding building	1960	High explosive
TA-16-56	Testing lab.	1960	High explosive
TA-16-57	Magazine	1960	High explosive
TA-16-60	Magazine	1950	High explosive
TA-16-62	Magazine	1968	High explosive
TA-16-64	Magazine	1951	High explosive
TA-16-65	Magazine	1951	High explosive
TA-16-66	Magazine	1960	High explosive
TA-16-67	Magazine	1960	High explosive
TA-16-68	Magazine	1960	High explosive
TA-16-69	Magazine	1960	High explosive
TA-16-70	Magazine	1960	High explosive
TA-16-71	Magazine	1960	High explosive
TA-16-72	Magazine	1960	High explosive
TA-16-74	Magazine	1960	High explosive
TA-16-81	Process building & fan room	1960	High explosive
TA-16-82	Storage	1968	High explosive
TA-16-83	Laboratory	1960	High explosive
TA-16-84	Magazine	1960	High explosive
TA-16-85	Warehouse	1947	None
TA-16-86	Laboratory	1960	High explosive
TA-16-87	Machine shop trailer	1960	None
TA-16-94	Equipment & control	1960	High explosive
TA-16-95	Machine building	1960	High explosive
TA-16-96	Machine building	1960	High explosive
TA-16-97	Machine building	1960	High explosive
TA-16-98	Machine building	1960	High explosive
TA-16-100	Process building	1960	High explosive
TA-16-106	Storage	1949	High explosive
TA-16-107	Storage	1950	High explosive
TA-16-108	Storage	1950	High explosive

TA-16-109	Storage	1950	High explosive
TA-16-132	Paint shop shed	1955	None
TA-16-133	Lumber storage	1955	None
TA-16-134	Mess hall	1955	None
TA-16-135	Storage building	1953	None
TA-16-136	Implement shed	1955	None
TA-16-137	Plumbing & elect. shop	1955	High explosive
TA-16-138	Blacksmith shop	1955	None
TA-16-139	Storage building	1955	High explosive
TA-16-140	Storage building	1955	High explosive
TA-16-141	Storage building	1955	High explosive
TA-16-142	Fire house	1955	None
TA-16-143	Hose house	1955	None
TA-16-144	Equipment room	1955	None
TA-16-145	Latrine	1955	None
TA-16-146	Storage	1955	High explosive
TA-16-148	Equip. building	1968	None
TA-16-150	Hose house	1958	None
TA-16-151	Hose house	1958	None
TA-16-152	Hose house	1958	None
TA-16-161	Septic tank	--	None
TA-16-162	Latrine	1971	None
TA-16-167	Hose house	1958	None
TA-16-168	Manhole	1952	None
TA-16-172	Water storage tank relocated at TA-49-66	--	None
TA-16-174	Septic tank, sanitary	--	None
TA-16-176	Septic tank, sanitary	--	None
TA-16-177	Septic tank, sanitary	1968	None
TA-16-179	Septic tank, sanitary	--	None
TA-16-181	Tank housing	1956	None
TA-16-182	Diesel unit building	1956	None
TA-16-183	Drum storage	1968	Various chemicals
TA-16-184	Drum storage	--	Various chemicals
TA-16-185	Drum storage	--	Various chemicals
TA-16-186	Drum storage	--	Various chemicals
TA-16-187	Drum storage	--	Various chemicals
TA-16-188	Drum storage	1956	Various chemicals
TA-16-189	Cooling tower	1960	None
TA-16-190	Drum storage	1955	Various chemicals
TA-16-198	Hose house	--	None
TA-16-199	Reserve	--	None
TA-16-262	Cooling tower	1957	None
TA-16-272	Septic tank	--	None
TA-16-273	Dosing chamber	--	High explosive
TA-16-274	Distribution box	--	None
TA-16-384	Reserve	1970	None
TA-16-393	Filter bed	1964	High explosive
TA-16-396	Latrine	1968	None
TA-16-403	Reserve	1968	None
TA-16-464	Magazine	1966	High explosive
TA-16-475	Office & shop building	1951	None

TA-16-479	Storage building	1951	Uranium-238
TA-16-480	Experimental chamber	1950	Uranium-238, high explosive
TA-16-481	Magazine	1951	high explosive
TA-16-482	Storage building	1951	None
TA-16-486	Septic tank	1951	None
TA-16-487	Transformer station	1951	None
TA-16-488	Magazine	1951	high explosive
TA-16-490	Laboratory building	1960	Uranium-238
TA-16-491	Hutment	1960	Uranium-238
TA-16-492	Hutment	1960	Uranium-238
TA-16-493	Magazine	1960	High explosive
TA-16-494	Magazine	1960	High explosive
TA-16-495	Hutment	1960	Uranium-238
TA-16-496	Hutment	1960	Uranium-238
TA-16-497	Magazine	1960	High explosive
TA-16-498	Hutment	1960	Uranium-238
TA-16-499	Hutment	1960	Uranium-238
TA-16-500	Hutment	1960	Uranium-238
TA-16-502	Steam plant	1960	None
TA-16-504	Septic tank, sanitary	1960	None
TA-16-506	Manhole, steam	1968	None
TA-16-507	Sump pit, chem.	1960	Various chemicals
TA-16-508	Manhole, water	1968	None
TA-16-509	Manhole, steam	1968	None
TA-16-510	Switch box	1960	None
TA-16-511	Manhole, steam	1968	None
TA-16-512	Underground tank, oil	1968	None
TA-16-521	Tank stand	1968	None
TA-16-522	Building No. 3	1945	Beryllium
TA-16-523	Pit	1945	High explosive, beryllium
TA-16-524	Pit, elect.	1945	None
TA-16-566	Transformer station	1959	None
TA-16-567	Transformer station	1966	None
TA-16-574	Transformer station	1966	None
TA-16-575	Transformer station	1966	None
TA-16-576	Transformer station relocated to TA-15-206	--	None
TA-16-577	Transformer station	1960	None
TA-16-578	Transformer station	1960	None
TA-16-579	Transformer station	1960	None
TA-16-580	Transformer station	1966	None
TA-16-581	Transformer station	1966	None
TA-16-582	Transformer station	1960	None
TA-16-583	Transformer station	1960	None
TA-16-584	Transformer station	1966	None
TA-16-800	Manhole, industrial waste	--	High explosive
TA-16-801	Manhole, drainage	--	High explosive
TA-16-888	Manhole, elect.	1972	None
TA-16-889	Manhole, elect.	1972	None
TA-16-1079	Manhole, steam	--	None

TA-16-1083	Manhole, steam	1951	None
TA-16-1084	Manhole, steam	--	None
TA-16-1086	Reserve	1970	None
TA-16-1087	Reserve	1970	None
TA-16-1090	Reserve	1970	None
TA-16-1101	Oil switch	1966	None
TA-16-1102	Oil switch	1966	None
TA-16-1103	Oil switch	1966	None
TA-16-1104	Drum storage	--	Various chemicals
TA-16-1105	Drum storage	--	Various chemicals
TA-16-1106	Drum storage	--	Various chemicals
TA-16-1107	Drum storage	--	Various chemicals
TA-16-1108	Drum storage	--	Various chemicals
TA-16-1109	Drum storage	1956	Various chemicals
TA-16-1110	Drum storage	1958	Various chemicals
TA-16-1111	Drum storage	1968	Various chemicals
TA-16-1130	Water tank	1949	None
TA-16-1131	Water tank	1949	None
TA-16-1132	Septic tank	1956	None
TA-16-1136	Trough (basket washing facility)	--	High explosive
TA-16-1137	Manhole (grease trap)	--	High explosive
TA-16-1138	Fuel tank	--	None
TA-16-1139	Fuel tank	--	None
TA-16-1140	Fuel tank	1956	None

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination will be determined during supplemental Phase I.

TA16-2-S-A/I-HW (Sumps)

Background--For many years it has been the practice at TA-16 to route any industrial process water containing particles of high explosive through high-explosive catchment baffle-filter/sumps before discharge. The baffle-filters or settling areas have, apparently, been regularly cleaned of high explosive ever since the sumps were put in use. There may be inactive high-explosive sumps remaining in buildings not in active use or in buildings that were torn down.

The 1987 CEARP field survey observed that blowdown from the steam plant TA-16-540 is being routed through a blowdown tank, TA-16-456, and then through two manholes/sumps before being discharged. These manholes/sumps appear to have a slight amount of sludge at the bottom.

A chemical sump at TA-16-507 was located at S25, W55 (ENG-R132). It was removed in 1960 (Blackwell 1983). Whether any chemicals leaked from the sump into the environment and whether any contaminated soil was removed at the time of pit removal is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Residual environmental contamination associated with the inactive sump systems will be investigated during supplemental Phase I. The active sump systems are covered by routine LANL operations.

TA16-3-SI-A/I-HW (Ponds)

Background--In considering ponds that may have contained high explosive, ENG-R134 indicates four ponds to the northeast of TA-16-30, 31, 32, 33, and 34. The 1940s aerial photo shows that these ponds are full of liquid. Engineering drawings ENG-R861, R869, and R870 indicate that drains from explosives machining buildings 31, 32, and 33 drained into the ponds. A Laboratory employee who supervised the removal of the pond areas remembers that the ponds were contaminated with high explosives. The high explosives were removed before the ponds were filled and the area graded. It appears that barium levels may not have been determined at the time of decommissioning.

In 1970 it was reported that the floor drains in buildings TA-16-89 through -93 emptied into a small earth tank/pond west of the buildings. A sample of water collected contained no detectable gross alpha emitters and only a trace of gross beta emitters (Kennedy 1970). The radionuclides responsible for the beta count are not mentioned. This pond is no longer here, but data on its decommissioning have not yet been obtained.

An inactive pond received liquid waste from process buildings TA-16-91, -90, and -89. Sludge from the pond was recently sampled, and no high levels of high explosive were found. Chemicals associated with plating wastes were not included in the analysis.

A Los Alamos employee remembers TA-93 being used for electroplating. A 1950 document also mentions electroplating (H Division 1950). ENG-R861 shows drains from 92 and 93 draining to the north. Whether there was a pond here to collect plating wastes is not known. The employee remembers that a drainage ditch from 92 or 93 may have connected to the inactive pond, which received waste from TA-16-91, -90, and -89.

An active lined pond located at the burn site just south of the filter beds receives liquid from the two filtration beds. This liquid contains barium nitrate. To reduce the barium nitrate level, sodium sulfate is added to the pond to precipitate barium in barium sulfate. When barium nitrate levels have been reduced to less than 100 ppm, the liquid is siphoned to the canyon outfall (Baytos 1986).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Residual environmental contamination associated with the inactive ponds will be investigated during supplemental Phase I. The active pond is covered by routine LANL operations.

TA16-4-CA-A/I-HW/RW (Filter/drying beds and burn areas)

Background--The 1948 topographical map and ENG-R134 indicate a burn area at S25:50, W62:50. The 1987 CEARP field survey noted that the area is not in use. Decommissioning information is lacking as well as specific information as to what was burned here.

An old burning ground is reported to have been near building TA-16-260 (Engineering Division 1965). An employee indicated that this burning ground was the one used before the present burning ground was developed. A 1948 topographical map indicates two burning pits. A 1948 memo mentions an explosion at the burning ground and the fact that high-explosive scrap was collected, broken up, and burned (Converse 1948). This area is included in Material Disposal Area R.

A former detonator burning area is indicated as being located in Material Disposal Area P (Engineering Division 1965).

The burning area was moved from the Area R site to the present burning ground. By 1953 there were three burning pits that were used rotationally for burning high explosive in 2000-lb batches. The existence of a high-explosive filter basket washing facility at a "bag wash building" is also reported. The sludge went via troughs to sand bed filters where, after drying, the sludge was burned. About 400 lb of explosive per day were burned in this manner. The sand bed was raked, and this material was then reburned at the scrap high-explosive burning pit. Engineering drawing ENG-R135, dated 1957, notes structures TA-16-386, -387, and -388 as burning slabs and TA-16-399 as a retired burning slab. Another 1950s document states that during the cleanup, large quantities of barium oxide dust were present at the burning pits, so the areas were wetted down and respirators were used (H Division 1952).

The operation of the basket wash facility apparently continued into the 1970s. A memo notes that building TA-16-390 floor drains empty through structure numbers TA-16-1129, TA-16-1134, and TA-16-1135 (troughs) into a burning vat (Kennedy 1970).

The 1987 CEARP field survey confirmed that area TA-16-386 (former burning slab) is being used as a storage yard. Area TA-16-387 (burning slab) is being used as a flash pad for items contaminated with high explosive that must be disposed of.

Areas TA-16-399 and -388 have their old pads in place. A long tray with fire-brick lining has been erected over each pad. These trays are used for burning the waste high explosive.

Structure area TA-16-394 is now used to burn high-explosive contaminated solvents and is no longer connected to the filter wash. Filter bed TA-16-393 has been removed. Decommissioning information has not been found. Two new filter/drying beds have been constructed in this location. Filter bed TA-16-392, which was also used later as a pad for burning uranium-contaminated objects remains in place, but is not in use. Barium contamination in soils around the old filter wash/filter bed area would be expected; however, no documentation on barium levels in soils was found.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with inactive facilities will be determined during supplemental Phase I of CEARP. The active facilities are covered by routine LANL operations.

TA16-5-O/CA-A/I-HW/RW (Outfalls)

Background--For over 20 years an x-ray film processing laboratory has been in operation at TA-16-222. Beginning about 1978-1979, waste liquids from the laboratory were treated for silver recovery before being discharged into the nearby canyon outfall (073). Before that time, these liquids were discharged without silver recovery and it has been indicated that the canyon into which these wastes were discharged is the most heavily silver-contaminated area in the laboratory (Ferenbaugh 1979; Kasunic 1982).

During the war, building 45 had a film processing facility. This operation probably discharged to an outfall (Wilder n.d.).

According to ENG-R132, several cooling towers were in operation at TA-16. These may have had blowdown containing chromium that discharged to an outfall. Data on these are given below:

Number	Location	Status
TA-16-28	S35, W50	removed 1968
TA-16-189	S40, W55	removed 1960
TA-16-262	S20, W35	removed 1957
TA-16-372	S65, W20	in place

After going through settling sumps for high-explosive wastes, industrial liquids may discharge to outfalls. Through the years, beginning in 1960, samples of soil have been taken and analyzed for high explosive in outfall ditches. The sampling points have included outfall areas from 260, 301, 303, 305, 307, 340, 300, 380, 400, 430, and 478. One major area of concern appears to be the 260 outfall drainage, where, in a natural pond about 35 yds from the outfall, total explosive content has slowly been increasing, and in July 1986, was measured as 31.4 per cent by weight high explosive. Another area of concern is the 478 outfall, where total explosive content was 4.3 per cent by weight in July 1986. Small quantities of high explosive have also been found in other outfalls.

Elevated acetone solubles and carbon tetrachloride solubles have been found in the 300 line common effluent outlet. These contaminants probably came from the plastics and solvents that were used in TA-16-306, and -304. The effluent outlet from building 430 has also shown elevated levels of acetone solubles and carbon tetrachloride solubles (Baytos 1985, 1986).

In the early 1970s sampling, Group GMX-3 at the TA-16 outfall drainages found no boron in any of the samples. Barium was found to travel farther than any of the other high-explosive components. Maximum water concentrations were 22 and 30 ppm near two outfalls, and barium was still detectable in a water sample collected about 2 miles away after a heavy rainstorm (LASL 1972).

CERCLA Finding--Uncertain for FFSDIF, PA and PSI.

Planned Future Action--The inactive outfall areas and the active outfall areas that could have received discharge of hazardous materials in the past will be evaluated during supplemental Phase I of CEARP. The active outfalls are covered by routine LANL operations.

TA16-6-IN-A-HW (Incinerator)

Background--For a number of years, possibly high-explosive-contaminated burnables such as paper wipes and rags have been burned in a cage type incinerator, TA-16-412. The incinerator is a large open mesh structure built over what appears to be an old basement foundation.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active incinerator is covered by routine LANL operations.

TA16-7-CA-I-HW (Dry wells)

Background--Several dry wells were constructed at TA-16 to accept such liquid discharges as cooling tower blowdown from the steam plant and wastewater from high-explosive operations at the 300 complex. A dry well was constructed for liquid discharges from the 300 line (plastic and high explosive), but it was found that the well did not have sufficient capacity to handle the volume discharged (CEARP n.d.). The 1987 CEARP field survey found that the well is still in place; however, a bypass pipe has been installed and liquid is discharging to the ditch next to the dry well. A LANL employee has also indicated that two dry wells were constructed just north of TA-16-540 (steam plant) near TA-16-547, -542, and just outside the steam plant fence. They are apparently no longer in use. Another employee remembers the construction of a dry well to the east of TA-16-540. Additionally, engineering drawing ENG-R867, dated 1959, shows a 3-ft by 5-ft dry well located to the east of TA-16-208.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The quantity and types of residual hazardous substances associated with the inactive dry wells will be determined during supplemental Phase I.

TA16-8-ST/UST-A/I-HW/RW (Septic tanks and waste tanks)

Background--Several of the septic tanks at TA-16 are potentially contaminated with hazardous substances (ENG-R133; ENG-R5111; Miller 1972; Blackwell 1983).

Tank Designation	Location	Status	Potential Contamination
TA-16-175	S30, W60	active	chemicals
TA-16-371	S65, W20	active	chemicals
TA-16-527	S40, W45	inactive	high explosive

ENG-R870 notes an unnumbered septic tank south of TA-16-515. Whether it remains in place today and whether it is contaminated are unknown. Additionally, engineering drawing ENG-R876 notes a type of tank serving a drain at TA-16-55, two tanks serving drains at TA-16-53, one tank from a drain at TA-38, and one tank each from TA-42, -43, -44, and -45. ENG-R877 notes two tanks from TA-16-37 drains. ENG-R882 indicates 3 tanks from TA-16-52 drains, two tanks serving TA-16-50 drains, and at least one tank for TA-16-49 drains. What wastes were in these drains and what the function of these subsurface tanks was is not known. These buildings were process laboratories and grinding, casting, and testing buildings.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the extent of residual environmental contamination associated with the inactive septic systems will be determined. The active septic systems are covered by routine LANL operations.

TA16-9-UST/SST-A/I-PP (Petroleum storage tanks)

Background--The following abandoned/removed tanks, which could have been located underground or above ground, were identified at TA-16.

Tank Designation		Location	Status	Type
TA-16-	391	S20, W0	abandoned 1970	fuel
	29[a]	NA	removed 1956	fuel oil
	512	S25, W60	found free activity, removed 1968	oil
	1138[a]	S25, W35	removed	fuel
	1139[a]	S25, W35	removed	fuel
	1140[a]	NA	removed 1956	fuel
	541[a]	S30, W70	maybe removed	probably fuel
	1341	north, building 195 (service station)	removed 1980	fuel, 5000 gal.
	1342	north, building 195 (service station)	removed 1980	fuel, 5000 gal.

[a]may have been aboveground

In addition to these tanks, there are two underground gasoline tanks with associated fuel lines and pump bases located northwest of TA-16-10, which would put them near S35, W60. These had no structure numbers. There is also an underground gasoline tank six feet south of TA-16-200, near S40, W75 (Buckland 1967).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the extent of residual environmental contamination associated with the inactive storage tanks will be determined. The active tanks are covered by routine LANL operations.

TA16-10-L-I-HW (Landfill)

Background--In 1965 it was reported that some type of metal material was thought to be buried in the old exclusion area of TA-16. A survey with a magnetometer indicated a suspect area at S43, W51. The area was excavated and the metal material was located and disposed of at Area P. Whether any other items were buried in this region and were not detected and removed is not known (Engineering Division 1965; Williams 1965). Unburned material from the burning ground and items from TA-16 and other locations were also disposed of in Area P. More information on Area P is included under Material Disposal Areas.

The 1987 CEARP field survey encountered an area that contains broken concrete and other debris in an area east of West Jemez Road and northwest of building TA-16-540. An old, illegible sign is located in front of the debris. Another sign indicates clean fill--whether the clean fill refers to this area or another area is not clear.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The inactive landfills will be investigated during supplemental Phase I.

TA16-11-CA-A-HW/RW (Storage areas)

Background--A 1987 CEARP field survey noted old drums around buildings TA-16-518, -519, and -520 (the old V Site buildings now part of TA-16). A few are leaking. Some drums are marked "used solvent," some appear to contain hydraulic fluid, and some are not marked. Empty boxes and cans that contained radioactive material are sitting in the area. One open drum of barium nitrate, as well as several other drums that appear to contain barium nitrate, were observed. What appear to be empty lithium hydride drums were also noted.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active storage areas are covered by routine LANL operations.

TA16-12-CA-I-HW (World War II high-explosive complex)

Background--About 30 buildings in the central portion of TA-16 were part of the World War II high-explosive operations. Most of these buildings are in poor repair and many have been abandoned. Several of the more structurally sound buildings are currently being used as storage facilities. Many are contaminated with high explosive (primarily TNT) and are not considered safe for any activity. Several of the buildings actually contain recrystallized high explosive in stalactitic formations under the floors. A real potential exists for detonation of this explosive as the buildings continue to deteriorate and collapse in on themselves. Stabilization of these structures is not practical because any mechanical perturbation of these structures would endanger the workers. The buildings also have shingles containing asbestos.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination will be determined during supplemental Phase I.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-16-1	16 - 1		REMOVED 1956	
TA-16-2	16 - 2		REMOVED 1956	
TA-16-3	16 - 3		REMOVED 1958	
TA-16-4	16 - 4		REMOVED 1956	
TA-16-5	16 - 5		REMOVED 1956	
TA-16-6	16 - 6		REMOVED 1958	
TA-16-7	16 - 7	STORAGE BUILDING		S35+00 W65+00
TA-16-8	16 - 8		REMOVED 1958	
TA-16-9	16 - 9		REMOVED 1956	
TA-16-10	16 - 10	WAREHOUSE		S35+00 W60+00
TA-16-11	16 - 11		REMOVED 1956	
TA-16-12	16 - 12		REMOVED 1958	
TA-16-13	16 - 13	DOCK	FORMERLY S-10 F	S35+00 W60+00
TA-16-14	16 - 14		REMOVED 1956	
TA-16-15	16 - 15		REMOVED 1956	
TA-16-16	16 - 16	CAFETERIA	FORMERLY S-13	S35+00 W65+00
TA-16-17	16 - 17		REMOVED 1956	
TA-16-18	16 - 18		REMOVED 1960	
TA-16-19	16 - 19		REMOVED 1956	
TA-16-20	16 - 20		REMOVED 1953	
TA-16-21	16 - 21	PUMPING STATION	FORMERLY S-17 A	S35+00 W65+00
TA-16-22	16 - 22		REMOVED 1961	
TA-16-23	16 - 23		REMOVED 1951	
TA-16-24	16 - 24		REMOVED 1968	
TA-16-25	16 - 25		REMOVED 1968	
TA-16-26	16 - 26		REMOVED 1968	
TA-16-27	16 - 27	STORAGE BUILDING	ABANDONED 1970	S35+00 W50+00
TA-16-28	16 - 28		REMOVED 1968	
TA-16-29	16 - 29		REMOVED 1956	
TA-16-30	16 - 30		REMOVED 1960	
TA-16-31	16 - 31		REMOVED 1960	
TA-16-32	16 - 32		REMOVED 1960	
TA-16-33	16 - 33		REMOVED 1960	
TA-16-34	16 - 34		REMOVED 1960	
TA-16-35	16 - 35		REMOVED 1960	
TA-16-36	16 - 36		REMOVED 1960	
TA-16-37	16 - 37		REMOVED 1960	
TA-16-38	16 - 38		REMOVED 1960	
TA-16-39	16 - 39		REMOVED 1960	
TA-16-40	16 - 40		REMOVED 1960	
TA-16-41	16 - 41		REMOVED 1960	
TA-16-42	16 - 42		REMOVED 1960	
TA-16-43	16 - 43		REMOVED 1960	
TA-16-44	16 - 44		REMOVED 1960	
TA-16-45	16 - 45		REMOVED 1960	
TA-16-46	16 - 46		REMOVED 1960	
TA-16-47	16 - 47		REMOVED 1960	
TA-16-48	16 - 48		REMOVED 1960	
TA-16-49	16 - 49		REMOVED 1960	
TA-16-50	16 - 50		REMOVED 1960	
TA-16-51	16 - 51		REMOVED 1960	
TA-16-52	16 - 52		REMOVED 1960	
TA-16-53	16 - 53		REMOVED 1960	
TA-16-54	16 - 54	GRINDING BUILDING	FORMERLY S-45	S30+00 W60+00
TA-16-55	16 - 55		REMOVED 1960	
TA-16-56	16 - 56		REMOVED 1960	
TA-16-57	16 - 57		REMOVED 1960	
TA-16-58	16 - 58	MAGAZINE	FORMERLY S-57	S50+00 W40+00
TA-16-59	16 - 59	MAGAZINE	FORMERLY S-58	S55+00 W45+00
TA-16-60	16 - 60		REMOVED 1950	
TA-16-61	16 - 61	MAGAZINE	FORMERLY S-60	S45+00 W45+00
TA-16-62	16 - 62		REMOVED 1968	
TA-16-63	16 - 63	STORAGE BUILDING	ABANDONED 1951	S35+00 W70+00
TA-16-64	16 - 64		REMOVED 1961	
TA-16-65	16 - 65		REMOVED 1951	
TA-16-66	16 - 66		REMOVED 1960	
TA-16-67	16 - 67		REMOVED 1960	
TA-16-68	16 - 68		REMOVED 1960	
TA-16-69	16 - 69		REMOVED 1960	
TA-16-70	16 - 70		REMOVED 1960	
TA-16-71	16 - 71		REMOVED 1960	
TA-16-72	16 - 72		REMOVED 1960	
TA-16-73	16 - 73	PERSONNEL SHELTER	FORMERLY S-77	S35+00 W50+00
TA-16-74	16 - 74		REMOVED 1960	
TA-16-75	16 - 75	PERSONNEL SHELTER	FORMERLY S-80	S50+00 W60+00
TA-16-76	16 - 76	PERSONNEL SHELTER	FORMERLY S-81	S45+00 W55+00
TA-16-77	16 - 77	PERSONNEL SHELTER	FORMERLY S-82	S45+00 W55+00
TA-16-78	16 - 78	PERSONNEL SHELTER	FORMERLY S-83	S35+00 W55+00
TA-16-79	16 - 79	PERSONNEL SHELTER	FORMERLY S-84	S35+00 W50+00
TA-16-80	16 - 80	STORAGE BUILDING	FORMERLY S-85	S30+00 W50+00
TA-16-81	16 - 81		REMOVED 1960	
TA-16-82	16 - 82		REMOVED 1968	
TA-16-83	16 - 83		REMOVED 1960	
TA-16-84	16 - 84		REMOVED 1960	
TA-16-85	16 - 85		REMOVED 1947	
TA-16-86	16 - 86		REMOVED 1960	
TA-16-87	16 - 87		REMOVED	
TA-16-88	16 - 88	CASTING REST HOUSE	FORMERLY S-100	S30+00 W50+00
TA-16-89	16 - 89	PROCESS BUILDING	FORMERLY S-104	S30+00 W45+00
TA-16-90	16 - 90	PROCESS BUILDING	FORMERLY S-102	S30+00 W45+00
TA-16-91	16 - 91	PROCESS BUILDING	FORMERLY S-103	S25+00 W50+00
TA-16-92	16 - 92	INSPECTION BUILDING	FORMERLY S-101	S25+00 W50+00
TA-16-93	16 - 93	PROCESS BUILDING	ABANDONED 1970	S25+00 W50+00
TA-16-94	16 - 94		REMOVED 1960	
TA-16-95	16 - 95		REMOVED 1960	
TA-16-96	16 - 96		REMOVED 1960	
TA-16-97	16 - 97		REMOVED 1960	

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-16-98	16 - 98		REMOVED 1960	
TA-16-99	16 - 99	STORAGE BUILDING	FORMERLY S-107	S30+00 W55+00
TA-16-100	16 - 100		REMOVED 1960	
TA-16-101	16 - 101	GUARD HOUSE		S60+00 W35+00
TA-16-102	16 - 102		REMOVED 1968	
TA-16-103	16 - 103		REMOVED 1968	
TA-16-104	16 - 104		REMOVED 1960	
TA-16-105	16 - 105		REMOVED 1968	
TA-16-106	16 - 106		REMOVED 1949	
TA-16-107	16 - 107		REMOVED 1950	
TA-16-108	16 - 108		REMOVED 1950	
TA-16-109	16 - 109		REMOVED 1950	
TA-16-110	16 - 110		REMOVED 1968	
TA-16-111	16 - 111	BARRICADE	ABANDONED 1959	S30+00 W50+00
TA-16-112	16 - 112	BARRICADE	ABANDONED 1959	S30+00 W50+00
TA-16-113	16 - 113		REMOVED 1960	
TA-16-114	16 - 114		REMOVED 1960	
TA-16-115	16 - 115		REMOVED 1960	
TA-16-116	16 - 116		REMOVED 1960	
TA-16-117	16 - 117		REMOVED 1951	
TA-16-118	16 - 118		REMOVED 1950	
TA-16-119	16 - 119		REMOVED 1948	
TA-16-120	16 - 120		REMOVED 1968	
TA-16-121	16 - 121		REMOVED 1968	
TA-16-122	16 - 122		REMOVED 1962	
TA-16-123	16 - 123		REMOVED 1955	
TA-16-124	16 - 124		REMOVED 1949	
TA-16-125	16 - 125		REMOVED 1968	
TA-16-126	16 - 126		REMOVED 1960	
TA-16-127	16 - 127		REMOVED 1960	
TA-16-128	16 - 128		REMOVED 1960	
TA-16-129	16 - 129		REMOVED 1960	
TA-16-130	16 - 130		REMOVED 1956	
TA-16-131	16 - 131		REMOVED 1960	
TA-16-132	16 - 132		REMOVED 1955	
TA-16-133	16 - 133		REMOVED 1955	
TA-16-134	16 - 134		REMOVED 1955	
TA-16-135	16 - 135		REMOVED 1953	
TA-16-136	16 - 136		REMOVED 1955	
TA-16-137	16 - 137		REMOVED 1955	
TA-16-138	16 - 138		REMOVED 1955	
TA-16-139	16 - 139		REMOVED 1955	
TA-16-140	16 - 140		REMOVED 1955	
TA-16-141	16 - 141		REMOVED 1953	
TA-16-142	16 - 142		REMOVED 1955	
TA-16-143	16 - 143		REMOVED 1955	
TA-16-144	16 - 144		REMOVED 1955	
TA-16-145	16 - 145		REMOVED 1955	
TA-16-146	16 - 146		REMOVED 1955	
TA-16-147	16 - 147		REMOVED 1954	
TA-16-148	16 - 148		REMOVED 1968	
TA-16-149	16 - 149		REMOVED 1950	
TA-16-150	16 - 150		REMOVED 1958	
TA-16-151	16 - 151		REMOVED 1958	
TA-16-152	16 - 152		REMOVED 1958	
TA-16-153	16 - 153	BARRICADE		S30+00 W45+00
TA-16-154	16 - 154	BARRICADE		S30+00 W45+00
TA-16-155	16 - 155	BARRICADE		S25+00 W50+00
TA-16-156	16 - 156	BARRICADE		S25+00 W50+00
TA-16-157	16 - 157	BARRICADE		S25+00 W50+00
TA-16-158	16 - 158		REMOVED	
TA-16-159	16 - 159		REMOVED	
TA-16-160	16 - 160		REMOVED 1956	
TA-16-161	16 - 161		REMOVED	
TA-16-162	16 - 162		REMOVED 1971	
TA-16-163	16 - 163	BARRICADE	ABANDONED 1972	S25+00 W45+00
TA-16-164	16 - 164	STORAGE BUILDING		S30+00 W55+00
TA-16-165	16 - 165		REMOVED 1958	
TA-16-166	16 - 166		REMOVED 1960	
TA-16-167	16 - 167		REMOVED 1958	
TA-16-168	16 - 168		REMOVED 1952	
TA-16-169	16 - 169	TANK	WATER	S25+00 W75+00
TA-16-170	16 - 170	TANK	WATER	S25+00 W75+00
TA-16-171	16 - 171	TANK	WATER	S30+00 W75+00
TA-16-172	16 - 172	TANK, WATER	RELOCATED TO TA-49-66	
TA-16-173	16 - 173	TANK, SEPTIC	ABANDONED 1971	S25+00 W45+00
TA-16-174	16 - 174		REMOVED	
TA-16-175	16 - 175	TANK	SEPTIC	S30+00 W60+00
TA-16-176	16 - 176		REMOVED	
TA-16-177	16 - 177		REMOVED 1968	
TA-16-178	16 - 178	TANK	SEPTIC	S15+00 W55+00
TA-16-179	16 - 179		REMOVED	
TA-16-180	16 - 180	FIRE STATION NO. 3		S30+00 W70+00
TA-16-181	16 - 181		REMOVED 1958	
TA-16-182	16 - 182		REMOVED 1966	
TA-16-183	16 - 183		REMOVED 1968	
TA-16-184	16 - 184		REMOVED	
TA-16-185	16 - 185		REMOVED	
TA-16-186	16 - 186		REMOVED	
TA-16-187	16 - 187		REMOVED	
TA-16-188	16 - 188		REMOVED 1958	
TA-16-189	16 - 189		REMOVED 1960	
TA-16-190	16 - 190		REMOVED 1955	
TA-16-191	16 - 191	STORAGE BUILDING		S25+00 W50+00
TA-16-192	16 - 192	GUARD HOUSE		S35+00 W75+00
TA-16-193	16 - 193	CHANGE HOUSE		S40+00 W70+00
TA-16-194	16 - 194	JIB CRANE		S40+00 W70+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-16-195	16 - 195	SERVICE STATION		S40+00 W70+00
TA-16-196	16 - 196	TANK	FUEL, UNDERGROUND	S40+00 W70+00
TA-16-197	16 - 197	TANK	FUEL, UNDERGROUND	S40+00 W70+00
TA-16-198	16 - 198		REMOVED	
TA-16-199	16 - 199		REMOVED	
TA-16-200	16 - 200	ADMINISTRATION BUILDING		S40+00 W75+00
TA-16-201	16 - 201	PROTECTIVE FORCE STA. NO. 560		S35+00 W75+00
TA-16-202	16 - 202	SHOPS BUILDING		S45+00 W70+00
TA-16-203	16 - 203	LUMBER STORAGE		S45+00 W70+00
TA-16-204	16 - 204	PROGRAM SUPPORT FACILITY		S40+00 W75+00
TA-16-205	16 - 205	TRITUM PROCESSING FACILITY		S60+00 W70+00
TA-16-206	16 - 206	PAINT & BOTTLE STORAGE		S40+00 W70+00
TA-16-207	16 - 207	WAREHOUSE		S40+00 W70+00
TA-16-208	16 - 208	STORAGE BUILDING		S40+00 W70+00
TA-16-209	16 - 209	SAFETY OFFICE		S45+00 W70+00
TA-16-210	16 - 210	GUARD HOUSE		S15+00 W55+00
TA-16-211	16 - 211			
TA-16-212	16 - 212			
TA-16-213	16 - 213	MANHOLE, WATER	NOT SHOWN	
TA-16-214	16 - 214	EXHAUST STACK	NOT SHOWN	
TA-16-215	16 - 215	TANK, INDUSTRIAL WASTE	NOT SHOWN	
TA-16-216	16 - 216	TANK, FUEL	NOT SHOWN	
TA-16-217	16 - 217	MANHOLE, SANITARY	NOT SHOWN	
TA-16-218	16 - 218		UNASSIGNED	
TA-16-219	16 - 219		UNASSIGNED	
TA-16-220	16 - 220	X - RAY BUILDING	CONST. NO. 131 - 1	S20+00 W55+00
TA-16-221	16 - 221	REST HOUSE	CONST. NO. 131 - A	S15+00 W55+00
TA-16-222	16 - 222	DARK ROOM BUILDING	CONST. NO. 131 - 2	S15+00 W50+00
TA-16-223	16 - 223	REST HOUSE	CONST. NO. 131 - B	S15+00 W50+00
TA-16-224	16 - 224	X - RAY BUILDING	CONST. NO. 131 - 4	S20+00 W50+00
TA-16-225	16 - 225	REST HOUSE	CONST. NO. 131 - C	S20+00 W45+00
TA-16-226	16 - 226	X - RAY BUILDING	CONST. NO. 131 - 3	S15+00 W45+00
TA-16-227	16 - 227			
TA-16-228	16 - 228			
TA-16-229	16 - 229			
TA-16-230	16 - 230	PASSAGEWAY	BLDG. 226 TO PASS. 233	S15+00 W45+00
TA-16-231	16 - 231	PASSAGEWAY	BLDG. 223 TO PASS. 233	S15+00 W50+00
TA-16-232	16 - 232	PASSAGEWAY	BLDG. 225 TO PASS. 236	S20+00 W45+00
TA-16-233	16 - 233	PASSAGEWAY	PASS. 231 TO PASS. 236	S15+00 W50+00
TA-16-234	16 - 234	PASSAGEWAY	BLDG. 221 TO BLDG. 220	S15+00 W55+00
TA-13-235	16 - 235	PASSAGEWAY	BLDG. 222 TO PASS. 236	S15+00 W50+00
TA-16-236	16 - 236	PASSAGEWAY	PASS. 233 TO PASS. 237	S20+00 W50+00
TA-16-237	16 - 237	PASSAGEWAY	BLDG 224 TO PASS. 236	S20+00 W50+00
TA-16-238	16 - 238	PASSAGEWAY	BLDG 222 TO PASS. 234	S15+00 W50+00
TA-16-239	16 - 239	PASSAGEWAY	BLDG 220 TO PASS. 234	S15+00 W55+00
TA-16-240	16 - 240	TRANSFORMER STATION	NOT SHOWN	
TA-16-241	16 - 241	MANHOLE, STEAM	NOT SHOWN	
TA-16-242	16 - 242	TRANSPORTABLE OFFICE BLDG.	FORMERLY TA-0-1041	S40+00 W75+00
TA-16-243	16 - 243	TRANSPORTABLE OFFICE BLDG.	FORMERLY TA-0-1192	S40+00 W75+00
TA-16-244	16 - 244	TRANSPORTABLE OFFICE BLDG.	FORMERLY TA-0-1199	S40+00 W75+00
TA-16-245	16 - 245		UNASSIGNED	
TA-16-246	16 - 246		UNASSIGNED	
TA-16-247	16 - 247		UNASSIGNED	
TA-16-248	16 - 248		UNASSIGNED	
TA-16-249	16 - 249		UNASSIGNED	
TA-16-250	16 - 250		UNASSIGNED	
TA-16-251	16 - 251		UNASSIGNED	
TA-16-252	16 - 252		UNASSIGNED	
TA-16-253	16 - 253		UNASSIGNED	
TA-16-254	16 - 254		UNASSIGNED	
TA-16-255	16 - 255		UNASSIGNED	
TA-16-256	16 - 256		UNASSIGNED	
TA-16-257	16 - 257		UNASSIGNED	
TA-16-258	16 - 258		UNASSIGNED	
TA-16-259	16 - 259		UNASSIGNED	
TA-16-260	16 - 260	PROCESS BUILDING	CONST. NO. 132 - 3	S20+00 W35+00
TA-16-261	16 - 261	REST HOUSE	CONST NO 132 - A	S20+00 W40+00

REV.	DATE	REVISION	BY	CKD	APP
20	9-22-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-27-83	HS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-16 S-SITE

SEC CLASSIFICATION
CLASS: U
REVIEWER
DATE: 10-19-83

SUBMITTED
RECOMMENDED
APPROVED
DRAWN
CHECKED
DATE: 9-22-83
SHEET NO: 1 of 7
DRAWING NO: ENG-R 5111

TA-16-1: Structure Location Plan for TA-16 - S Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-16-262	16 - 262		REMOVED 1957	
TA-16-263	16 - 263	REST HOUSE	CONST. NO. 132 - B	S20+00 W35+00
TA-16-264	16 - 264	TANK, AIR		S15+00 W35+00
TA-16-265	16 - 265	REST HOUSE	CONST. NO. 132 - C	S25+00 W35+00
TA-16-266	16 - 266			
TA-16-267	16 - 267	REST HOUSE	CONST. NO. 132 - D	S30+00 W35+00
TA-16-268	16 - 268	PASSAGEWAY	BLDG. 260 TO BLDG. 261	S20+00 W35+00
TA-16-269	16 - 269	PASSAGEWAY	BLDG. 260 TO BLDG. 263	S20+00 W35+00
TA-16-270	16 - 270	PASSAGEWAY	BLDG. 260 TO BLDG. 265	S25+00 W35+00
TA-16-271	16 - 271	PASSAGEWAY	BLDG. 260 TO BLDG. 267	S25+00 W30+00
TA-16-272	16 - 272		REMOVED	
TA-16-273	16 - 273		REMOVED	
TA-16-274	16 - 274		REMOVED	
TA-16-275	16 - 275	ROAD BLOCK		S20+00 W35+00
TA-16-276	16 - 276	ROAD BLOCK		S25+00 W30+00
TA-16-277	16 - 277	EQUIPMENT STORAGE BUILDING		S25+00 W30+00
TA-16-278	16 - 278	EQUIPMENT STORAGE BUILDING		S25+00 W35+00
TA-16-279	16 - 279		UNASSIGNED	
TA-16-280	16 - 280	INSPECTION BUILDING	CONST. NO. 133 - I	S30+00 W40+00
TA-16-281	16 - 281	REST HOUSE	CONST. NO. 133 - A	S30+00 W40+00
TA-16-282	16 - 282	PASSAGEWAY	BLDG. 280 TO BLDG. 281	S30+00 W40+00
TA-16-283	16 - 283	REST HOUSE	CONST. NO. 133 - B	S30+00 W35+00
TA-16-284	16 - 284	PASSAGEWAY	BLDG. 283 TO PASS. 288	S30+00 W40+00
TA-16-285	16 - 285	REST HOUSE	CONST. NO. 133 - C	S35+00 W40+00
TA-16-286	16 - 286	COFFEE HOUSE		S30+00 W40+00
TA-16-287	16 - 287	PASSAGEWAY	BLDG. 280 TO PASS. 288	S30+00 W40+00
TA-16-288	16 - 288	PASSAGEWAY	BLDG. 285 TO PASS. 287	S35+00 W40+00
TA-16-289	16 - 289		UNASSIGNED	
TA-16-290	16 - 290		UNASSIGNED	
TA-16-291	16 - 291		UNASSIGNED	
TA-16-292	16 - 292		UNASSIGNED	
TA-16-293	16 - 293		UNASSIGNED	
TA-16-294	16 - 294		UNASSIGNED	
TA-16-295	16 - 295		UNASSIGNED	
TA-16-296	16 - 296		UNASSIGNED	
TA-16-297	16 - 297		UNASSIGNED	
TA-16-298	16 - 298		UNASSIGNED	
TA-16-299	16 - 299		UNASSIGNED	
TA-16-300	16 - 300	PROCESS BUILDING	CONST. NO. 134 - I	S35+00 W30+00
TA-16-301	16 - 301	REST HOUSE	CONST. NO. 134 - A	S40+00 W35+00
TA-16-302	16 - 302	PROCESS BUILDING	CONST. NO. 134 - 2	S40+00 W30+00
TA-16-303	16 - 303	REST HOUSE	CONST. NO. 134 - B	S45+00 W30+00
TA-16-304	16 - 304	PROCESS BUILDING	CONST. NO. 134 - 3	S45+00 W25+00
TA-16-305	16 - 305	REST HOUSE	CONST. NO. 134 - C	S45+00 W30+00
TA-16-306	16 - 306	PROCESS BUILDING	CONST. NO. 134 - 4	S45+00 W25+00
TA-16-307	16 - 307	REST HOUSE	CONST. NO. 134 - D	S50+00 W25+00
TA-16-308	16 - 308	PROCESS BUILDING	CONST. NO. 134 - 5	S35+00 W35+00
TA-16-309	16 - 309	PASSAGEWAY	BLDG. 300 TO PASS. 310	S35+00 W30+00
TA-16-310	16 - 310	PASSAGEWAY	BLDG. 301 TO PASS. 309	S40+00 W35+00
TA-16-311	16 - 311	PASSAGEWAY	BLDG. 302 TO PASS. 310	S40+00 W30+00
TA-16-312	16 - 312	PASSAGEWAY	BLDG. 304 TO PASS. 313	S45+00 W30+00
TA-16-313	16 - 313	PASSAGEWAY	BLDG. 302 TO PASS. 312	S40+00 W30+00
TA-16-314	16 - 314	PASSAGEWAY	BLDG. 306 TO PASS. 317	S45+00 W30+00
TA-16-315	16 - 315	PASSAGEWAY	BLDG. 303 TO PASS. 312	S45+00 W30+00
TA-16-316	16 - 316	PASSAGEWAY	BLDG. 306 TO BLDG. 307	S50+00 W25+00
TA-16-317	16 - 317	PASSAGEWAY	BLDG. 304 TO PASS. 314	S45+00 W25+00
TA-16-318	16 - 318	PASSAGEWAY	BLDG. 305 TO PASS. 314	S45+00 W30+00
TA-16-319	16 - 319	COFFEE HOUSE		S40+00 W30+00
TA-16-320	16 - 320	CONDENSER	REFRIGERANT	S35+00 W30+00
TA-16-321	16 - 321	CONDENSER	REFRIGERANT	S40+00 W30+00
TA-16-322	16 - 322	CONDENSER	REFRIGERANT	S45+00 W25+00
TA-16-323	16 - 323	CONDENSER	REFRIGERANT	S45+00 W25+00
TA-16-324	16 - 324		UNASSIGNED	
TA-16-325	16 - 325		UNASSIGNED	
TA-16-326	16 - 326		UNASSIGNED	
TA-16-327	16 - 327		UNASSIGNED	
TA-16-328	16 - 328		UNASSIGNED	
TA-16-329	16 - 329		UNASSIGNED	
TA-16-330	16 - 330		UNASSIGNED	
TA-16-331	16 - 331		UNASSIGNED	
TA-16-332	16 - 332		UNASSIGNED	
TA-16-333	16 - 333		UNASSIGNED	
TA-16-334	16 - 334		UNASSIGNED	
TA-16-335	16 - 335		UNASSIGNED	
TA-16-336	16 - 336		UNASSIGNED	
TA-16-337	16 - 337		UNASSIGNED	
TA-16-338	16 - 338		UNASSIGNED	
TA-16-339	16 - 339	STORAGE BLDG.		S35+00 W15+00
TA-16-340	16 - 340	PROCESS BUILDING	CONST. NO. 140 - I	S35+00 W15+00
TA-16-341	16 - 341	REST HOUSE	CONST. NO. 140 - A	S35+00 W20+00
TA-16-342	16 - 342	BLENDING BUILDING	CONST. NO. 140 - 2	S30+00 W20+00
TA-16-343	16 - 343	REST HOUSE	CONST. NO. 140 - B	S35+00 W20+00
TA-16-344	16 - 344	DRUM STORAGE		S40+00 W15+00
TA-16-345	16 - 345	REST HOUSE	CONST. NO. 140 - C	S40+00 W15+00
TA-16-346	16 - 346		REMOVED 1962	
TA-16-347	16 - 347		REMOVED 1962	
TA-16-348	16 - 348		REMOVED 1962	
TA-16-349	16 - 349	ROAD BLOCK		S30+00 W20+00
TA-16-350	16 - 350	PASSAGEWAY	BLDG. 341 TO PASS. 351	S35+00 W20+00
TA-16-351	16 - 351	PASSAGEWAY	BLDG. 340 TO PASS. 350	S35+00 W15+00
TA-16-352	16 - 352	PASSAGEWAY	BLDG. 340 TO PASS. 343	S35+00 W15+00
TA-16-353	16 - 353	PASSAGEWAY	BLDG. 342 TO PASS. 350	S30+00 W20+00
TA-16-354	16 - 354	PASSAGEWAY	BLDG. 340 TO BLDG. 345	S35+00 W15+00
TA-16-355	16 - 355	ROAD BLOCK		S30+00 W20+00
TA-16-356	16 - 356	ROAD BLOCK		S35+00 W15+00
TA-16-357	16 - 357		UNASSIGNED	
TA-16-358	16 - 358		UNASSIGNED	

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-16-359	16 - 359		UNASSIGNED	
TA-16-360	16 - 360	PROCESS BUILDING	CONST. NO. 139 - I	S55+00W20+00
TA-16-361	16 - 361		UNASSIGNED	
TA-16-362	16 - 362		UNASSIGNED	
TA-16-363	16 - 363		UNASSIGNED	
TA-16-364	16 - 364		UNASSIGNED	
TA-16-365	16 - 365		UNASSIGNED	
TA-16-366	16 - 366		UNASSIGNED	
TA-16-367	16 - 367		UNASSIGNED	
TA-16-368	16 - 368		UNASSIGNED	
TA-16-369	16 - 369		UNASSIGNED	
TA-16-370	16 - 370	PROCESS BUILDING	CONST. NO. 136 - I	S65+00W15+00
TA-16-371	16 - 371	TANK, SEPTIC		S65+00W20+00
TA-16-372	16 - 372	COOLING TOWER		S65+00W20+00
TA-16-373	16 - 373		UNASSIGNED	
TA-16-374	16 - 374		UNASSIGNED	
TA-16-375	16 - 375		UNASSIGNED	
TA-16-376	16 - 376		UNASSIGNED	
TA-16-377	16 - 377		UNASSIGNED	
TA-16-378	16 - 378		UNASSIGNED	
TA-16-379	16 - 379		UNASSIGNED	
TA-16-380	16 - 380	PROCESS BUILDING	CONST. NO. 137 - I	S70+00W 5+00
TA-16-381	16 - 381	TANK, SEPTIC		S70+00W 5+00
TA-16-382	16 - 382		UNASSIGNED	
TA-16-384	16 - 384		REMOVED 1970	
TA-16-385	16 - 385	TANK, SEPTIC		S25+00W 5+00
TA-16-386	16 - 386	BURNING AREA		S20+00W 5+00
TA-16-387	16 - 387	BURNING AREA		S20+00W 5+00
TA-16-388	16 - 388	BURNING AREA		S25+00W 5+00
TA-16-389	16 - 389	CONTROL SHELTER		S25+00W 5+00
TA-16-390	16 - 390	BASKET WASHING BUILDING	ABANDONED 1970	S20+00 0+00
TA-16-391	16 - 391	TANK, FUEL	ABANDONED 1970	S20+00 0+00
TA-16-392	16 - 392	FILTER BEDS		S25+00 E 5+00
TA-16-393	16 - 393		REMOVED 1964	
TA-16-394	16 - 394	FILTER BED		S25+00 0+00
TA-16-395	16 - 395	BARRICADE		S25+00W 5+00
TA-16-396	16 - 396		REMOVED 1968	
TA-16-397	16 - 397		REMOVED 1960	
TA-16-398	16 - 398	MANHOLE, WATER		S25+00W 5+00
TA-16-399	16 - 399	BURNING AREA		S25+00 0+00
TA-16-400	16 - 400	TRUCK WASHING BUILDING	ABANDONED 1970	S45+00W70+00
TA-16-401	16 - 401	TANK, PRESSURE		S25+00 0+00
TA-16-402	16 - 402	AIR HEATER		S25+00 0+00
TA-16-403	16 - 403		REMOVED 1968	
TA-16-404	16 - 404	MICROSTRAINER BUILDING		S30+00W75+00
TA-16-405	16 - 405	TANK, SURGE		S30+00W75+00
TA-16-406	16 - 406	TANK, PRESSURE		S25+00 0+00
TA-16-407	16 - 407	MANHOLE, AIR VENT		S25+00 0+00
TA-16-409	16 - 409	MANHOLE, AIR VENT		S25 00W00 00
TA-16-410	16 - 410	ASSEMBLY BUILDING	CONST. NO. 143 - I	S65+00W30+00
TA-16-411	16 - 411	REST HOUSE	CONST. NO. 143 - C	S60+00W35+00
TA-16-412	16 - 412	INCINERATOR		S40+00W55+00
TA-16-413	16 - 413	REST HOUSE	CONST. NO. 143 - A	S60+00W35+00
TA-16-414	16 - 414	STORAGE BUILDING		S60+00W35+00
TA-16-415	16 - 415	REST HOUSE	CONST. NO. 143 - B	S60+00W30+00
TA-16-416	16 - 416	PASSAGEWAY	BLDG. 413 TO PASS. 419	S60+00W30+00
TA-16-417	16 - 417	DRUM STORAGE		S65+00W30+00
TA-16-418	16 - 418	PASSAGEWAY	BLDG. 415 TO PASS. 419	S60+00W30+00
TA-16-419	16 - 419	PASSAGEWAY	BLDG. 410 TO PASS. 416	S65+00W30+00
TA-16-420	16 - 420	TANK, SEPTIC	ABANDONED 1962	S60+00W35+00
TA-16-421	16 - 421	F.D. TRAINING FACILITY		S65+00W25+00
TA-16-422	16 - 422		UNASSIGNED	
TA-16-423	16 - 423		UNASSIGNED	
TA-16-424	16 - 424		UNASSIGNED	
TA-16-425	16 - 425		UNASSIGNED	
TA-16-426	16 - 426		UNASSIGNED	
TA-16-427	16 - 427		UNASSIGNED	
TA-16-428	16 - 428		UNASSIGNED	
TA-16-429	16 - 429		UNASSIGNED	
TA-16-430	16 - 430	PROCESS BUILDING	CONST. NO. 138 - I	S60+00W45+00
TA-16-431	16 - 431		REMOVED 1968	
TA-16-432	16 - 432		UNASSIGNED	
TA-16-433	16 - 433		UNASSIGNED	
TA-16-434	16 - 434		UNASSIGNED	
TA-16-435	16 - 435	REST HOUSE	CONST. NO. 138 - B	S55+00W45+00
TA-16-436	16 - 436		UNASSIGNED	
TA-16-437	16 - 437	REST HOUSE	CONST. NO. 138 - A	S60+00W45+00
TA-16-438	16 - 438	ROAD BLOCK	FORMERLY TA-33-86	S60+00W45+00
TA-16-439	16 - 439		UNASSIGNED	
TA-16-440	16 - 440		UNASSIGNED	
TA-16-441	16 - 441		UNASSIGNED	
TA-16-442	16 - 442	PASSAGEWAY	BLDG. 435 TO PASS. 443	S55+00W45+00
TA-16-443	16 - 443	PASSAGEWAY	BLDG. 430 TO PASS. 442	S60+00W45+00
TA-16-444	16 - 444	PASSAGEWAY	BLDG. 437 TO PASS. 443	S60+00W45+00
TA-16-445	16 - 445		UNASSIGNED	
TA-16-446	16 - 446		UNASSIGNED	
TA-16-447	16 - 447		UNASSIGNED	
TA-16-448	16 - 448		UNASSIGNED	
TA-16-449	16 - 449		UNASSIGNED	
TA-16-450	16 - 450	PROCESS BUILDING	CONST. NO. 142 - I	S55+00W70+00
TA-16-451	16 - 451		UNASSIGNED	
TA-16-453	16 - 453		UNASSIGNED	
TA-16-454	16 - 454		UNASSIGNED	

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-16-456	16 - 456	TANK, BLOWDOWN STEAM		S30+00 W70+00
TA-16-457	16 - 457	VALVEHOUSE, WATER		S30+00 W70+00
TA-16-458	16 - 458		UNASSIGNED	
TA-16-459	16 - 459		UNASSIGNED	
TA-16-460	16 - 460	LABORATORY BUILDING	CONST. NO. 141 - 1	S45+00 W65+00
TA-16-461	16 - 461	PASSAGEWAY		S45+00 W65+00
TA-16-462	16 - 462	STORAGE BUILDING	CONST. NO. 141 - 2	S45+00 W65+00
TA-16-463	16 - 463	REST HOUSE		S45+00 W65+00
TA-16-464	16 - 464		REMOVED 1966	
TA-16-465	16 - 465	BARRICADE		
TA-16-466	16 - 466		UNASSIGNED	
TA-16-467	16 - 467		UNASSIGNED	
TA-16-468	16 - 468		UNASSIGNED	
TA-16-469	16 - 469		UNASSIGNED	
TA-16-470	16 - 470		UNASSIGNED	
TA-16-471	16 - 471		UNASSIGNED	
TA-16-472	16 - 472		UNASSIGNED	
TA-16-473	16 - 473		UNASSIGNED	
TA-16-474	16 - 474	CONCRETE PAD		S35+00 W10+00
TA-16-475	16 - 475		REMOVED 1951	
TA-16-476	16 - 476	LABORATORY BUILDING	FORMERLY P-2	S35+00 W10+00
TA-16-477	16 - 477	LABORATORY BUILDING	FORMERLY P-3	S35+00 W10+00
TA-16-478	16 - 478	PROCESS BUILDING	FORMERLY P-4	S35+00 W10+00
TA-16-479	16 - 479		REMOVED 1949	
TA-16-480	16 - 480		REMOVED 1951	
TA-16-481	16 - 481		REMOVED 1951	
TA-16-482	16 - 482		REMOVED 1949	
TA-16-483	16 - 483		REMOVED 1951	
TA-16-484	16 - 484	MANHOLE	FORMERLY P-10 CONTROL	S35+00 W10+00
TA-16-485	16 - 485		REMOVED 1983	
TA-16-486	16 - 486		REMOVED 1951	
TA-16-487	16 - 487		REMOVED 1951	
TA-16-488	16 - 488		REMOVED 1951	
TA-16-489	16 - 489	CHARGE STATION	FORMERLY P-15	S35+00 W10+00
TA-16-490	16 - 490		REMOVED 1960	
TA-16-491	16 - 491		REMOVED 1960	
TA-16-492	16 - 492		REMOVED 1960	
TA-16-493	16 - 493		REMOVED 1960	
TA-16-494	16 - 494		REMOVED 1960	
TA-16-495	16 - 495		REMOVED 1960	
TA-16-496	16 - 496		REMOVED 1960	
TA-16-497	16 - 497		REMOVED 1960	
TA-16-498	16 - 498		REMOVED 1960	
TA-16-499	16 - 499		REMOVED 1960	
TA-16-500	16 - 500		REMOVED 1960	
TA-16-501	16 - 501		REMOVED 1950	
TA-16-502	16 - 502		REMOVED 1960	
TA-16-503	16 - 503		REMOVED 1960	
TA-16-504	16 - 504		REMOVED	
TA-16-505	16 - 505		REMOVED 1960	
TA-16-506	16 - 506		REMOVED	
TA-16-507	16 - 507		REMOVED	
TA-16-508	16 - 508		REMOVED	
TA-16-509	16 - 509		REMOVED	
TA-16-510	16 - 510		REMOVED	
TA-16-511	16 - 511		REMOVED	
TA-16-512	16 - 512		REMOVED	
TA-16-513	16 - 513		REMOVED 1951	
TA-16-514	16 - 514	TRANSFORMER STATION		S35+00 W45+00
TA-16-515	16 - 515	PROCESS BUILDING	FORMERLY V-1 & V-2	S35+00 W45+00
TA-16-516	16 - 516	PROCESS BUILDING	FORMERLY V-4	S40+00 W45+00
TA-16-517	16 - 517	EQUIPMENT BUILDING	FORMERLY V-5	S40+00 W45+00
TA-16-518	16 - 518	STORAGE BUILDING	FORMERLY V-6	S40+00 W40+00
TA-16-519	16 - 519	STORAGE BUILDING	FORMERLY V-7	S40+00 W40+00
TA-16-520	16 - 520	TEST BUILDING	FORMERLY V-8	S40+00 W40+00
TA-16-521	16 - 521		REMOVED 1968	
TA-16-522	16 - 522		REMOVED 1945	

REV.	DATE	REVISION	BY	CKD	APP
19	9-22-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-27-83	HS	HB	DB

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-16 S-SITE

SEC CLASSIFICATION
CLASS. U
REVIEWER
DATE 10-19-83

SUBMITTED | RECOMMENDED | APPROVED W.T. Ehrlinger
DRAWN [illegible] SALGADO
CHECKED
DATE 9-22-83
SHEET NO. 2 of 7
DRAWING NO. ENG-R 5111

TA-16-1: Structure Location Plan for TA-16 - S Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-16-523	16 - 523		REMOVED 1945	
TA-16-524	16 - 524		REMOVED 1945	
TA-16-525	16 - 525	STORAGE BUILDING		S 40+00 W80+00
TA-16-526	16 - 526	PUMP PIT	FORMERLY V-11	S 40+00 W45+00
TA-16-527	16 - 527	TANK	SEPTIC, FORMERLY V-12	S 40+00 W45+00
TA-16-528	16 - 528	BARRICADE	FORMERLY V-13	S 40+00 W45+00
TA-16-529	16 - 529	RETAINING WALL	FORMERLY V-14	S 40+00 W45+00
TA-16-530	16 - 530	TANK	IMHOFF, SEWAGE PLANT	S 40+00 W10+00
TA-16-531	16 - 531	TRICKLING FILTER	SEWAGE PLANT	S 40+00 W10+00
TA-16-532	16 - 532	TANK	FINAL, SEWAGE PLANT	S 40+00 W10+00
TA-16-533	16 - 533	SLUDGE DRYING BED	SEWAGE PLANT	S 40+00 W10+00
TA-16-534	16 - 534	SCREEN	SEWAGE PLANT	S 40+00 W10+00
TA-16-535	16 - 535	SLUDGE DRYING BED	SEWAGE PLANT	S 40+00 W10+00
TA-16-536	16 - 536	TRANSFORMER STATION		S 20+00 W45+00
TA-16-537	16 - 537	TRANSFORMER STATION		S 30+00 W50+00
TA-16-538	16 - 538	TRANSFORMER STATION		S 35+00 W65+00
TA-16-539	16 - 539	TRANSFORMER STATION		S 25+00 W70+00
TA-16-540	16 - 540	STEAM PLANT		S 30+00 W70+00
TA-16-541	16 - 541	TANK	ABANDONED	S 30+00 W70+00
TA-16-542	16 - 542	GAS REGULATOR BUILDING		S 30+00 W70+00
TA-16-543	16 - 543	TANK	FUEL, UNDERGROUND	S 30+00 W70+00
TA-16-544	16 - 544	TANK	FUEL, UNDERGROUND	S 30+00 W70+00
TA-16-545	16 - 545	TANK	FUEL, UNDERGROUND	S 30+00 W70+00
TA-16-546	16 - 546	TANK	FUEL UNDERGROUND	S 30+00 W70+00
TA-16-547	16 - 547	MANHOLE	GAS P.R.V.	S 30+00 W70+00
TA-16-548	16 - 548	TRANSFORMER STATION		S 20+00 W 40+00
TA-16-549	16 - 549	TRANSFORMER STATION		S 20+00 W 10+00
TA-16-550	16 - 550	TRANSFORMER STATION		S 25+00 W 5+00
TA-16-551	16 - 551	TRANSFORMER STATION	SERIES LIGHTING	S 30+00 W60+00
TA-16-552	16 - 552	TRANSFORMER STATION	SERIES LIGHTING	S 35+00 W15+00
TA-16-553	16 - 553	TRANSFORMER STATION	SERIES LIGHTING	S 30+00 W40+00
TA-16-554	16 - 554	TRANSFORMER STATION	SERIES LIGHTING	S 70+00 W 5+00
TA-16-555	16 - 555	TRANSFORMER STATION	SERIES LIGHTING	S 45+00 W25+00
TA-16-556	16 - 556		REMOVED 1951	
TA-16-557	16 - 557		REMOVED 1956	
TA-16-558	16 - 558	TRANSFORMER STATION	SERIES LIGHTING	S 20+00 W50+00
TA-16-559	16 - 559	TRANSFORMER STATION	SERIES LIGHTING	S 45+00 W65+00
TA-16-560	16 - 560	CHLORINATION STATION		S 30+00 W75+00
TA-16-561	16 - 561	TRANSFORMER STATION	SERIES LIGHTING	S 40+00 W70+00
TA-16-562	16 - 562	UNIT SUBSTATION		S 45+00 W65+00
TA-16-563	16 - 563	UNIT SUBSTATION		S 60+00 W45+00
TA-16-564	16 - 564	UNIT SUBSTATION		S 55+00 W25+00
TA-16-565	16 - 565	UNIT SUBSTATION		S 45+00 W30+00
TA-16-566	16 - 566		REMOVED 1959	
TA-16-567	16 - 567		REMOVED 1966	S 40+00 W45+00
TA-16-568	16 - 568	TRANSFORMER STATION	SERIES LIGHTING	S 65+00 W30+00
TA-16-569	16 - 569	TRANSFORMER STATION	SERIES LIGHTING	S 60+00 W 45+00
TA-16-570	16 - 570	UNIT SUBSTATION		S 60+00 W65+00
TA-16-571	16 - 571	TRANSFORMER STATION	SERIES LIGHTING	S 25+00 W40+00
TA-16-572	16 - 572	UNIT SUBSTATION		S 30+00 W45+00
TA-16-573	16 - 573	UNIT SUBSTATION		S 30+00 W10+00
TA-16-574	16 - 574		REMOVED 1966	
TA-16-575	16 - 575		REMOVED 1966	
TA-16-576	16 - 576	TRANSFORMER STATION	RELOCATED TO TA-15-208	
TA-16-577	16 - 577		REMOVED 1960	
TA-16-578	16 - 578		REMOVED 1960	
TA-16-579	16 - 579		REMOVED 1960	
TA-16-580	16 - 580		REMOVED 1966	
TA-16-581	16 - 581		REMOVED 1966	
TA-16-582	16 - 582		REMOVED 1960	
TA-16-583	16 - 583		REMOVED 1960	
TA-16-584	16 - 584		REMOVED 1966	
TA-16-585	16 - 585	UNIT SUBSTATION		S 30+00 W10+00
TA-16-586	16 - 586	UNIT SUBSTATION		S 35+00 W15+00
TA-16-587	16 - 587	UNIT SUBSTATION		S 35+00 W30+00
TA-16-588	16 - 588	TRANSFORMER STATION	SERIES LIGHTING	S 35+00 W35+00
TA-16-589	16 - 589	UNIT SUBSTATION		S 40+00 W30+00
TA-16-590	16 - 590	UNIT SUBSTATION		S 45+00 W25+00
TA-16-591	16 - 591	UNIT SUBSTATION		S 50+00 W25+00
TA-16-592	16 - 592	UNIT SUBSTATION		S 65+00 W20+00
TA-16-593	16 - 593	UNIT SUBSTATION		S 70+00 W 5+00
TA-16-594	16 - 594	UNIT SUBSTATION		S 65+00 W30+00
TA-16-595	16 - 595	UNIT SUBSTATION		S 30+00 W40+00
TA-16-596	16 - 596	UNIT SUBSTATION		S 20+00 W50+00
TA-16-597	16 - 597	UNIT SUBSTATION		S 20+00 W50+00
TA-16-598	16 - 598	UNIT SUBSTATION		S 15+00 W45+00
TA-16-599	16 - 599	SWITCHGEAR		S 25+00 W65+00
TA-16-600	16 - 600	BARRICADE		S 20+00 W35+00
TA-16-601	16 - 601	BARRICADE		S 20+00 W40+00
TA-16-602	16 - 602	BARRICADE		S 20+00 W35+00
TA-16-603	16 - 603	BARRICADE		S 20+00 W35+00
TA-16-604	16 - 604	BARRICADE		S 25+00 W35+00
TA-16-605	13 - 605	BARRICADE		S 25+00 W35+00
TA-16-606	16 - 606	BARRICADE		S 25+00 W35+00
TA-16-607	16 - 607	BARRICADE		S 25+00 W35+00
TA-16-608	16 - 608	TRANSFORMER STATION		S 40+00 W 45+00
TA-16-609	16 - 609	TRANSFORMER STATION		S 40+00 W 45+00
TA-16-610	16 - 610	TRANSFORMER STATION		S 35+00 W 45+00
TA-16-611	16 - 611	TRANSFORMER STATION		S 35+00 W 50+00
TA-16-612	16 - 612	BARRICADE		S 15+00 W45+00
TA-16-613	16 - 613	BARRICADE		S 15+00 W45+00
TA-16-614	16 - 614	BARRICADE		S 15+00 W50+00
TA-16-615	16 - 615	BARRICADE		S 15+00 W50+00
TA-16-616	16 - 616	BARRICADE		S 15+00 W55+00
TA-16-617	16 - 617	BARRICADE		S 15+00 W50+00
TA-16-618	16 - 618	BARRICADE		S 20+00 W50+00
TA-16-619	16 - 619	BARRICADE		S 20+00 W45+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-16-620	16 - 620	BARRICADE		S 15+00 W50+00
TA-16-621	16 - 621	TRANSFORMER STATION		S 30+00 W 75+00
TA-16-622	16 - 622	TRANSFORMER STATION		S 25+00 W 35+00
TA-16-623	16 - 623	TRANSFORMER STATION		S 15+00 W 55+00
TA-16-624	16 - 624	BARRICADE		S 25+00 W40+00
TA-16-625	16 - 625	BARRICADE		S 30+00 W35+00
TA-16-626	16 - 626	BARRICADE		S 30+00 W35+00
TA-16-627	16 - 627	BARRICADE		S 30+00 W40+00
TA-16-628	16 - 628	BARRICADE		S 35+00 W40+00
TA-16-629	16 - 629	BARRICADE		S 35+00 W40+00
TA-16-630	16 - 630	TRANSFORMER STATION		S 25+00 0+00
TA-16-631	16 - 631	TRANSFORMER STATION		S 35+00 W65+00
TA-16-632	16 - 632		UNASSIGNED	
TA-16-633	16 - 633		UNASSIGNED	
TA-16-634	16 - 634	BARRICADE		S 40+00 W30+00
TA-16-635	16 - 635	BARRICADE		S 40+00 W30+00
TA-16-636	16 - 636	BARRICADE		S 45+00 W25+00
TA-16-637	16 - 637	BARRICADE		S 40+00 W35+00
TA-16-638	16 - 638	BARRICADE		S 40+00 W30+00
TA-16-640	16 - 640	BARRICADE		S 45+00 W30+00
TA-16-641	16 - 641	BARRICADE		S 45+00 W30+00
TA-16-642	16 - 642	BARRICADE		S 50+00 W25+00
TA-16-643	16 - 643	DEADMAN		S 55+00 W 50+00
TA-16-644	16 - 644	DEADMAN		S 55+00 W 45+00
TA-16-645	16 - 645	DEADMAN		S 60+00 W 45+00
TA-16-646	16 - 646	DEADMAN		S 60+00 W 45+00
TA-16-647	16 - 647	DEADMAN		S 60+00 W 45+00
TA-16-648	16 - 648	DEADMAN		S 60+00 W 45+00
TA-16-649	16 - 649	DEADMAN		S 60+00 W50+00
TA-16-650	16 - 650	DEADMAN		S 60+00 W50+00
TA-16-651	16 - 651		UNASSIGNED	
TA-16-652	16 - 652		UNASSIGNED	
TA-16-653	16 - 653		UNASSIGNED	
TA-16-654	16 - 654		UNASSIGNED	
TA-16-655	16 - 655		UNASSIGNED	
TA-16-656	16 - 656	BARRICADE		S 60+00 W45+00
TA-16-657	16 - 657	BARRICADE		S 55+00 W45+00
TA-16-658	16 - 658	BARRICADE		S 55+00 W45+00
TA-16-659	16 - 659		UNASSIGNED	
TA-16-660	16 - 660		UNASSIGNED	
TA-16-661	16 - 661		UNASSIGNED	
TA-16-662	16 - 662		UNASSIGNED	
TA-16-663	16 - 663		UNASSIGNED	
TA-16-664	16 - 664		UNASSIGNED	
TA-16-665	16 - 665		UNASSIGNED	
TA-16-666	16 - 666	BARRICADE		S 55+00 W25+00
TA-16-667	16 - 667		UNASSIGNED	
TA-16-668	16 - 668		UNASSIGNED	
TA-16-669	16 - 669		UNASSIGNED	
TA-16-670	16 - 670		UNASSIGNED	
TA-16-671	16 - 671	BARRICADE		S 35+00 W20+00
TA-16-672	16 - 672	BARRICADE		S 35+00 W20+00
TA-16-673	16 - 673	BARRICADE		S 35+00 W15+00
TA-16-674	16 - 674		UNASSIGNED	
TA-16-675	16 - 675		UNASSIGNED	
TA-16-676	16 - 676		UNASSIGNED	
TA-16-677	16 - 677		UNASSIGNED	
TA-16-678	16 - 678		UNASSIGNED	
TA-16-679	16 - 679		UNASSIGNED	
TA-16-680	16 - 680		UNASSIGNED	
TA-16-681	16 - 681		UNASSIGNED	
TA-16-682	16 - 682		UNASSIGNED	
TA-16-683	16 - 683		UNASSIGNED	
TA-16-684	16 - 684		UNASSIGNED	
TA-16-685	16 - 685		UNASSIGNED	
TA-16-686	16 - 686		UNASSIGNED	
TA-16-687	16 - 687		UNASSIGNED	
TA-16-688	16 - 688	BARRICADE		S 60+00 W30+00
TA-16-689	16 - 689	BARRICADE		S 60+00 W30+00
TA-16-690	16 - 690	BARRICADE		S 65+00 W30+00
TA-16-691	16 - 691	BARRICADE		S 60+00 W35+00
TA-16-692	16 - 692	BARRICADE		S 60+00 W35+00
TA-16-693	16 - 693	MANHOLE	STEAM	S 30+00 W 65+00
TA-16-694	16 - 694	MANHOLE	STEAM	S 30+00 W 65+00
TA-16-695	16 - 695	MANHOLE	STEAM	S 30+00 W 65+00
TA-16-696	16 - 696	MANHOLE	STEAM	S 30+00 W 65+00
TA-16-697	16 - 697	MANHOLE	STEAM	S 30+00 W 65+00
TA-16-698	16 - 698	MANHOLE	STEAM	S 30+00 W 65+00
TA-16-699	16 - 699	MANHOLE	STEAM	S 30+00 W 65+00
TA-16-700	16 - 700	MANHOLE	SANITARY	S 20+00 W50+00
TA-16-701	16 - 701	MANHOLE	SANITARY	S 20+00 W50+00
TA-16-702	16 - 702	MANHOLE	SANITARY	S 20+00 W50+00
TA-16-703	16 - 703	MANHOLE	SANITARY	S 20+00 W50+00
TA-16-704	16 - 704	MANHOLE	SANITARY	S 15+00 W50+00
TA-16-705	16 - 705	MANHOLE	SANITARY	S 15+00 W50+00
TA-16-706	16 - 706	MANHOLE	SANITARY	S 15+00 W45+00
TA-16-707	16 - 707	MANHOLE	SANITARY	S 15+00 W45+00
TA-16-708	16 - 708	MANHOLE	SANITARY	S 20+00 W45+00
TA-16-709	16 - 709	MANHOLE	SANITARY	S 20+00 W45+00
TA-16-710	16 - 710	MANHOLE	SANITARY	S 20+00 W45+00
TA-16-711	16 - 711	MANHOLE	SANITARY	S 20+00 W45+00
TA-16-712	16 - 712	MANHOLE	SANITARY	S 20+00 W40+00
TA-16-713	16 - 713	MANHOLE	SANITARY	S 20+00 W35+00
TA-16-715	16 - 715	MANHOLE	SANITARY	S 20+00 W35+00
TA-16-716	16 - 716	MANHOLE	SANITARY	S 20+00 W35+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-16-717	16 - 717	MANHOLE	SANITARY	S 20+00 W35+00
TA-16-718	16 - 718	MANHOLE	SANITARY	S 25+00 W30+00
TA-16-719	16 - 719	SEWAGE LIFT STATION		S 20+00 W40+00
TA-16-720	16 - 720	MANHOLE	SANITARY	S 25+00 W40+00
TA-16-721	16 - 721	MANHOLE	SANITARY	S 30+00 W40+00
TA-16-722	16 - 722	MANHOLE	SANITARY	S 30+00 W35+00
TA-16-723	16 - 723	MANHOLE	SANITARY	S 35+00 W30+00
TA-16-724	16 - 724	MANHOLE	SANITARY	S 35+00 W30+00
TA-16-725	16 - 725	MANHOLE	SANITARY	S 35+00 W25+00
TA-16-726	16 - 726	MANHOLE	SANITARY	S 40+00 W20+00
TA-16-727	16 - 727	MANHOLE	SANITARY	S 40+00 W20+00
TA-16-728	16 - 728	MANHOLE	SANITARY	S 40+00 W15+00
TA-16-729	16 - 729	MANHOLE	SANITARY	S 40+00 W15+00
TA-16-730	16 - 730	MANHOLE	SANITARY	S 40+00 W15+00
TA-16-731	16 - 731	MANHOLE	SANITARY	S 35+00 W15+00
TA-16-732	16 - 732	MANHOLE	SANITARY	S 35+00 W15+00
TA-16-733	16 - 733	MANHOLE	SANITARY	S 40+00 W10+00
TA-16-734	16 - 734	MANHOLE	SANITARY	S 40+00 W10+00
TA-16-735	16 - 735	MANHOLE	SANITARY	S 40+00 W10+00
TA-16-736	16 - 736	MANHOLE	SANITARY	S 40+00 W20+00
TA-16-737	16 - 737	MANHOLE	SANITARY	S 45+00 W20+00
TA-16-738	16 - 738	MANHOLE	SANITARY	S 45+00 W25+00
TA-16-739	16 - 739	MANHOLE	SANITARY	S 50+00 W25+00
TA-16-740	16 - 740	MANHOLE	SANITARY	S 50+00 W25+00
TA-16-741	16 - 741	MANHOLE	SANITARY	S 50+00 W23+00
TA-16-742	16 - 742	MANHOLE	SANITARY	S 45+00 W25+00
TA-16-743	16 - 743	MANHOLE	SANITARY	S 45+00 W25+00
TA-16-744	16 - 744	MANHOLE	SANITARY	S 50+00 W30+00
TA-16-745	16 - 745	MANHOLE	SANITARY	S 45+00 W30+00
TA-16-746	16 - 746	MANHOLE	SANITARY	S 45+00 W30+00
TA-16-747	16 - 747	MANHOLE	SANITARY	S 45+00 W30+00
TA-16-748	16 - 748	MANHOLE	SANITARY	S 40+00 W30+00
TA-16-749	16 - 749	MANHOLE	SANITARY	S 40+00 W35+00
TA-16-750	16 - 750	MANHOLE	SANITARY	S 35+00 W30+00
TA-16-751	16 - 751	MANHOLE	SANITARY	S 50+00 W25+00
TA-16-752	16 - 752	MANHOLE	SANITARY	S 55+00 W25+00
TA-16-753	16 - 753	MANHOLE	SANITARY	S 55+00 W25+00
TA-16-754	16 - 754	MANHOLE	SANITARY	S 55+00 W30+00
TA-16-755	16 - 755	MANHOLE	SANITARY	S 55+00 W30+00
TA-16-756	16 - 756	MANHOLE	SANITARY	S 60+00 W35+00
TA-16-757	16 - 757	MANHOLE	SANITARY	S 60+00 W30+00
TA-16-758	16 - 758	MANHOLE	SANITARY	S 65+00 W30+00
TA-16-759	16 - 759	MANHOLE	SANITARY	S 60+00 W40+00
TA-16-760	16 - 760	MANHOLE	SANITARY	S 60+00 W40+00
TA-16-761	16 - 761	MANHOLE	SANITARY	S 60+00 W45+00
TA-16-762	16 - 762	MANHOLE	SANITARY	S 60+00 W45+00
TA-16-763	16 - 763	MANHOLE	SANITARY	S 60+00 W50+00
TA-16-764	16 - 764	MANHOLE	SANITARY	S 60+00 W50+00
TA-16-765	16 - 765	MANHOLE	SANITARY	S 60+00 W50+00
TA-16-766	16 - 766	MANHOLE	SANITARY	S 60+00 W55+00
TA-16-767	16 - 767	MANHOLE	SANITARY	S 55+00 W55+00
TA-16-768	16 - 768	MANHOLE	SANITARY	S 55+00 W60+00
TA-16-769	16 - 769	MANHOLE	SANITARY	S 55+00 W60+00
TA-16-770	16 - 770	MANHOLE	SANITARY	S 55+00 W65+00
TA-16-771	16 - 771	MANHOLE	SANITARY	S 55+00 W65+00
TA-16-772	16 - 772	MANHOLE	SANITARY	S 50+00 W60+00
TA-16-773	16 - 773	MANHOLE	SANITARY	S 50+00 W60+00
TA-16-774	16 - 774	MANHOLE	SANITARY	S 45+00 W60+00
TA-16-775	16 - 775	MANHOLE	SANITARY	S 45+00 W65+00
TA-16-776	16 - 776	MANHOLE	SANITARY	S 45+00 W65+00
TA-16-777	16 - 777	MANHOLE	SANITARY	S 45+00 W70+00
TA-16-778	16 - 778	MANHOLE	SANITARY	S 40+00 W70+00
TA-16-779	16 - 779	MANHOLE	SANITARY	S 45+00 W70+00
TA-16-780	16 - 780	MANHOLE	SANITARY	S 40+00 W70+00
TA-16-781	16 - 781	MANHOLE	SANITARY	S 40+00 W75+00
TA-16-782	16 - 782	MANHOLE	SANITARY	S 35+00 W70+00
TA-16-783	16 - 783	MANHOLE	SANITARY	S 40+00 W60+00

REV.	DATE	REVISION	BY	CKD	APP
20	9-23-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-27-83	HS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-16 S-SITE

SEC. CLASSIFICATION
CLASS U
REVIEWER
DATE 10-19-83

SUBMITTED | RECOMMENDED | APPROVED W.T.

DRAWN | CHECKED | DATE 9-23-83 | SHEET NO 3 of 7 | DRAWING NO ENG-R5111

TA-16-1: Structure Location Plan for TA-16 - S Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-16-784	16 - 784		REMOVED	
TA-16-785	16 - 785	MANHOLE	SANITARY	S40+00 W65+00
TA-16-786	16 - 786	MANHOLE	SANITARY	S35+00 W65+00
TA-16-787	16 - 787	MANHOLE	SANITARY	S35+00 W65+00
TA-16-788	16 - 788	MANHOLE	SANITARY	S35+00 W65+00
TA-16-789	16 - 789	MANHOLE	SANITARY	S30+00 W65+00
TA-16-790	16 - 790	MANHOLE	SANITARY	S30+00 W70+00
TA-16-791	16 - 791	MANHOLE	SANITARY	S30+00 W70+00
TA-16-792	16 - 792	MANHOLE	SANITARY	S30+00 W70+00
TA-16-793	16 - 793	MANHOLE	INDUSTRIAL WASTE	S40+00 W45+00
TA-16-794	16 - 794	MANHOLE	INDUSTRIAL WASTE	S40+00 W45+00
TA-16-795	16 - 795	MANHOLE	INDUSTRIAL WASTE	S40+00 W45+00
TA-16-796	16 - 796	MANHOLE	INDUSTRIAL WASTE	S40+00 W45+00
TA-16-797	16 - 797	MANHOLE	INDUSTRIAL WASTE	S40+00 W45+00
TA-16-798	16 - 798	MANHOLE	INDUSTRIAL WASTE	S40+00 W40+00
TA-16-799	16 - 799	MANHOLE	INDUSTRIAL WASTE	S40+00 W40+00
TA-16-800	16 - 800		REMOVED	
TA-16-801	16 - 801		REMOVED	
TA-16-802	16 - 802	MANHOLE	STORM DRAINAGE	S30+00 W40+00
TA-16-803	16 - 803	MANHOLE	STORM DRAINAGE	S20+00 W35+00
TA-16-804	16 - 804	MANHOLE	STORM DRAINAGE	S20+00 W30+00
TA-16-805	16 - 805	MANHOLE	STORM DRAINAGE	S25+00 W30+00
TA-16-806	16 - 806	MANHOLE	STORM DRAINAGE	S55+00 W55+00
TA-16-807	16 - 807	MANHOLE	INDUSTRIAL WASTE	S35+00 W30+00
TA-16-808	16 - 808	MANHOLE	INDUSTRIAL WASTE	S40+00 W30+00
TA-16-809	16 - 809	MANHOLE	INDUSTRIAL WASTE	S45+00 W25+00
TA-16-810	16 - 810	MANHOLE	INDUSTRIAL WASTE	S45+00 W25+00
TA-16-811	16 - 811	MANHOLE	INDUSTRIAL WASTE	S35+00 W15+00
TA-16-812	16 - 812	MANHOLE	INDUSTRIAL WASTE	S35+00 W15+00
TA-16-813	16 - 813	MANHOLE	SANITARY	S65+00 W20+00
TA-16-814	16 - 814	MANHOLE	SANITARY	S30+00 W40+00
TA-16-815	16 - 815	MANHOLE	SANITARY	S55+00 W70+00
TA-16-816	16 - 816	MANHOLE	SANITARY	S55+00 W40+00
TA-16-817	16 - 817	MANHOLE	SANITARY	S50+00 W40+00
TA-16-818	16 - 818		UNASSIGNED	
TA-16-819	16 - 819		UNASSIGNED	
TA-16-820	16 - 820		UNASSIGNED	
TA-16-821	16 - 821		UNASSIGNED	
TA-16-822	16 - 822		UNASSIGNED	
TA-16-823	16 - 823		UNASSIGNED	
TA-16-824	16 - 824		UNASSIGNED	
TA-16-825	16 - 825	MANHOLE	ELECTRICAL	S15+00 W50+00
TA-16-826	16 - 826	MANHOLE	ELECTRICAL	S15+00 W55+00
TA-16-827	16 - 827	MANHOLE	ELECTRICAL	S15+00 W55+00
TA-16-828	16 - 828	MANHOLE	ELECTRICAL	S15+00 W55+00
TA-16-829	16 - 829	MANHOLE	ELECTRICAL	S10+00 W50+00
TA-16-830	16 - 830	MANHOLE	ELECTRICAL	S15+00 W50+00
TA-16-831	16 - 831	MANHOLE	ELECTRICAL	S15+00 W50+00
TA-16-832	16 - 832	MANHOLE	ELECTRICAL	S15+00 W50+00
TA-16-833	16 - 833	MANHOLE	ELECTRICAL	S15+00 W45+00
TA-16-834	16 - 834	MANHOLE	ELECTRICAL	S20+00 W45+00
TA-16-835	16 - 835	MANHOLE	ELECTRICAL	S20+00 W45+00
TA-16-836	16 - 836	MANHOLE	ELECTRICAL	S20+00 W45+00
TA-16-837	16 - 837	MANHOLE	ELECTRICAL	S20+00 W45+00
TA-16-838	16 - 838	MANHOLE	ELECTRICAL	S30+00 W40+00
TA-16-839	16 - 839	MANHOLE	ELECTRICAL	S30+00 W35+00
TA-16-840	16 - 840	MANHOLE	ELECTRICAL	S30+00 W35+00
TA-16-841	16 - 841	MANHOLE	ELECTRICAL	S30+00 W40+00
TA-16-842	16 - 842	MANHOLE	ELECTRICAL	S30+00 W40+00
TA-16-843	16 - 843	MANHOLE	ELECTRICAL	S30+00 W40+00
TA-16-844	16 - 844	MANHOLE	ELECTRICAL	S35+00 W40+00
TA-16-845	16 - 845	MANHOLE	ELECTRICAL	S30+00 W20+00
TA-16-846	16 - 846	MANHOLE	ELECTRICAL	S35+00 W15+00
TA-16-847	16 - 847	MANHOLE	ELECTRICAL	S35+00 W20+00
TA-16-848	16 - 848	MANHOLE	ELECTRICAL	S35+00 W20+00
TA-16-849	16 - 849	MANHOLE	ELECTRICAL	S35+00 W20+00
TA-16-850	16 - 850	MANHOLE	ELECTRICAL	S35+00 W15+00
TA-16-851	16 - 851	MANHOLE	ELECTRICAL	S35+00 W30+00
TA-16-852	16 - 852	MANHOLE	ELECTRICAL	S35+00 W30+00
TA-16-853	16 - 853	MANHOLE	ELECTRICAL	S40+00 W30+00
TA-16-854	16 - 854	MANHOLE	ELECTRICAL	S40+00 W30+00
TA-16-855	16 - 855	MANHOLE	ELECTRICAL	S40+00 W35+00
TA-16-856	16 - 856	MANHOLE	ELECTRICAL	S40+00 W30+00
TA-16-857	16 - 857	MANHOLE	ELECTRICAL	S40+00 W30+00
TA-16-858	16 - 858	MANHOLE	ELECTRICAL	S40+00 W30+00
TA-16-859	16 - 859	MANHOLE	ELECTRICAL	S45+00 W30+00
TA-16-860	16 - 860	MANHOLE	ELECTRICAL	S45+00 W30+00
TA-16-861	16 - 861	MANHOLE	ELECTRICAL	S45+00 W30+00
TA-16-862	16 - 862	MANHOLE	ELECTRICAL	S45+00 W30+00
TA-16-863	16 - 863	MANHOLE	ELECTRICAL	S45+00 W25+00
TA-16-864	16 - 864	MANHOLE	ELECTRICAL	S45+00 W25+00
TA-16-865	16 - 865	MANHOLE	ELECTRICAL	S50+00 W30+00
TA-16-866	16 - 866	MANHOLE	ELECTRICAL	S45+00 W25+00
TA-16-867	16 - 867	MANHOLE	ELECTRICAL	S50+00 W25+00
TA-16-868	16 - 868	MANHOLE	ELECTRICAL	S50+00 W25+00
TA-16-869	16 - 869	MANHOLE	ELECTRICAL	S50+00 W25+00
TA-16-870	16 - 870	MANHOLE	ELECTRICAL	S50+00 W25+00
TA-16-871	16 - 871	MANHOLE	ELECTRICAL	S60+00 W30+00
TA-16-872	16 - 872	MANHOLE	ELECTRICAL	S60+00 W30+00
TA-16-873	16 - 873	MANHOLE	ELECTRICAL	S60+00 W30+00
TA-16-874	16 - 874	MANHOLE	ELECTRICAL	S60+00 W35+00
TA-16-875	16 - 875	MANHOLE	ELECTRICAL	S60+00 W35+00
TA-16-876	16 - 876	MANHOLE	ELECTRICAL	S60+00 W35+00
TA-16-877	16 - 877	MANHOLE	ELECTRICAL	S65+00 W35+00
TA-16-878	16 - 878	MANHOLE	ELECTRICAL	S60+00 W45+00
TA-16-879	16 - 879	MANHOLE	ELECTRICAL	S60+00 W45+00
TA-16-880	16 - 880	MANHOLE	ELECTRICAL	S55+00 W70+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-16-881	16 - 881	MANHOLE	ELECTRICAL	S45+00 W65+00
TA-16-882	16 - 882	MANHOLE	ELECTRICAL	S45+00 W65+00
TA-16-883	16 - 883	MANHOLE	ELECTRICAL	S45+00 W65+00
TA-16-884	16 - 884	MANHOLE	ABANDONED 1966	S40+00 W70+00
TA-16-885	16 - 885	MANHOLE	ABANDONED 1966	S35+00 W70+00
TA-16-886	16 - 886	MANHOLE	ABANDONED 1966	S30+00 W70+00
TA-16-887	16 - 887	MANHOLE	ELECTRICAL	S40+00 W15+00
TA-16-888	16 - 888		REMOVED 1972	
TA-16-889	16 - 889		REMOVED 1972	
TA-16-890	16 - 890	MANHOLE	ELECTRICAL	S45+00 W65+00
TA-16-891	16 - 891	MANHOLE	ELECTRICAL	S45+00 W70+00
TA-16-892	16 - 892	MANHOLE	ELECTRICAL	S65+00 W20+00
TA-16-893	16 - 893	MANHOLE	ELECTRICAL	S60+00 W35+00
TA-16-894	16 - 894	MANHOLE	ELECTRICAL	S30+00 W65+00
TA-16-895	16 - 895		UNASSIGNED	
TA-16-896	16 - 896		UNASSIGNED	
TA-16-897	16 - 897		UNASSIGNED	
TA-16-898	16 - 898		UNASSIGNED	
TA-16-899	16 - 899		UNASSIGNED	
NOTE:	TA-16-900	THRU TA-16-999 CANNOT BE	USED FOR STR. NO,	ASSIGNMENT
TA-16-1000	16 - 1000		RELOCATED TO TA-16-112	
TA-16-1001	16 - 1001		RELOCATED TO TA-1-288	
TA-16-1002	16 - 1002	MANHOLE	STEAM	S15+00 W50+00
TA-16-1003	16 - 1003	MANHOLE	STEAM	S15+00 W50+00
TA-16-1004	16 - 1004	MANHOLE	STEAM	S15+00 W50+00
TA-16-1005	16 - 1005	MANHOLE	STEAM	S15+00 W50+00
TA-16-1006	16 - 1006	MANHOLE	STEAM	S20+00 W50+00
TA-16-1007	16 - 1007	MANHOLE	STEAM	S20+00 W45+00
TA-16-1008	16 - 1008	MANHOLE	STEAM	S25+00 W45+00
TA-16-1009	16 - 1009	MANHOLE	STEAM	S25+00 W40+00
TA-16-1010	16 - 1010	MANHOLE	STEAM	S25+00 W40+00
TA-16-1011	16 - 1011	MANHOLE	STEAM	S20+00 W35+00
TA-16-1012	16 - 1012	MANHOLE	STEAM	S30+00 W40+00
TA-16-1013	16 - 1013	MANHOLE	STEAM	S30+00 W40+00
TA-16-1014	16 - 1014	MANHOLE	STEAM	S30+00 W35+00
TA-16-1015	16 - 1015	MANHOLE	STEAM	S35+00 W35+00
TA-16-1016	16 - 1016	MANHOLE	STEAM	S35+00 W35+00
TA-16-1017	16 - 1017	MANHOLE	STEAM	S40+00 W30+00
TA-16-1018	16 - 1018	MANHOLE	STEAM	S35+00 W30+00
TA-16-1019	16 - 1019	MANHOLE	STEAM	S35+00 W25+00
TA-16-1020	16 - 1020	MANHOLE	STEAM	S35+00 W20+00
TA-16-1021	16 - 1021	MANHOLE	STEAM	S35+00 W20+00
TA-16-1022	16 - 1022	MANHOLE	STEAM	S35+00 W20+00
TA-16-1023	16 - 1023	MANHOLE	STEAM	S35+00 W20+00
TA-16-1024	16 - 1024	MANHOLE	STEAM	S35+00 W15+00
TA-16-1025	16 - 1025	MANHOLE	STEAM	S35+00 W15+00
TA-16-1026	16 - 1026	MANHOLE	STEAM	S35+00 W10+00
TA-16-1027	16 - 1027	MANHOLE	STEAM	S40+00 W30+00
TA-16-1028	16 - 1028	MANHOLE	STEAM	S40+00 W30+00
TA-16-1029	16 - 1029	MANHOLE	STEAM	S45+00 W30+00
TA-16-1030	16 - 1030	MANHOLE	STEAM	S45+00 W30+00
TA-16-1031	16 - 1031	MANHOLE	STEAM	S50+00 W25+00
TA-16-1032	16 - 1032	MANHOLE	STEAM	S50+00 W25+00
TA-16-1033	16 - 1033	MANHOLE	STEAM	S50+00 W30+00
TA-16-1034	16 - 1034	MANHOLE	STEAM	S55+00 W25+00
TA-16-1035	16 - 1035	MANHOLE	STEAM	S55+00 W25+00
TA-16-1036	16 - 1036	MANHOLE	STEAM	S60+00 W25+00
TA-16-1037	16 - 1037	MANHOLE	STEAM	S60+00 W20+00
TA-16-1038	16 - 1038	MANHOLE	STEAM	S65+00 W15+00
TA-16-1039	16 - 1039	MANHOLE	STEAM	S55+00 W35+00
TA-16-1040	16 - 1040	MANHOLE	STEAM	S55+00 W40+00
TA-16-1041	16 - 1041	MANHOLE	STEAM	S55+00 W40+00
TA-16-1042	16 - 1042	MANHOLE	STEAM	S60+00 W35+00
TA-16-1043	16 - 1043	MANHOLE	STEAM	S60+00 W35+00
TA-16-1044	16 - 1044	MANHOLE	STEAM	S55+00 W40+00
TA-16-1045	16 - 1045	MANHOLE	STEAM	S55+00 W45+00
TA-16-1046	16 - 1046	MANHOLE	STEAM	S55+00 W45+00
TA-16-1047	16 - 1047	MANHOLE	STEAM	S55+00 W45+00
TA-16-1048	16 - 1048	MANHOLE	STEAM	S60+00 W45+00
TA-16-1049	16 - 1049	MANHOLE	STEAM	S55+00 W50+00
TA-16-1050	16 - 1050	MANHOLE	STEAM	S55+00 W50+00
TA-16-1051	16 - 1051	MANHOLE	STEAM	S55+00 W55+00
TA-16-1052	16 - 1052	MANHOLE	STEAM	S55+00 W60+00
TA-16-1053	16 - 1053	MANHOLE	STEAM	S50+00 W65+00
TA-16-1054	16 - 1054	MANHOLE	STEAM	S55+00 W65+00
TA-16-1055	16 - 1055	MANHOLE	STEAM	S55+00 W70+00
TA-16-1056	16 - 1056	MANHOLE	STEAM	S45+00 W65+00
TA-16-1057	16 - 1057	MANHOLE	STEAM	S45+00 W65+00
TA-16-1058	16 - 1058	MANHOLE	STEAM	S40+00 W70+00
TA-16-1059	16 - 1059	MANHOLE	STEAM	S40+00 W70+00
TA-16-1060	16 - 1060	MANHOLE	STEAM	S40+00 W70+00
TA-16-1061	16 - 1061	MANHOLE	STEAM	S40+00 W75+00
TA-16-1062	16 - 1062	MANHOLE	STEAM	S30+00 W70+00
TA-16-1063	16 - 1063	MANHOLE	STEAM	S30+00 W65+00
TA-16-1064	16 - 1064	MANHOLE	STEAM	S30+00 W60+00
TA-16-1065	16 - 1065	MANHOLE	STEAM	S35+00 W65+00
TA-16-1066	16 - 1066	MANHOLE	STEAM	S35+00 W60+00
TA-16-1067	16 - 1067	MANHOLE	STEAM	S40+00 W60+00
TA-16-1068	16 - 1068	MANHOLE	STEAM	S40+00 W65+00
TA-16-1069	16 - 1069	MANHOLE	STEAM	S40+00 W65+00
TA-16-1070	16 - 1070	MANHOLE	STEAM	S30+00 W65+00
TA-16-1071	16 - 1071	MANHOLE	STEAM	S25+00 W65+00
TA-16-1072	16 - 1072	MANHOLE	STEAM	S25+00 W65+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-16-1073	16-1073	MANHOLE	STEAM	S20+00 W60+00
TA-16-1074	16-1074	MANHOLE	STEAM	S20+00 W60+00
TA-16-1075	16-1075	MANHOLE	STEAM	S20+00 W60+00
TA-16-1076	16-1076	MANHOLE	STEAM	S15+00 W55+00
TA-16-1077	16-1077	MANHOLE	STEAM	S20+00 W55+00
TA-16-1078	16-1078	MANHOLE	STEAM	S20+00 W50+00
TA-16-1079	16-1079		REMOVED	
TA-16-1080	16-1080	MANHOLE	STEAM	S30+00 W70+00
TA-16-1081	16-1081	MANHOLE	STEAM	S40+00 W60+00
TA-16-1082	16-1082	MANHOLE	STEAM	S40+00 W60+00
TA-16-1083	16-1083	MANHOLE	ABANDONED 1956	S35+00 W60+00
TA-16-1084	16-1084		REMOVED	
TA-16-1085	16-1085	MANHOLE	STEAM	S50+00 W30+00
TA-16-1086	16-1086		REMOVED 1970	
TA-16-1087	16-1087		REMOVED 1970	
TA-16-1088	16-1088	MANHOLE	STEAM	S55+00 W40+00
TA-16-1089	16-1089	MANHOLE	STEAM	S55+00 W50+00
TA-16-1090	16-1090		REMOVED 1970	
TA-16-1091	16-1091	MANHOLE	STEAM	S45+00 W65+00
TA-16-1092	16-1092	MANHOLE	STEAM	S45+00 W65+00
TA-16-1093	16-1093	MANHOLE	STEAM	S20+00 W60+00
TA-16-1094	16-1094	MANHOLE	STEAM	S20+00 W55+00
TA-16-1095	16-1095		UNASSIGNED	
TA-16-1096	16-1096		UNASSIGNED	
TA-16-1097	16-1097		UNASSIGNED	
TA-16-1098	16-1098		UNASSIGNED	
TA-16-1099	16-1099	CONDENSATE PUMP	STEAM	S50+00 W30+00
TA-16-1100	16-1100	MANHOLE	ABANDONED 1932	S25+00 W35+00
TA-16-1101	16-1101		REMOVED 1966	
TA-16-1102	16-1102		REMOVED 1966	
TA-16-1103	16-1103		REMOVED 1966	
TA-16-1104	16-1104		REMOVED	
TA-16-1105	16-1105		REMOVED	
TA-16-1106	16-1106		REMOVED	
TA-16-1107	16-1107		REMOVED	
TA-16-1108	16-1108		REMOVED 1956	
TA-16-1109	16-1109		REMOVED 1956	
TA-16-1110	16-1110		REMOVED 1958	
TA-16-1111	16-1111		REMOVED 1968	
TA-16-1112	16-1112	MANHOLE	GAS DRIP POT	S45+00 W70+00
TA-16-1113	16-1113	MANHOLE	GAS DRIP POT	S40+00 W70+00
TA-16-1114	16-1114	MANHOLE	GAS DRIP POT	S40+00 W75+00
TA-16-1115	16-1115	MANHOLE	WATER P.R.V.	S45+00 W70+00
TA-16-1116	16-1116	MANHOLE	WATER P.R.V.	S25+00 W35+00
TA-16-1117	16-1117	MANHOLE	WATER P.R.V.	S35+00 W40+00
TA-16-1118	16-1118	MANHOLE	WATER	S40+00 W65+00
TA-16-1119	16-1119	MANHOLE	WATER	S25+00 W40+00
TA-16-1120	16-1120	MANHOLE	WATER	S65+00 W20+00
TA-16-1121	16-1121	MANHOLE	AIR RELIEF VALVE	S30+00 W60+00
TA-16-1122	16-1122	MANHOLE	WATER P.R.V.	S55+00 W30+00
TA-16-1123	16-1123	MANHOLE	GAS P.R.V.	S65+00 W 5+00
TA-16-1124	16-1124	MANHOLE	WATER	S30+00 W75+00
TA-16-1125	16-1125	MANHOLE	WATER	S30+00 W75+00
TA-16-1126	16-1126	MANHOLE	WATER	S30+00 W65+00
TA-16-1127	16-1127	MANHOLE	WATER	S20+00 W55+00
TA-16-1128	16-1128	MANHOLE	GAS P.R.V.	S65+00 W 5+00
TA-16-1129	16-1129	TROUGH		S25+00 0+00
TA-16-1130	16-1130		REMOVED 1949	
TA-16-1131	16-1131		REMOVED 1949	
TA-16-1132	16-1132		REMOVED 1956	
TA-16-1133	16-1133	GUARD HOUSE	RELOCATED TO TA-21-168	
TA-16-1134	16-1134	TROUGH	BASKET WASHING FAC.	S25+00 0+00
TA-16-1135	16-1135	TROUGH	BASKET WASHING FAC.	S25+00 0+00
TA-16-1136	16-1136		REMOVED	
TA-16-1137	16-1137		REMOVED	
TA-16-1138	16-1138		REMOVED	
TA-16-1139	16-1139		REMOVED	

REV.	DATE	REVISION	BY	CKD	APP.
17	9-23-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-27-83	HS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-16 S-SITE

SEC CLASSIFICATION
CLASS U
REVIEWER
DATE 10-19-88

SUBMITTED / RECOMMENDED / APPROVED
DRAWN / CHECKED
DATE 9-23-83
SHEET NO. 4 of 7
DRAWING NO. ENG-R 5111

TA-16-1: Structure Location Plan for TA-16 - S Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-16-1140	16-1140		REMOVED 1956	
TA-16-1141	16-1141		REMOVED 1946	
			CANCELLED	
			CANCELLED	
			CANCELLED	
			CANCELLED	
			CANCELLED	
			CANCELLED	
			CANCELLED	
TA-16-1149	16-1149	MANHOLE	WATER, ARV	S45+00 W70+00
TA-16-1150	16-1150		UNASSIGNED	
TA-16-1151	16-1151		"	
TA-16-1152	16-1152		"	
TA-16-1153	16-1153		"	
TA-16-1154	16-1154		"	
TA-16-1155	16-1155		"	
TA-16-1156	16-1156		"	
TA-16-1157	16-1157		"	
TA-16-1158	16-1158		"	
TA-16-1159	16-1159		"	
TA-16-1160	16-1160		"	
TA-16-1161	16-1161		"	
TA-16-1162	16-1162		"	
TA-16-1163	16-1163		"	
TA-16-1164	16-1164		"	
TA-16-1165	16-1165		"	
TA-16-1166	16-1166		"	
TA-16-1167	16-1167		"	
TA-16-1168	16-1168		"	
TA-16-1169	16-1169		"	
TA-16-1170	16-1170		"	
TA-16-1171	16-1171		"	
TA-16-1172	16-1172		"	
TA-16-1173	16-1173		"	
TA-16-1174	16-1174		"	
TA-16-1175	16-1175		"	
TA-16-1176	16-1176		"	
TA-16-1177	16-1177		"	
TA-16-1178	16-1178		"	
TA-16-1179	16-1179		"	
TA-16-1180	16-1180		"	
TA-16-1181	16-1181		"	
TA-16-1182	16-1182		"	
TA-16-1183	16-1183		"	
TA-16-1184	16-1184		"	
TA-16-1185	16-1185		"	
TA-16-1186	16-1186		"	
TA-16-1187	16-1187		"	
TA-16-1188	16-1188		"	
TA-16-1189	16-1189		"	
TA-16-1190	16-1190		"	
TA-16-1191	16-1191		"	
TA-16-1192	16-1192		"	
TA-16-1193	16-1193		"	
TA-16-1194	16-1194		"	
TA-16-1195	16-1195		"	
TA-16-1196	16-1196		"	
TA-16-1197	16-1197		"	
TA-16-1198	16-1198		"	
TA-16-1199	16-1199		"	
TA-16-1200	16-1200		"	
TA-16-1201	16-1201	MANHOLE	TELEPHONE	S15+00 W45+00
TA-16-1202	16-1202	MANHOLE	TELEPHONE	S15+00 W45+00
TA-16-1203	16-1203	MANHOLE	TELEPHONE	S15+00 W45+00
TA-16-1204	16-1204	JUNCTION BOX	TELEPHONE	S15+00 W50+00
TA-16-1205	16-1205	MANHOLE	TELEPHONE	S15+00 W50+00
TA-16-1206	16-1206	MANHOLE	TELEPHONE	S10+00 W50+00
TA-16-1207	16-1207	MANHOLE	TELEPHONE	S15+00 W50+00
TA-16-1208	16-1208	MANHOLE	TELEPHONE	S15+00 W50+00
TA-16-1209	16-1209	MANHOLE	TELEPHONE	S15+00 W50+00
TA-16-1210	16-1210	MANHOLE	TELEPHONE	S20+00 W50+00
TA-16-1211	16-1211	JUNCTION BOX	TELEPHONE	S20+00 W50+00
TA-16-1212	16-1212	MANHOLE	TELEPHONE	S15+00 W55+00
TA-16-1213	16-1213	MANHOLE	TELEPHONE	S15+00 W55+00
TA-16-1214	16-1214	JUNCTION BOX	TELEPHONE	S20+00 W50+00
TA-16-1215	16-1215	MANHOLE	TELEPHONE	S20+00 W55+00
TA-16-1216	16-1216	JUNCTION BOX	TELEPHONE	S20+00 W60+00
TA-16-1217	16-1217	MANHOLE	TELEPHONE	S20+00 W60+00
TA-16-1218	16-1218	MANHOLE	TELEPHONE	S25+00 W65+00
TA-16-1219	16-1219	MANHOLE	TELEPHONE	S25+00 W65+00
TA-16-1220	16-1220	MANHOLE	TELEPHONE	S35+00 W70+00
TA-16-1221	16-1221	MANHOLE	TELEPHONE	S30+00 W70+00
TA-16-1222	16-1222	MANHOLE	TELEPHONE	S40+00 W65+00
TA-16-1223	16-1223	MANHOLE	TELEPHONE	S40+00 W70+00
TA-16-1224	16-1224	MANHOLE	TELEPHONE	S40+00 W75+00
TA-16-1225	16-1225	MANHOLE	TELEPHONE	S40+00 W65+00
TA-16-1226	16-1226	MANHOLE	TELEPHONE	S45+00 W65+00
TA-16-1227	16-1227	JUNCTION BOX	TELEPHONE	S45+00 W65+00
TA-16-1228	16-1228	JUNCTION BOX	TELEPHONE	S45+00 W65+00
TA-16-1229	16-1229	MANHOLE	TELEPHONE	S45+00 W65+00
TA-16-1230	16-1230	MANHOLE	TELEPHONE	S45+00 W65+00
TA-16-1231	16-1231	MANHOLE	TELEPHONE	S45+00 W70+00
TA-16-1232	16-1232	MANHOLE	TELEPHONE	S50+00 W65+00
TA-16-1233	16-1233	MANHOLE	TELEPHONE	S55+00 W65+00
TA-16-1234	16-1234	MANHOLE	TELEPHONE	S55+00 W70+00
TA-16-1235	16-1235	JUNCTION BOX	TELEPHONE	S60+00 W70+00
TA-16-1236	16-1236	MANHOLE	TELEPHONE	S55+00 W65+00
TA-16-1237	16-1237	MANHOLE	TELEPHONE	S55+00 W60+00
TA-16-1238	16-1238	MANHOLE	TELEPHONE	S55+00 W55+00
TA-16-1239	16-1239	MANHOLE	TELEPHONE	S55+00 W55+00
TA-16-1240	16-1240	MANHOLE	TELEPHONE	S55+00 W50+00
TA-16-1241	16-1241	JUNCTION BOX	TELEPHONE	S55+00 W45+00
TA-16-1242	16-1242	MANHOLE	TELEPHONE	S60+00 W45+00
TA-16-1243	16-1243	MANHOLE	TELEPHONE	S55+00 W45+00
TA-16-1244	16-1244	MANHOLE	TELEPHONE	S55+00 W45+00
TA-16-1245	16-1245	MANHOLE	TELEPHONE	S55+00 W40+00
TA-16-1246	16-1246	MANHOLE	TELEPHONE	S55+00 W35+00
TA-16-1247	16-1247	JUNCTION BOX	TELEPHONE	S55+00 W35+00
TA-16-1248	16-1248	MANHOLE	TELEPHONE	S56+00 W35+00
TA-16-1249	16-1249	MANHOLE	TELEPHONE	S60+00 W35+00
TA-16-1250	16-1250	JUNCTION BOX	TELEPHONE	S60+00 W30+00
TA-16-1251	16-1251	MANHOLE	TELEPHONE	S60+00 W30+00
TA-16-1252	16-1252	MANHOLE	TELEPHONE	S60+00 W30+00
TA-16-1253	16-1253	JUNCTION BOX	TELEPHONE	S60+00 W30+00
TA-16-1254	16-1254	JUNCTION BOX	TELEPHONE	S60+00 W35+00
TA-16-1255	16-1255	MANHOLE	TELEPHONE	S65+00 W35+00
TA-16-1256	16-1256	MANHOLE	TELEPHONE	S65+00 W35+00
TA-16-1257	16-1257	MANHOLE	TELEPHONE	S60+00 W35+00
TA-16-1258	16-1258	MANHOLE	TELEPHONE	S60+00 W35+00
TA-16-1259	16-1259	JUNCTION BOX	TELEPHONE	S55+00 W25+00
TA-16-1260	16-1260	MANHOLE	TELEPHONE	S55+00 W25+00
TA-16-1261	16-1261	MANHOLE	TELEPHONE	S55+00 W25+00
TA-16-1262	16-1262	JUNCTION BOX	TELEPHONE	S55+00 W25+00
TA-16-1263	16-1263	MANHOLE	TELEPHONE	S60+00 W25+00
TA-16-1264	16-1264	MANHOLE	TELEPHONE	S60+00 W25+00
TA-16-1265	16-1265	MANHOLE	TELEPHONE	S60+00 W20+00
TA-16-1266	16-1266	MANHOLE	TELEPHONE	S60+00 W20+00
TA-16-1267	16-1267	MANHOLE	TELEPHONE	S65+00 W20+00
TA-16-1268	16-1268	JUNCTION BOX	TELEPHONE	S65+00 W20+00
TA-16-1269	16-1269	MANHOLE	TELEPHONE	S65+00 W15+00
TA-16-1270	16-1270	MANHOLE	TELEPHONE	S65+00 W10+00
TA-16-1271	16-1271	MANHOLE	TELEPHONE	S65+00 W10+00
TA-16-1272	16-1272	MANHOLE	TELEPHONE	S70+00 W5+00
TA-16-1273	16-1273	JUNCTION BOX	TELEPHONE	S70+00 W5+00
TA-16-1274	16-1274	MANHOLE	TELEPHONE	S50+00 W25+00
TA-16-1275	16-1275	JUNCTION BOX	TELEPHONE	S50+00 W25+00
TA-16-1276	16-1276	MANHOLE	TELEPHONE	S50+00 W25+00
TA-16-1277	16-1277	JUNCTION BOX	TELEPHONE	S50+00 W25+00
TA-16-1278	16-1278	MANHOLE	TELEPHONE	S50+00 W25+00
TA-16-1279	16-1279	MANHOLE	TELEPHONE	S50+00 W25+00
TA-16-1280	16-1280	MANHOLE	TELEPHONE	S50+00 W25+00
TA-16-1281	16-1281	MANHOLE	TELEPHONE	S45+00 W25+00
TA-16-1282	16-1282	JUNCTION BOX	TELEPHONE	S45+00 W25+00
TA-16-1283	16-1283	JUNCTION BOX	TELEPHONE	S45+00 W25+00
TA-16-1284	16-1284	MANHOLE	TELEPHONE	S45+00 W25+00
TA-16-1285	16-1285	MANHOLE	TELEPHONE	S45+00 W30+00
TA-16-1286	16-1286	MANHOLE	TELEPHONE	S45+00 W25+00
TA-16-1287	16-1287	MANHOLE	TELEPHONE	S40+00 W25+00
TA-16-1288	16-1288	JUNCTION BOX	TELEPHONE	S40+00 W30+00
TA-16-1289	16-1289	MANHOLE	TELEPHONE	S45+00 W30+00
TA-16-1290	16-1290	MANHOLE	TELEPHONE	S45+00 W30+00
TA-16-1291	16-1291	JUNCTION BOX	TELEPHONE	S35+00 W25+00
TA-16-1292	16-1292	MANHOLE	TELEPHONE	S35+00 W25+00
TA-16-1293	16-1293	MANHOLE	TELEPHONE	S35+00 W25+00
TA-16-1294	16-1294	JUNCTION BOX	TELEPHONE	S35+00 W25+00
TA-16-1295	16-1295	MANHOLE	TELEPHONE	S35+00 W20+00
TA-16-1296	16-1296	JUNCTION BOX	TELEPHONE	S35+00 W20+00
TA-16-1297	16-1297	MANHOLE	TELEPHONE	S35+00 W20+00
TA-16-1298	16-1298	MANHOLE	TELEPHONE	S35+00 W20+00
TA-16-1299	16-1299	JUNCTION BOX	TELEPHONE	S35+00 W15+00
TA-16-1300	16-1300	MANHOLE	TELEPHONE	S35+00 W15+00
TA-16-1301	16-1301	MANHOLE	TELEPHONE	S35+00 W15+00
TA-16-1302	16-1302	MANHOLE	TELEPHONE	S35+00 W15+00
TA-16-1303	16-1303	JUNCTION BOX	TELEPHONE	S35+00 W10+00
TA-16-1304	16-1304	MANHOLE	TELEPHONE	S35+00 W30+00
TA-16-1305	16-1305	MANHOLE	TELEPHONE	S40+00 W30+00
TA-16-1306	16-1306	JUNCTION BOX	TELEPHONE	S40+00 W30+00
TA-16-1307	16-1307	MANHOLE	TELEPHONE	S40+00 W35+00
TA-16-1308	16-1308	MANHOLE	TELEPHONE	S40+00 W35+00
TA-16-1309	16-1309	JUNCTION BOX	TELEPHONE	S35+00 W35+00
TA-16-1310	16-1310	MANHOLE	TELEPHONE	S35+00 W35+00
TA-16-1311	16-1311	MANHOLE	TELEPHONE	S30+00 W30+00
TA-16-1312	16-1312	MANHOLE	TELEPHONE	S30+00 W25+00
TA-16-1313	16-1313	JUNCTION BOX	TELEPHONE	S30+00 W40+00
TA-16-1314	16-1314	MANHOLE	TELEPHONE	S30+00 W40+00
TA-16-1315	16-1315	MANHOLE	TELEPHONE	S30+00 W40+00
TA-16-1316	16-1316	MANHOLE	TELEPHONE	S35+00 W40+00
TA-16-1317	16-1317	MANHOLE	TELEPHONE	S30+00 W35+00
TA-16-1318	16-1318	MANHOLE	TELEPHONE	S30+00 W35+00
TA-16-1319	16-1319	MANHOLE	TELEPHONE	S30+00 W40+00
TA-16-1320	16-1320	MANHOLE	TELEPHONE	S25+00 W40+00
TA-16-1321	16-1321	MANHOLE	TELEPHONE	S25+00 W40+00
TA-16-1322	16-1322	MANHOLE	TELEPHONE	S25+00 W45+00
TA-16-1323	16-1323	MANHOLE	TELEPHONE	S20+00 W50+00
TA-16-1324	16-1324	MANHOLE	TELEPHONE	S20+00 W50+00
TA-16-1325	16-1325	JUNCTION BOX	TELEPHONE	S20+00 W45+00
TA-16-1326	16-1326	MANHOLE	TELEPHONE	S20+00 W45+00
TA-16-1327	16-1327	MANHOLE	TELEPHONE	S20+00 W45+00
TA-16-1328	16-1328	MANHOLE	TELEPHONE	S20+00 W45+00
TA-16-1329	16-1329		CANCELLED	
TA-16-1330	16-1330	CAPACITOR STATION		S30+00 W50+00
TA-16-1331	16-1331	VALVE HOUSE	NOT SHOWN	
TA-16-1332	16-1332	VALVE HOUSE	NOT SHOWN	
TA-16-1334	16-1334	TRANSFORMER STATION	NOT SHOWN	
TA-16-1335	16-1335	TRANSFORMER STATION	NOT SHOWN	
TA-16-1337	16-1337	MANHOLE, STEAM	NOT SHOWN	
TA-16-1338	16-1338	MANHOLE, STEAM	NOT SHOWN	
TA-16-1339	16-1339	MANHOLE, SEWER	NOT SHOWN	
TA-16-1340	16-1340	WIND TUNNEL	NOT SHOWN	
TA-16-1341	16-1341	TANK, FUEL U.G.	NOT SHOWN	
TA-16-1342	16-1342	TANK, FUEL U.G.	NOT SHOWN	
TA-16-1343	16-1343	VALVE PIT	NOT SHOWN	

REV.	DATE	REVISION	BY	CKD	APP.
18	9-23-83	REVISED TITLE BLOCK & DWG TO STATUS OF 7-27-83	HS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

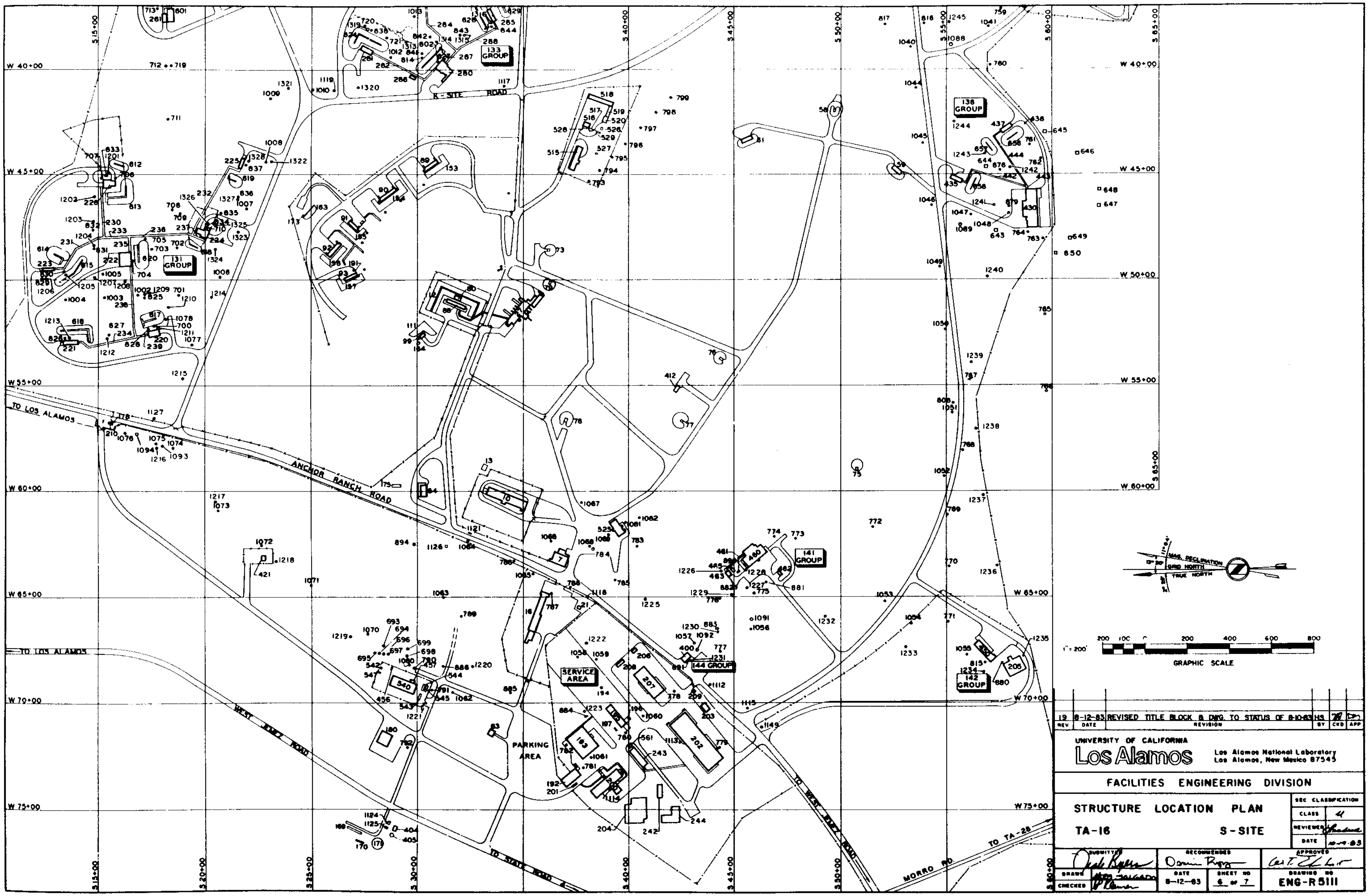
FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-16 S-SITE

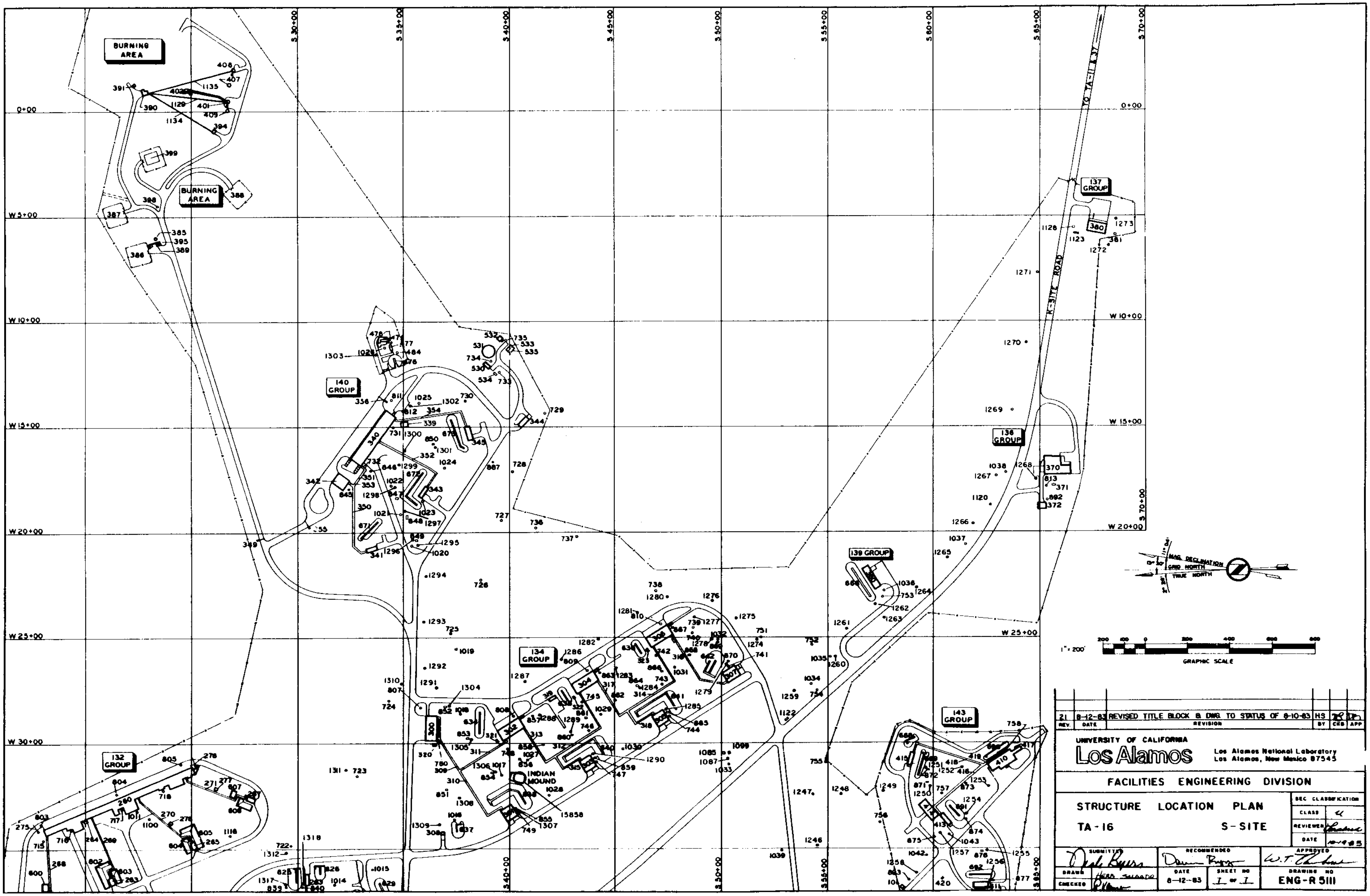
SEC CLASSIFICATION
CLASS 4
REVIEWER
DATE 10-?-83

SUBMITTED: Dick Byers
RECOMMENDED
APPROVED: W. T. Eberhard
DRAWN: Salgado
CHECKED
DATE 9-23-83
SHEET NO. 3 of 7
DRAWING NO. ENG-R 5111

TA-16-1: Structure Location Plan for TA-16 - S Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)



TA-16-1: Structure Location Plan for TA-16 - S Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)



TA-16-1: Structure Location Plan for TA-16 - S Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

STRUCTURE NUMBER	DESIGNATION	REMARKS & FORMER DESIGNATION	GRID
TA-16-1	16-1	ADMIN. BLDG. (REMOVED) 1956	
TA-16-2	16-2	OFFICE (REMOVED) 1956	
TA-16-3	16-3	ZIA ELEC. BLDG. (REMOVED) 1956	
TA-16-4	16-4	INFLAM. STK. STORG. (REMOVED) 1956	
TA-16-5	16-5	INSTRUMENT SHOP (REMOVED) 1956	
TA-16-6	16-6	ZIA REPAIR SHOP (REMOVED) 1956	
TA-16-7	16-7	MACHINE SHOP	S35-W65
TA-16-8	16-8	ZIA CABINET SHOP (REMOVED) 1956	
TA-16-9	16-9	MTR. POOL DISPATCH OFF (REM) 1956	
TA-16-10	16-10	WAREHOUSE	S35-W60
TA-16-11	16-11	STORAGE (REMOVED) 1956 S-10D	
TA-16-12	16-12	WAREHOUSE (REMOVED) 1956 S-10E	
TA-16-13	16-13	DOCK S-10F	S35-W60
TA-16-14	16-14	GUARD HOUSE (STA. 612) (REM) 1956	
TA-16-15	16-15	LAUNDRY & LKR. RM. (REM) 1956 S-12	
TA-16-16	16-16	CAFETERIA S-13	S35-W65
TA-16-17	16-17	PLUMBING SHOP (REM) 1956 S-14	
TA-16-18	16-18	STEAM WASHING HOUSE S-15	S40-W60
TA-16-19	16-19	PUMP HOUSE (REMOVED) 1956 S-16	
TA-16-20	16-20	WATER PUMP PIT S-17	S35-W65
TA-16-21	16-21	PUMPING STATION S-17A	S35-W65
TA-16-22	16-22	OFFICE S-18	S35-W65
TA-16-23	16-23	STORAGE (REMOVED) 1951 S-19	
TA-16-24	16-24	ANALYTICAL LAB S-20	S35-W55
TA-16-25	16-25	PROCESS BLDG. S-23	S35-W55
TA-16-26	16-26	PROCESS BLDG. S-24	S35-W55
TA-16-27	16-27	MELT & CAST S-25 & 25E	S35-W50
TA-16-28	16-28	WATER COOLING TOWER S-25T	S35-W50
TA-16-29	16-29	FUEL OIL TANK (REMOVED 1956)	
TA-16-30	16-30	MAGAZINE S-26A	S30-W50
TA-16-31	16-31	MACH. BLDG. S-26B	S30-W50
TA-16-32	16-32	MACH. BLDG. S-26C	S30-W50
TA-16-33	16-33	MACH. BLDG. S-26D	S30-W50
TA-16-34	16-34	MAGAZINE S-26E	S35-W45
TA-16-35	16-35	EQUIPMENT ROOM S-26F	S30-W50
TA-16-36	16-36	STEAM CLEANING S-27F	S50-W50
TA-16-37	16-37	EXPLOSIVE TESTING S-27	S50-W50
TA-16-38	16-38	EXPERIMENTAL CASTING S-28	S45-W60
TA-16-39	16-39	RADIO-GRAPHIC BLDG. S-29	S25-W50
TA-16-40	16-40	RADIO-GRAPHIC BLDG. S-29B	S25-W55
TA-16-41	16-41	PROCESS LAB S-30	S40-W55
TA-16-42	16-42	PROCESS BLDG. S-31	S40-W55
TA-16-43	16-43	PROCESS BLDG. S-32	S40-W55
TA-16-44	16-44	PROCESS BLDG. S-33	S40-W55
TA-16-45	16-45	PROCESS BLDG. S-34	S45-W55
TA-16-46	16-46	PROCESS BLDG. S-35	S40-W55
TA-16-47	16-47	EQUIPMENT S-35E	S40-W50
TA-16-48	16-48	SMOKING ROOM S-36	S45-W55
TA-16-49	16-49	ANALYTICAL LAB S-41	S50-W55
TA-16-50	16-50	EXPERIMENTAL CASTING S-42	S50-W55
TA-16-51	16-51	STEAM CLEANING S-42A	S50-W55
TA-16-52	16-52	EXPLOSIVE MATL. S-43	S50-W55
TA-16-53	16-53	OPTICAL EQUIP. STORAGE S-44	S45-W55
TA-16-54	16-54	PROCESS BLDG. S-45	S30-W60
TA-16-55	16-55	GRINDING BLDG. S-45A	S45-W55
TA-16-56	16-56	TESTING LAB S-46	S55-W55
TA-16-57	16-57	MAGAZINE S-56	S45-W60
TA-16-58	16-58	MAGAZINE S-57	S50-W40
TA-16-59	16-59	MAGAZINE S-58	S55-W45
TA-16-60	16-60	MAGAZINE (REMOVED) 1950 S-59	
TA-16-61	16-61	MAGAZINE S-60	S45-W45
TA-16-62	16-62	MAGAZINE S-66	S30-W70
TA-16-63	16-63	MAGAZINE S-67	S35-W70
TA-16-64	16-64	MAGAZINE (REMOVED) S-68	
TA-16-65	16-65	MAGAZINE S-69	S40-W75
TA-16-66	16-66	MAGAZINE S-70	S45-W45
TA-16-67	16-67	MAGAZINE S-71	S50-W50
TA-16-68	16-68	MAGAZINE S-72	S55-W60
TA-16-69	16-69	MAGAZINE S-73	S45-W55
TA-16-70	16-70	MAGAZINE S-74	S50-W55
TA-16-71	16-71	MAGAZINE S-75	S50-W55
TA-16-72	16-72	MAGAZINE S-76	S40-W50
TA-16-73	16-73	SMOKING ROOM S-77	S35-W50
TA-16-74	16-74	MAGAZINE S-78	S30-W50
TA-16-75	16-75	PERSONNEL SHELTER S-80	S50-W60
TA-16-76	16-76	PERSONNEL SHELTER S-81	S45-W55
TA-16-77	16-77	PERSONNEL SHELTER S-82	S45-W55
TA-16-78	16-78	PERSONNEL SHELTER S-83	S35-W55
TA-16-79	16-79	SMOKING ROOM S-84	S35-W50
TA-16-80	16-80	STORAGE S-85	S30-W50
TA-16-81	16-81	PROCESS BLDG & FAN RM. S-90	S45-W50
TA-16-82	16-82	STORAGE S-91	S50-W55
TA-16-83	16-83	LABORATORY S-92	S45-W45
TA-16-84	16-84	MAGAZINE S-93	S45-W45
TA-16-85	16-85	WAREHOUSE (DESTROYED) S-94	
TA-16-86	16-86	LABORATORY S-95	S45-W50
TA-16-87	16-87	MACH. SHOP TRAILER S-95A	S50-W55
TA-16-88	16-88	CASTING REST HOUSE S-100	S30-W50
TA-16-89	16-89	PROCESS BLDG S-104	S30-W45
TA-16-90	16-90	PROCESS BLDG. S-102	S30-W45
TA-16-91	16-91	PROCESS BLDE. S-105	S25-W50
TA-16-92	16-92	INSPECT. BLDG. S-101	S25-W50
TA-16-93	16-93	PROCESS BLDG. S-103	S25-W50
TA-16-94	16-94	EQUIPMENT & CONTROL S-106	S35-W50
TA-16-95	16-95	MACH. BLDG. S-106N	S35-W45
TA-16-96	16-96	MACH. BLDG. S-106E	S35-W45
TA-16-97	16-97	MACH. BLDG. S-106S	S35-W45
TA-16-98	16-98	MACH. BLDG. S-106W	S35-W45
TA-16-99	16-99	PROCESS BLDG. S-107	S30-W55
TA-16-100	16-100	PROCESS BLDG. S-108	S40-W45
TA-16-101	16-101	GUARD HOUSE STATION 635	S60-W35
TA-16-102	16-102	PASSAGEWAY (25 TO 26)	S35-W55
TA-16-103	16-103	PASSAGEWAY (26 TO 27)	S35-W55
TA-16-104	16-104	PASSAGEWAY (42 TO 45)	S40-W55
TA-16-105	16-105	PASSAGEWAY (24 TO 103)	S35-W55
TA-16-106	16-106	STORAGE (REMOVED 1949) A-1	
TA-16-107	16-107	STORAGE (REMOVED 1950) A-2	
TA-16-108	16-108	STORAGE (REMOVED 1950) A-3	
TA-16-109	16-109	STORAGE (REMOVED 1950) A-4	
TA-16-110	16-110	BARRICADE	S30-W50
TA-16-111	16-111	BARRICADE	S30-W50
TA-16-112	16-112	BARRICADE	S30-W50
TA-16-113	16-113	BARRICADE S-118	S45-W60
TA-16-114	16-114	BARRICADE S-119	S40-W55
TA-16-115	16-115	BARRICADE S-120	S40-W55
TA-16-116	16-116	BARRICADE S-121	S40-W55
TA-16-117	16-117	BARRICADE (REMOVED) 1951 S-122	
TA-16-118	16-118	BARRICADE (REMOVED) 1950 S-123	
TA-16-119	16-119	BARRICADE (REMOVED) S-124	
TA-16-120	16-120	BARRICADE S-125	S35-W55
TA-16-121	16-121	BARRICADE S-126	S35-W50
TA-16-122	16-122	BARRICADE S-127	S45-W55
TA-16-123	16-123	BARRICADE (REMOVED) 1949 S-128	
TA-16-124	16-124	BARRICADE (REMOVED) S-129	
TA-16-125	16-125	BARRICADE S-130	S35-W55
TA-16-126	16-126	BARRICADE S-131	S35-W45
TA-16-127	16-127	BARRICADE S-132	S35-W45
TA-16-128	16-128	BARRICADE S-133	S35-W45
TA-16-129	16-129	BARRICADE S-134	S35-W45
TA-16-130	16-130	GUARD HOUSE (REMOVED)	
TA-16-131	16-131	GUARD HOUSE (STATION 625) S-136	S35-W40
TA-16-132	16-132	PAINT SHOP (SHED REM) 1955 S-137	
TA-16-133	16-133	LUMBER STORAGE (REM) 1955 S-138	
TA-16-134	16-134	MESS HALL (REMOVED) 1955 S-139	
TA-16-135	16-135	STORAGE BLDG. (REM) 1953 S-140	
TA-16-136	16-136	IMPLEMENT SHED (REM) 1955 S-141	
TA-16-137	16-137	PLB. & ELEC. SHOP (REM) 1955 S-142	
TA-16-138	16-138	BLACKSMITH SHOP (REM) 1955 S-143	
TA-16-139	16-139	STORAGE BLDG. (REM) 1955 S-144	
TA-16-140	16-140	STORAGE BLDG. (REM) 1955 S-145	
TA-16-141	16-141	STORAGE BLDG. (REM) 1953 S-146	
TA-16-142	16-142	FIRE HOUSE (REM) 1955 S-147	
TA-16-143	16-143	HOSE HOUSE (REM) 1955 S-148	
TA-16-144	16-144	EQUIPMENT RM. (REM) 1955 S-149	
TA-16-145	16-145	LATRINE 1955 S-150	
TA-16-146	16-146	STORAGE (REMOVED) S-151	
TA-16-147	16-147	ROAD BLOCK (REMOVED)	
TA-16-148	16-148	EQUIPMENT BLDG.	S35-W55
TA-16-149	16-149	GUARD BLDG. (REMOVED)	
TA-16-150	16-150	HOSE HOUSE	S35-W55
TA-16-151	16-151	HOSE HOUSE	S40-W60
TA-16-152	16-152	HOSE HOUSE	S50-W50
TA-16-153	16-153	BARRICADE	S30-W45
TA-16-154	16-154	BARRICADE	S30-W45
TA-16-155	16-155	BARRICADE	S25-W50
TA-16-156	16-156	BARRICADE	S25-W50
TA-16-157	16-157	BARRICADE	S25-W50
TA-16-158	16-158	BARRICADE	S25-W55
TA-16-159	16-159	BARRICADE	S25-W55
TA-16-160	16-160	ROAD BLOCK (REMOVED) 1956	
TA-16-161	16-161	SEPTIC TANK (ABANDONED)	S50-W70
TA-16-162	16-162	LATRINE	S25-W45
TA-16-163	16-163	BARRICADE	S25-W45
TA-16-164	16-164	STORAGE BLDG.	S30-W55
TA-16-165	16-165	GUARD HOUSE (REMOVED) 1956	
TA-16-166	16-166	PASSAGEWAY 50 TO 52	S50-W55
TA-16-167	16-167	HOSE HOUSE	S50-W55
TA-16-168	16-168	MANHOLE (REMOVED)	
TA-16-169	16-169	STORAGE TANK (WATER)	S25-W75
TA-16-170	16-170	STORAGE TANK (WATER)	S25-W75
TA-16-171	16-171	STORAGE TANK (WATER)	S30-W75
TA-16-172	16-172	STORAGE TANK (WATER)	S25-W75
TA-16-173	16-173	SEPTIC TANK (SANITARY)	S25-W45
TA-16-174	16-174	SEPTIC TANK (SANITARY)	S25-W60
TA-16-175	16-175	SEPTIC TANK (SANITARY)	S30-W60
TA-16-176	16-176	SEPTIC TANK (SANITARY)	S45-W55
TA-16-177	16-177	SEPTIC TANK (SANITARY)	S35-W50
TA-16-178	16-178	SEPTIC TANK (SANITARY)	S15-W55
TA-16-179	16-179	SEPTIC TANK (SANITARY)	S45-W50
TA-16-180	16-180	FIRE STATION	S30-W70
TA-16-181	16-181	TANK HOUSING (REMOVED) 1956	
TA-16-182	16-182	DIESEL UNIT BLDG. (REM.) 1956	
TA-16-183	16-183	DRUM STORAGE	S30-W55
TA-16-184	16-184	DRUM STORAGE	S40-W60
TA-16-185	16-185	DRUM STORAGE	S35-W50
TA-16-186	16-186	DRUM STORAGE	S30-W50
TA-16-187	16-187	DRUM STORAGE	S30-W45
TA-16-188	16-188	DRUM STORAGE (REMOVED)	
TA-16-189	16-189	COOLING TOWER	S40-W55
TA-16-190	16-190	DRUM STORAGE (REMOVED) 1955	
TA-16-191	16-191	SOLVENT STORAGE	S40-W55
TA-16-192	16-192	GUARD HOUSE (STATION 610 & 611)	S35-W75
TA-16-193	16-193	CHANGE HOUSE	S40-W70
TA-16-194	16-194	RESERVE	
TA-16-195	16-195	SERVICE STATION	S40-W70
TA-16-196	16-196	UNDERGROUND TANK (FUEL)	S40-W70
TA-16-197	16-197	UNDERGROUND TANK (FUEL)	S40-W70
TA-16-198	16-198	HOSE HOUSE	S30-W60
TA-16-199	16-199	RESERVE	
TA-16-200	16-200	ADMINISTRATION BLDG.	S40-W75
TA-16-201	16-201	RESERVE	
TA-16-202	16-202	SHOPS BLDG.	S45-W70
TA-16-203	16-203	LUMBER STORAGE	S45-W70
TA-16-204	16-204	RESERVE	
TA-16-205	16-205	"	
TA-16-206	16-206	PAINT & BOTTLE STORAGE	S40-W70
TA-16-207	16-207	WAREHOUSE	S40-W70
TA-16-208	16-208	SOLVENT STORAGE	S40-W70
TA-16-209	16-209	GUARD HOUSE (STATION 612)	S45-W70
TA-16-210	16-210	GUARD HOUSE (STATION 620)	S15-W55
TA-16-211	16-211	ROAD BLOCK	S15-W55
TA-16-212	16-212	ROAD BLOCK	S15-W55
TA-16-213	16-213	RESERVE	
TA-16-214	16-214	"	
TA-16-215	16-215	"	
TA-16-216	16-216	"	
TA-16-217	16-217	"	
TA-16-218	16-218	"	
TA-16-219	16-219	"	
TA-16-220	16-220	X-RAY BLDG. 131-1	S20-W55
TA-16-221	16-221	REST HOUSE 131-A	S15-W55
TA-16-222	16-222	DARK ROOM BLDG. 131-2	S15-W50
TA-16-223	16-223	REST HOUSE 131-B	S15-W50
TA-16-224	16-224	X-RAY BLDG. 131-4	S20-W50
TA-16-225	16-225	REST HOUSE 131-C	S20-W45
TA-16-226	16-226	X-RAY BLDG. 131-3	S15-W45
TA-16-227	16-227	RESERVE	
TA-16-228	16-228	"	
TA-16-229	16-229	"	
TA-16-230	16-230	PASSAGEWAY	S15-W45
TA-16-231	16-231	PASSAGEWAY	S15-W50
TA-16-232	16-232	PASSAGEWAY	S20-W45
TA-16-233	16-233	PASSAGEWAY	S15-W50
TA-16-234	16-234	PASSAGEWAY	S15-W55
TA-16-235	16-235	PASSAGEWAY	S15-W50
TA-16-236	16-236	PASSAGEWAY	S20-W50
TA-16-237	16-237	PASSAGEWAY	S20-W50
TA-16-238	16-238	PASSAGEWAY	S15-W50
TA-16-239	16-239	PASSAGEWAY	S15-W55
TA-16-240	16-240	RESERVE	
TA-16-241	16-241	"	
TA-16-242	16-242	"	
TA-16-243	16-243	"	
TA-16-244	16-244	"	
TA-16-245	16-245	RESERVE	
TA-16-246	16-246	"	
TA-16-247	16-247	"	
TA-16-248	16-248	"	
TA-16-249	16-249	"	
TA-16-250	16-250	"	
TA-16-251	16-251	"	
TA-16-252	16-252	"	
TA-16-253	16-253	"	
TA-16-254	16-254	"	
TA-16-255	16-255	"	
TA-16-256	16-256	"	
TA-16-257	16-257	"	
TA-16-258	16-258	"	
TA-16-259	16-259	"	
TA-16-260	16-260	PROCESS BLDG S-132	S20-W35
TA-16-261	16-261	REST HOUSE 132-A	S20-W40
TA-16-262	16-262	COOLING TOWER	S20-W35
TA-16-263	16-263	REST HOUSE 132-B	S20-W35
TA-16-264	16-264	RESERVE	
TA-16-265	16-265	REST HOUSE 132-C	S25-W35
TA-16-266	16-266	RESERVE	
TA-16-267	16-267	REST HOUSE 132-D	S30-W35
TA-16-268	16-268	PASSAGEWAY	S20-W35
TA-16-269	16-269	PASSAGEWAY	S20-W35
TA-16-270	16-270	PASSAGEWAY	S25-W35
TA-16-271	16-271	PASSAGEWAY	S25-W30
TA-16-272	16-272	SEPTIC TANK (ABANDONED)	S15-W35
TA-16-273	16-273	DOSING CHAMBER (ABANDONED)	S20-W35
TA-16-274	16-274	DISTRIBUTION BOX (ABANDONED)	S20-W35
TA-16-275	16-275	RESERVE	
TA-16-276	16-276	"	
TA-16-277	16-277	"	
TA-16-278	16-278	"	
TA-16-279	16-279	"	
TA-16-280	16-280	INSPECTION BLDG. 133-1	S30-W40
TA-16-281	16-281	REST HOUSE 133-A	S30-W40
TA-16-282	16-282	PASSAGEWAY	S30-W40
TA-16-283	16-283	REST HOUSE 133-B	S30-W35
TA-16-284	16-284	PASSAGEWAY	S30-W40
TA-16-285	16-285	REST HOUSE 133-C	S35-W40
TA-16-286	16-286	COFFEE HOUSE	S30-W40
TA-16-287	16-287	PASSAGEWAY	S30-W40
TA-16-288	16-288	PASSAGEWAY	S35-W40
TA-16-289	16-289	RESERVE	
TA-16-290	16-290	"	
TA-16-291	16-291	"	
TA-16-292	16-292	"	
TA-16-293	16-293	"	
TA-16-294	16-294	"	
TA-16-295	16-295	"	
TA-16-296	16-296	"	
TA-16-297	16-297	"	
TA-16-298	16-298	"	
TA-16-299	16-299	"	
TA-16-300	16-300	PROCESS BLDG. 134-1	S35-W30
TA-16-301	16-301	REST HOUSE 134-A	S40-W35
TA-16-302	16-302	PROCESS BLDG. 134-2	S40-W30
TA-16-303	16-303	REST HOUSE 134-B	S45-W30
TA-16-304	16-304	PROCESS BLDG. 134-3	S45-W25
TA-16-305	16-305	REST HOUSE 134-C	S45-W30
TA-16-306	16-306	PROCESS BLDG. 134-4	S45-W25
TA-16-307	16-307	REST HOUSE 134-D	S50-W25
TA-16-308	16-308	DRYING BLDG. 134-5	S35-W35
TA-16-309	16-309	PASSAGEWAY	S35-W30
TA-16-310	16-310	PASSAGEWAY	S40-W35
TA-16-311	16-311	PASSAGEWAY	S40-W30
TA-16-312	16-312	PASSAGEWAY	S45-W30
TA-16-313	16-313	PASSAGEWAY	S40-W30
TA-16-314	16-314	PASSAGEWAY	S45-W30
TA-16-315	16-315	PASSAGEWAY	S45-W30
TA-16-316	16-316	PASSAGEWAY	S50-W25
TA-16-317	16-317	PASSAGEWAY	S45-W25
TA-16-318	16-318	PASSAGEWAY	S45-W30
TA-16-319	16-319	COFFEE HOUSE	S40-W30
TA-16-320	16-320	RESERVE	
TA-16-321	16-321	"	
TA-16-322	16-322	"	
TA-16-323	16-323	"	
TA-16-324	16-324	"	
TA-16-325	16-325	"	
TA-16-326	16-326	"	
TA-16-327	16-327	"	
TA-16-328	16-328	"	
TA-16-329	16-329	"	
TA-16-330	16-330	"	
TA-16-331	16-331	"	
TA-16-332	16-332	"	
TA-16-333	16-333	"	
TA-16-334	16-334	"	
TA-16-335	16-335	"	
TA-16-336	16-336	"	
TA-16-337	16-337	"	
TA-16-338	16-338	"	
TA-16-339	16-339	"	
TA-16-340	16-340	GRINDING BLDG 140-1	S35-W15
TA-16-341	16-341	REST HOUSE 140-A	S35-W20
TA-16-342	16-342	BLENDING BLDG 140-2	S30-W20
TA-16-343	16-343	REST HOUSE 140-B	S35-W20
TA-16-344	16-344	DRUM STORAGE	S40-W15
TA-16-345	16-345	REST HOUSE 140-C	S40-W15
TA-16-346	16-346	ROAD BLOCK	S35-W15
TA-16-347	16-347	ROAD BLOCK	S30-W15
TA-16-348	16-348	ROAD BLOCK	S30-W20
TA-16-349	16-349	ROAD BLOCK	S30-W20
TA-16-350	16-350	PASSAGEWAY	S35-W20
TA-16-351	16-351	PASSAGEWAY	S35-W15
TA-16-352	16-352	PASSAGEWAY	S35-W15
TA-16-353	16-353	PASSAGEWAY	S30-W20
TA-16-354	16-354	PASSAGEWAY	S35-W15
TA-16-355	16-355	RESERVE	
TA-16-356	16-356	"	
TA-16-357	16-357	"	
TA-16-358	16-358	"	
TA-16-359	16-359	"	
TA-16-360	16-360	PAINTING & BOXING BLDG. 139-1	S55-W20
TA-16-361	16-361	RESERVE	
TA-16-362	16-362	"	
TA-16-363	16-363	"	
TA-16-364	16-364	"	
TA-16-365	16-365	"	
TA-16-366	16-366	"	
TA-16-367	16-367	RESERVE	
TA-16-368	16-368	"	
TA-16-369	16-369	"	
TA-16-370	16-370	PREPARATION BLDG. 136-1	S65-W15
TA-16-371	16-371	SEPTIC TANK (SANITARY)	S65-W20
TA-16-372	16-372	COOLING TOWER	S65-W20
TA-16-373	16-373	RESERVE	
TA-16-374	16-374	"	
TA-16-375	16-375	"	
TA-16-376	16-376	"	
TA-16-377	16-377	"	
TA-16-378	16-378	"	
TA-16-379	16-379	"	
TA-16-380	16-380	PREPARATION BLDG. 137-1	S70-W5
TA-16-381	16-381	SEPTIC TANK (SANITARY)	S70-W5
TA-16-382	16-382	RESERVE	
TA-16-383	16-383	"	
TA-16-384	16-384	"	
TA-16-385	16-385	"	
TA-16-386	16-386	BURNING SLAB	S20-W5
TA-16-387	16-387	BURNING SLAB	S20-W5
TA-16-388	16-388	BURNING SLAB	S20-W5
TA-16-389	16-389	RESERVE	
TA-16-390	16-390	BASKET WASH BUILDING	S25-0
TA-16-391	16-391	UNDER-GROUND TANK (PROPANE)	S20-0
TA-16-392	16-392	FILTER BED	S25-E5
TA-16-393	16-393	FILTER BED	S25-0
TA-16-394	16-394	FILTER BED	S25-0
TA-16-395	16-395	BARRICADE	S25-W5
TA-16-396	16-396	LATRINE	S25-0
TA-16-397	16-397	ROAD BLOCK	S25-W5
TA-16-398	16-398	MANHOLE (WATER PRV)	S25-W5
TA-16-399	16-399	BURNING SLAB (RETIRED)	S20-W5
TA-16-400	16-400	TRUCK WASHING BLDG. 144-1	S45-W70
TA-16-401	16-401	RESERVE	
TA-16-402	16-402	"	
TA-16-403	16-403	"	
TA-16-404	16-404	"	
TA-16-405	16-405	"	
TA-16-406	16-406	"	
TA-16-407	16-407	"	
TA-16-408	16-408	"	
TA-16-409	16-409	"	
TA-16-410	16-410	ASSEMBLY BLDG. 143-1	S65-W30
TA-16-411	16-411	REST HOUSE 143-C	S60-W35
TA-16-412	16-412	RESERVE	
TA-16-413	16-413	REST HOUSE 143-A	S60-W35
TA-16-414	16-414	MATERIAL SHED	S60-W35
TA-16-415	16-415	REST HOUSE 143-B	S60-W30
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TA-16-417	16-417	DRUM STORAGE	S65-W30
TA-16-418	16-418	PASSAGEWAY	S60-W30
TA-16-419	16-419	PASSAGEWAY	S65-W30
TA-16-420	16-420	SEPTIC TANK (SANITARY)	S60-W35
TA-16-421	16-421	RESERVE	
TA-16-422	16-422	"	
TA-16-423	16-423	"	
TA-16-424	16-424	"	
TA-16-425	16-425	"	
TA-16-426	16-426	"	
TA-16-427	16-427	"	
TA-16-428	16-428	"	
TA-16-429	16-429	"	
TA-16-430	16-430	PRESSING BLDG 138-1	S60-W45
TA-16-431	16-431	SEPTIC TANK (ABANDONED)	S60-W45
TA-16-432	16-432	RESERVE	
TA-16-433	16-433	"	
TA-16-434	16-434	"	
TA-16-435	16-435	REST HOUSE 138-B	S55-W45
TA-16-436	16-436	RESERVE	
TA-16-437	16-437	REST HOUSE 138-A	S60-W45
TA-16-438	16-438	RESERVE	
TA-16-439	16-439	"	
TA-16-440	16-440	"	
TA-16-441	16-441	"	
TA-16-442	16-442	PASSAGEWAY	S55-W45
TA-16-443	16-443	PASSAGEWAY	S60-W45
TA-16-444	16-444	PASSAGEWAY	S60-W45
TA-16-445	16-445	RESERVE	
TA-16-446	16-446	"	
TA-16-447	16-447	"	
TA-16-448	16-448	"	
TA-16-449	16-449	"	
TA-16-450	16-450	ELECTROPLATING BLDG 142-1	S55-W70
TA-16-451	16-451	RESERVE	
TA-16-452	16-452	"	
TA-16-453	16-453	"	
TA-16-454	16-454	"	
TA-16-455	16-455	"	
TA-16-456	16-456	"	
TA-16-457	16-457	"	
TA-16-458	16-458	"	
TA-16-459	16-459	"	
TA-16-460	16-460	LABORATORY BLDG. 141-1	S45-W65
TA-16-461	16-461	RESERVE	
TA-16-462	16-462	STORAGE BLDG. 141-2	S45-W65
TA-16-463	16-463	RESERVE	
TA-16-464	16-464	MAGAZINE 141-A	S45-W65
TA-16-465	16-465	RESERVE	
TA-16-466	16-466	"	
TA-16-467	16-467	"	
TA-16-468	16-468	"	
TA-16-469	16-469	"	
TA-16-470	16-470	"	
TA-16-471	16-471	"	
TA-16-472	16-472	"	
TA-16-473	16-473	"	
TA-16-474	16-474	"	
TA-16-475	16-475	OFFICE & SHOP BLDG (REM.) P-1	
TA-16-476	16-476	LABORATORY BLDG P-2	S35-W10
TA-16-477	16-477	LABORATORY BLDG. P-3	S35-W10
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TA-16-480	16-480	EXPERIMENTAL CHAMBER (REM. 1950) P-6	
TA-16-481	16-481	MAGAZINE (REMOVED) 1951 P-7	
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TA-16-483	16-483	BARRICADE (REMOVED) 1951 P-9	
TA-16-484	16-484	MANHOLE (CONTROL) P-10	S35-W10
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TA-16-488	16-488	MAGAZINE (REMOVED) 1951 P-14	
TA-16-489	16-489	CHARGE STATION P-15	S35-W10
TA-16-490	16-490	LABORATORY BLDG	S25-W55
TA-16-491	16-491	HUTMENT	S25-W55
TA-16-492	16-492	HUTMENT	S25-W55
TA-16-493	16-493	MAGAZINE	S25-W55
TA-16-494	16-494	MAGAZINE	S25-W55
TA-16-495	16-495	HUTMENT	S20-W55
TA-16-496	16-496	HUTMENT	S25-W55
TA-16-497	16-497	MAGAZINE	S25-W50
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TA-16-499	16-499	HUTMENT	S20-W50
TA-16-500	16-500	HUTMENT	S20-W55
TA-16-501	16-501	GUARD HOUSE (REMOVED) 1950	
TA-16-502	16-502	STEAM PLANT	S25-W55
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TA-16-506	16-506	MANHOLE (STEAM)	S25-W55
TA-16-507	16-507	SUMP-PIT (CHEMICAL)	S25-W55
TA-16-508	16-508	MANHOLE (WATER)	S25-W50
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TA-16-510	16-510	SWITCH BOX	S25-W55
TA-16-511	16-511	MANHOLE (STEAM)	S25-W55
TA-16-512	16-512	UNDERGROUND TANK (OIL)	S25-W60
TA-16-513	16-513	ROAD BLOCK (REMOVED)	
TA-16-514	16-514	RESERVE	
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TA-16-516	16-516	LABORATORY BLDG V-4	S40-W45
TA-16-517	16-517	EQUIPMENT BLDG. V-5	S40-W45
TA-16-518	16-518	WAREHOUSE V-6	S40-W40
TA-16-519	16-519	MUSEUM V-7	S40-W40
TA-16-520	16-520	MUSEUM V-8	S40-W40
TA-16-521	16-521	TANK STAND "H"	S40-W45
TA-16-522	16-522	BLDG. NO. 3 (REMOVED) V-3	
TA-16-523	16-523	PIT (REMOVED) 1945 V-9	
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TA-16-525	16-525	LADIES CHANGE HOUSE	S40-W60
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TA-16-527	16-527	SEPTIC TANK (SANITARY) V-12	S40-W45
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TA-16-533	16-533	SLUDGE DRYING BED	S40-W10
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TA-16-535	16-535	SLUDGE DRYING BED	S40-W10
TA-16-536	16-536	RESERVE	
TA-16-537	16-537	"	
TA-16-538	16-538	"	
TA-16-539	16-539	"	
TA-16-540	16-540	STEAM PLANT	S30-W70
TA-16-541	16-541	BLOW-DOWN TANK	S30-W70
TA-16-542	16-542	GAS REGULATOR HOUSE	S30-W70
TA-16-543	16-543	UNDERGROUND TANK (FUEL)	S30-W70
TA-16-544	16-544	UNDERGROUND TANK (FUEL)	S30-W70
TA-16-545	16-545	UNDERGROUND TANK (FUEL)	S30-W70
TA-16-546	16-546	UNDERGROUND TANK (FUEL)	S30-W70
TA-16-547	16-547	MANHOLE (GAS PRV)	S30-W70
TA-16-548	16-548	RESERVE	
TA-16-549	16-549	"	
TA-16-550	16-550	"	
TA-16-551	16-551	TRANSFORMER STATION	S35-W45
TA-16-552	16-552	TRANSFORMER STATION	S35-W15
TA-16-553	16-553	TRANSFORMER STATION	S30-W40
TA-16-554	16-554	TRANSFORMER STATION	S70-W5
TA-16-555	16-555	TRANSFORMER STATION	S45-W25
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TA-16-557	16-557	ROAD BLOCK (REMOVED)	
TA-16-558	16-558	TRANSFORMER STATION	S20-W50
TA-16-559	16-559	TRANSFORMER STATION	S45-W65
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TA-16-561	16-561	TRANSFORMER STATION	S40-W70
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TA-16-563	16-563	TRANSFORMER STATION	S60-W45
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TA-16-566	16-566	TRANSFORMER STATION	S20-W60
TA-16-567	16-567	TRANSFORMER STATION	S40-W45
TA-16-568	16-568	TRANSFORMER STATION	S65-W30
TA-16-569	16-569	TRANSFORMER STATION	S60-W45
TA-16-570	16-570	TRANSFORMER STATION	S60-W65
TA-16-571	16-571	TRANSFORMER STATION	S25-W40
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TA-16-573	16-573	TRANSFORMER STATION	S30-W50
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TA-16-576	16-576	TRANSFORMER STATION	S35-W50
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TA-16-578	16-578	TRANSFORMER STATION	
TA-16-579	16-579	TRANSFORMER STATION (REMOVED)	
TA-16-580	16-580	TRANSFORMER STATION	S45-W50
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NO.	DATE	REVISIONS	BY	CHKD	GRP. LDR.	ENG. D.O.
9	7-8-57	REVISED TO STATUS OF 7-1-57	F.R.	JAS		
8	10/21/55	REDRAWN TO STATUS OF JULY 1, 1955	NOB	JAS		

AUTHORIZED FOR: HEALTH | SAFETY | FIRE PROT. | SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
INDEX SHEET
TA-16 S-SITE

CHECKED: J.A. Syer (DESIGNER) — RECOMMENDED: (GROUP LEADER) — APPROVED: (ENG. DEPT. OFFICE)

DRAWN: N. BYERS — DATE: 10/21/55 — DRAWING NO.: ENG- R 132
SCALE: NO SCALE — SHEET 1 OF 4

OFFICIAL USE ONLY

TA-16-2: Structure Location Plan for TA-16 - S Site
(1957 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

STRUCTURE NUMBER	DESIG-NATION	REMARKS & FORMER DESIGNATION	GRID
TA-16-583	16-583	TRANSFORMER STATION	
TA-16-584	16-584	TRANSFORMER STATION	S35-W65
TA-16-585	16-585	TRANSFORMER STATION	S35-W10
TA-16-586	16-586	TRANSFORMER STATION	S35-W15
TA-16-587	16-587	TRANSFORMER STATION	S35-W30
TA-16-588	16-588	TRANSFORMER STATION	S35-W35
TA-16-589	16-589	TRANSFORMER STATION	S40-W30
TA-16-590	16-590	TRANSFORMER STATION	S45-W25
TA-16-591	16-591	TRANSFORMER STATION	S50-W25
TA-16-592	16-592	TRANSFORMER STATION	S65-W20
TA-16-593	16-593	TRANSFORMER STATION	S70-W5
TA-16-594	16-594	TRANSFORMER STATION	S65-W30
TA-16-595	16-595	TRANSFORMER STATION	S30-W40
TA-16-596	16-596	TRANSFORMER STATION	S20-W50
TA-16-597	16-597	TRANSFORMER STATION	S20-W50
TA-16-598	16-598	TRANSFORMER STATION	S15-W45
TA-16-599	16-599	TRANSFORMER STATION	S25-W65
TA-16-600	16-600	BARRICADE	S20-W35
TA-16-601	16-601	BARRICADE	S20-W35
TA-16-602	16-602	BARRICADE	S20-W35
TA-16-603	16-603	BARRICADE	S20-W35
TA-16-604	16-604	BARRICADE	S25-W35
TA-16-605	16-605	BARRICADE	S25-W35
TA-16-606	16-606	BARRICADE	S25-W35
TA-16-607	16-607	BARRICADE	S25-W35
TA-16-608	16-608	RESERVE	
TA-16-609	16-609	-	
TA-16-610	16-610	-	
TA-16-611	16-611	-	
TA-16-612	16-612	BARRICADE	S15-W45
TA-16-613	16-613	BARRICADE	S15-W45
TA-16-614	16-614	BARRICADE	S15-W50
TA-16-615	16-615	BARRICADE	S15-W50
TA-16-616	16-616	BARRICADE	S15-W55
TA-16-617	16-617	BARRICADE	S15-W50
TA-16-618	16-618	BARRICADE	S20-W50
TA-16-619	16-619	BARRICADE	S20-W45
TA-16-620	16-620	BARRICADE	S15-W50
TA-16-621	16-621	RESERVE	
TA-16-622	16-622	-	
TA-16-623	16-623	-	
TA-16-624	16-624	BARRICADE	S25-W40
TA-16-625	16-625	BARRICADE	S30-W35
TA-16-626	16-626	BARRICADE	S30-W35
TA-16-627	16-627	BARRICADE	S30-W40
TA-16-628	16-628	BARRICADE	S35-W40
TA-16-629	16-629	BARRICADE	S35-W35
TA-16-630	16-630	RESERVE	
TA-16-631	16-631	-	
TA-16-632	16-632	-	
TA-16-633	16-633	-	
TA-16-634	16-634	BARRICADE	S40-W30
TA-16-635	16-635	BARRICADE	S40-W30
TA-16-636	16-636	BARRICADE	S45-W25
TA-16-637	16-637	BARRICADE	S40-W35
TA-16-638	16-638	BARRICADE	S40-W30
TA-16-639	16-639	RESERVE	
TA-16-640	16-640	BARRICADE	S45-W30
TA-16-641	16-641	BARRICADE	S45-W30
TA-16-642	16-642	BARRICADE	S50-W25
TA-16-643	16-643	RESERVE	
TA-16-644	16-644	-	
TA-16-645	16-645	-	
TA-16-646	16-646	-	
TA-16-647	16-647	-	
TA-16-648	16-648	-	
TA-16-649	16-649	-	
TA-16-650	16-650	-	
TA-16-651	16-651	-	
TA-16-652	16-652	-	
TA-16-653	16-653	-	
TA-16-654	16-654	-	
TA-16-655	16-655	-	
TA-16-656	16-656	BARRICADE	S60-W45
TA-16-657	16-657	BARRICADE	S55-W45
TA-16-658	16-658	BARRICADE	S55-W45
TA-16-659	16-659	RESERVE	
TA-16-660	16-660	-	
TA-16-661	16-661	-	
TA-16-662	16-662	-	
TA-16-663	16-663	-	
TA-16-664	16-664	-	
TA-16-665	16-665	-	
TA-16-666	16-666	BARRICADE	S55-W25
TA-16-667	16-667	RESERVE	
TA-16-668	16-668	-	
TA-16-669	16-669	-	
TA-16-670	16-670	-	
TA-16-671	16-671	BARRICADE	S35-W20
TA-16-672	16-672	BARRICADE	S35-W20
TA-16-673	16-673	BARRICADE	S35-W15
TA-16-674	16-674	RESERVE	
TA-16-675	16-675	-	
TA-16-676	16-676	-	
TA-16-677	16-677	-	
TA-16-678	16-678	-	
TA-16-679	16-679	-	
TA-16-680	16-680	-	
TA-16-681	16-681	-	
TA-16-682	16-682	-	
TA-16-683	16-683	-	
TA-16-684	16-684	-	
TA-16-685	16-685	-	
TA-16-686	16-686	-	
TA-16-687	16-687	-	
TA-16-688	16-688	BARRICADE	S60-W30
TA-16-689	16-689	BARRICADE	S60-W30
TA-16-690	16-690	BARRICADE	S65-W30
TA-16-691	16-691	BARRICADE	S60-W35
TA-16-692	16-692	BARRICADE	S60-W35
TA-16-693	16-693	RESERVE	
TA-16-694	16-694	-	
TA-16-695	16-695	-	
TA-16-696	16-696	-	
TA-16-697	16-697	-	
TA-16-698	16-698	-	
TA-16-699	16-699	-	
TA-16-700	16-700	MANHOLE (SANITARY SEWER)	S20-W50
TA-16-701	16-701	MANHOLE (SANITARY SEWER)	S20-W50
TA-16-702	16-702	MANHOLE (SANITARY SEWER)	S20-W50
TA-16-703	16-703	MANHOLE (SANITARY SEWER)	S20-W50
TA-16-704	16-704	MANHOLE (SANITARY SEWER)	S15-W50

STRUCTURE NUMBER	DESIG-NATION	REMARKS & FORMER DESIGNATION	GRID
TA-16-705	16-705	MANHOLE (SANITARY SEWER)	S15-W50
TA-16-706	16-706	MANHOLE (SANITARY SEWER)	S15-W45
TA-16-707	16-707	MANHOLE (SANITARY SEWER)	S15 W45
TA-16-708	16-708	MANHOLE (SANITARY SEWER)	S20 W45
TA-16-709	16-709	MANHOLE (SANITARY SEWER)	S20-W45
TA-16-710	16-710	MANHOLE (SANITARY SEWER)	S20-W45
TA-16-711	16-711	MANHOLE (SANITARY SEWER)	S20-W45
TA-16-712	16-712	MANHOLE (SANITARY SEWER)	S20-W40
TA-16-713	16-713	MANHOLE (SANITARY SEWER)	S20-W35
TA-16-714	16-714	MANHOLE (SEWER) (ABANDONED)	S20-W35
TA-16-715	16-715	MANHOLE (SANITARY SEWER)	S20-W35
TA-16-716	16-716	MANHOLE (SANITARY SEWER)	S20-W35
TA-16-717	16-717	MANHOLE (SANITARY SEWER)	S20-W35
TA-16-718	16-718	MANHOLE (SANITARY SEWER)	S25-W30
TA-16-719	16-719	SEWAGE LIFT STATION	S20-W40
TA-16-720	16-720	MANHOLE (SANITARY SEWER)	S25-W40
TA-16-721	16-721	MANHOLE (SANITARY SEWER)	S30-W40
TA-16-722	16-722	MANHOLE (SANITARY SEWER)	S30-W35
TA-16-723	16-723	MANHOLE (SANITARY SEWER)	S35-W30
TA-16-724	16-724	MANHOLE (SANITARY SEWER)	S35-W30
TA-16-725	16-725	MANHOLE (SANITARY SEWER)	S35-W25
TA-16-726	16-726	MANHOLE (SANITARY SEWER)	S40-W20
TA-16-727	16-727	MANHOLE (SANITARY SEWER)	S40-W20
TA-16-728	16-728	MANHOLE (SANITARY SEWER)	S40-W15
TA-16-729	16-729	MANHOLE (SANITARY SEWER)	S40-W15
TA-16-730	16-730	MANHOLE (SANITARY SEWER)	S40-W15
TA-16-731	16-731	MANHOLE (SANITARY SEWER)	S35-W15
TA-16-732	16-732	MANHOLE (SANITARY SEWER)	S35-W15
TA-16-733	16-733	MANHOLE (SANITARY SEWER)	S40-W10
TA-16-734	16-734	MANHOLE (SANITARY SEWER)	S40-W10
TA-16-735	16-735	MANHOLE (SANITARY SEWER)	S40-W10
TA-16-736	16-736	MANHOLE (SANITARY SEWER)	S40-W20
TA-16-737	16-737	MANHOLE (SANITARY SEWER)	S45-W20
TA-16-738	16-738	MANHOLE (SANITARY SEWER)	S45-W25
TA-16-739	16-739	MANHOLE (SANITARY SEWER)	S50-W25
TA-16-740	16-740	MANHOLE (SANITARY SEWER)	S50-W25
TA-16-741	16-741	MANHOLE (SANITARY SEWER)	S50-W25
TA-16-742	16-742	MANHOLE (SANITARY SEWER)	S45-W25
TA-16-743	16-743	MANHOLE (SANITARY SEWER)	S45-W25
TA-16-744	16-744	MANHOLE (SANITARY SEWER)	S50-W30
TA-16-745	16-745	MANHOLE (SANITARY SEWER)	S45-W30
TA-16-746	16-746	MANHOLE (SANITARY SEWER)	S45-W30
TA-16-747	16-747	MANHOLE (SANITARY SEWER)	S45-W30
TA-16-748	16-748	MANHOLE (SANITARY SEWER)	S40-W30
TA-16-749	16-749	MANHOLE (SANITARY SEWER)	S40-W35
TA-16-750	16-750	MANHOLE (SANITARY SEWER)	S35-W30
TA-16-751	16-751	MANHOLE (SANITARY SEWER)	S50-W25
TA-16-752	16-752	MANHOLE (SANITARY SEWER)	S55-W25
TA-16-753	16-753	MANHOLE (SANITARY SEWER)	S60-W25
TA-16-754	16-754	MANHOLE (SANITARY SEWER)	S55-W30
TA-16-755	16-755	MANHOLE (SANITARY SEWER)	S55-W30
TA-16-756	16-756	MANHOLE (SANITARY SEWER)	S60-W35
TA-16-757	16-757	MANHOLE (SANITARY SEWER)	S60-W30
TA-16-758	16-758	MANHOLE (SANITARY SEWER)	S65-W30
TA-16-759	16-759	MANHOLE (SANITARY SEWER)	S60-W40
TA-16-760	16-760	MANHOLE (SANITARY SEWER)	S60-W40
TA-16-761	16-761	MANHOLE (SANITARY SEWER)	S60-W45
TA-16-762	16-762	MANHOLE (SANITARY SEWER)	S60-W45
TA-16-763	16-763	MANHOLE (SANITARY SEWER)	S60-W50
TA-16-764	16-764	MANHOLE (SANITARY SEWER)	S60-W50
TA-16-765	16-765	MANHOLE (SANITARY SEWER)	S60-W50
TA-16-766	16-766	MANHOLE (SANITARY SEWER)	S60-W55
TA-16-767	16-767	MANHOLE (SANITARY SEWER)	S55-W55
TA-16-768	16-768	MANHOLE (SANITARY SEWER)	S55-W60
TA-16-769	16-769	MANHOLE (SANITARY SEWER)	S55-W60
TA-16-770	16-770	MANHOLE (SANITARY SEWER)	S55-W65
TA-16-771	16-771	MANHOLE (SANITARY SEWER)	S55-W65
TA-16-772	16-772	MANHOLE (SANITARY SEWER)	S50-W60
TA-16-773	16-773	MANHOLE (SANITARY SEWER)	S50-W60
TA-16-774	16-774	MANHOLE (SANITARY SEWER)	S45-W60
TA-16-775	16-775	MANHOLE (SANITARY SEWER)	S45-W65
TA-16-776	16-776	MANHOLE (SANITARY SEWER)	S45-W65
TA-16-777	16-777	MANHOLE (SANITARY SEWER)	S45-W70
TA-16-778	16-778	MANHOLE (SANITARY SEWER)	S40-W70
TA-16-779	16-779	MANHOLE (SANITARY SEWER)	S45-W70
TA-16-780	16-780	MANHOLE (SANITARY SEWER)	S40-W70
TA-16-781	16-781	MANHOLE (SANITARY SEWER)	S40-W75
TA-16-782	16-782	MANHOLE (SANITARY SEWER)	S35-W70
TA-16-783	16-783	MANHOLE (SANITARY SEWER)	S40-W60
TA-16-784	16-784	MANHOLE (SANITARY SEWER)	S40-W65
TA-16-785	16-785	MANHOLE (SANITARY SEWER)	S40-W65
TA-16-786	16-786	MANHOLE (SANITARY SEWER)	S35-W65
TA-16-787	16-787	MANHOLE (SANITARY SEWER)	S35-W65
TA-16-788	16-788	MANHOLE (SANITARY SEWER)	S35-W65
TA-16-789	16-789	MANHOLE (SANITARY SEWER)	S30-W65
TA-16-790	16-790	MANHOLE (SANITARY SEWER)	S30-W70
TA-16-791	16-791	MANHOLE (SANITARY SEWER)	S30-W70
TA-16-792	16-792	MANHOLE (SANITARY SEWER)	S30-W70
TA-16-793	16-793	MANHOLE INDUSTRIAL WASTE	S40-W45
TA-16-794	16-794	MANHOLE INDUSTRIAL WASTE	S40-W45
TA-16-795	16-795	MANHOLE INDUSTRIAL WASTE	S40-W45
TA-16-796	16-796	MANHOLE INDUSTRIAL WASTE	S40-W45
TA-16-797	16-797	MANHOLE INDUSTRIAL WASTE	S40-W45
TA-16-798	16-798	MANHOLE INDUSTRIAL WASTE	S40-W40
TA-16-799	16-799	MANHOLE INDUSTRIAL WASTE	S40-W40
TA-16-800	16-800	MANHOLE INDUSTRIAL WASTE	S40-W45
TA-16-801	16-801	MANHOLE (DRAINAGE)	S35-W45
TA-16-802	16-802	MANHOLE (DRAINAGE)	S30-W40
TA-16-803	16-803	MANHOLE (DRAINAGE)	S20-W35
TA-16-804	16-804	MANHOLE (DRAINAGE)	S20-W30
TA-16-805	16-805	MANHOLE (DRAINAGE)	S25-W30
TA-16-806	16-806	MANHOLE (DRAINAGE)	S55-W55
TA-16-807	16-807	MANHOLE INDUSTRIAL WASTE	S35-W30
TA-16-808	16-808	MANHOLE INDUSTRIAL WASTE	S40-W30
TA-16-809	16-809	MANHOLE INDUSTRIAL WASTE	S45-W25
TA-16-810	16-810	MANHOLE INDUSTRIAL WASTE	S45-W25
TA-16-811	16-811	MANHOLE INDUSTRIAL WASTE	S35-W15
TA-16-812	16-812	MANHOLE INDUSTRIAL WASTE	S35-W15
TA-16-813	16-813	MANHOLE (SANITARY SEWER)	S65-W20
TA-16-814	16-814	MANHOLE (SANITARY SEWER)	S30-W40
TA-16-815	16-815	MANHOLE (SANITARY SEWER)	S55-W70
TA-16-816	16-816	MANHOLE (SANITARY SEWER)	S55-W40
TA-16-817	16-817	MANHOLE (SANITARY SEWER)	S50-W50
TA-16-818	16-818	RESERVE	
TA-16-819	16-819	-	
TA-16-820	16-820	-	
TA-16-821	16-821	-	
TA-16-822	16-822	-	
TA-16-823	16-823	-	
TA-16-824	16-824	-	
TA-16-825	16-825	MANHOLE (ELECTRICAL)	S15-W50
TA-16-826	16-826	MANHOLE (ELECTRICAL)	S15-W55

STRUCTURE NUMBER	DESIG-NATION	REMARKS & FORMER DESIGNATION	GRID
TA-16-827	16-827	MANHOLE (ELECTRICAL)	S15-W55
TA-16-828	16-828	MANHOLE (ELECTRICAL)	S15-W55
TA-16-829	16-829	MANHOLE (ELECTRICAL)	S10-W50
TA-16-830	16-830	MANHOLE (ELECTRICAL)	S15-W50
TA-16-831	16-831	MANHOLE (ELECTRICAL)	S15-W50
TA-16-832	16-832	MANHOLE (ELECTRICAL)	S15-W50
TA-16-833	16-833	MANHOLE (ELECTRICAL)	S15-W45
TA-16-834	16-834	MANHOLE (ELECTRICAL)	S20-W45
TA-16-835	16-835	MANHOLE (ELECTRICAL)	S20-W45
TA-16-836	16-836	MANHOLE (ELECTRICAL)	S20-W45
TA-16-837	16-837	MANHOLE (ELECTRICAL)	S20-W45
TA-16-838	16-838	MANHOLE (ELECTRICAL)	S30-W40
TA-16-839	16-839	MANHOLE (ELECTRICAL)	S30-W35
TA-16-840	16-840	MANHOLE (ELECTRICAL)	S30-W35
TA-16-841	16-841	MANHOLE (ELECTRICAL)	S30-W40
TA-16-842	16-842	MANHOLE (ELECTRICAL)	S30-W40
TA-16-843	16-843	MANHOLE (ELECTRICAL)	S30-W40
TA-16-844	16-844	MANHOLE (ELECTRICAL)	S35-W40
TA-16-845	16-845	MANHOLE (ELECTRICAL)	S30-W20
TA-16-846	16-846	MANHOLE (ELECTRICAL)	S35-W15
TA-16-847	16-847	MANHOLE (ELECTRICAL)	S35-W20
TA-16-848	16-848	MANHOLE (ELECTRICAL)	S35-W20
TA-16-849	16-849	MANHOLE (ELECTRICAL)	S35-W20
TA-16-850	16-850	MANHOLE (ELECTRICAL)	S35-W15
TA-16-851	16-851	MANHOLE (ELECTRICAL)	S35-W30
TA-16-852	16-852	MANHOLE (ELECTRICAL)	S35-W30
TA-16-853	16-853	MANHOLE (ELECTRICAL)	S40-W30
TA-16-854	16-854	MANHOLE (ELECTRICAL)	S40-W30
TA-16-855	16-855	MANHOLE (ELECTRICAL)	S40-W35
TA-16-856	16-856	MANHOLE (ELECTRICAL)	S40-W30
TA-16-857	16-857	MANHOLE (ELECTRICAL)	S40-W30
TA-16-858	16-858	MANHOLE (ELECTRICAL)	S40-W30
TA-16-859	16-859	MANHOLE (ELECTRICAL)	S45-W30
TA-16-860	16-860	MANHOLE (ELECTRICAL)	S45-W30
TA-16-861	16-861	MANHOLE (ELECTRICAL)	S45-W30
TA-16-862	16-862	MANHOLE (ELECTRICAL)	S45-W30
TA-16-863	16-863	MANHOLE (ELECTRICAL)	S45-W25
TA-16-864	16-864	MANHOLE (ELECTRICAL)	S45-W25
TA-16-865	16-865	MANHOLE (ELECTRICAL)	S50-W30
TA-16-866	16-866	MANHOLE (ELECTRICAL)	S45-W25
TA-16-867	16-867	MANHOLE (ELECTRICAL)	S50-W25
TA-16-868	16-868	MANHOLE (ELECTRICAL)	S50-W25
TA-16-869	16-869	MANHOLE (ELECTRICAL)	S50-W25
TA-16-870	16-870	MANHOLE (ELECTRICAL)	S50-W25
TA-16-871	16-871	MANHOLE (ELECTRICAL)	S60-W30
TA-16-872	16-872	MANHOLE (ELECTRICAL)	S60-W30
TA-16-873	16-873	MANHOLE (ELECTRICAL)	S60-W30
TA-16-874	16-874	MANHOLE (ELECTRICAL)	S60-W35
TA-16-875	16-875	MANHOLE (ELECTRICAL)	S60-W35
TA-16-876	16-876	MANHOLE (ELECTRICAL)	S60-W35
TA-16-877	16-877	MANHOLE (ELECTRICAL)	S65-W35
TA-16-878	16-878	MANHOLE (ELECTRICAL)	S60-W45
TA-16-879	16-879	MANHOLE (ELECTRICAL)	S60-W45
TA-16-880	16-880	MANHOLE (ELECTRICAL)	S55-W70
TA-16-881	16-881	MANHOLE (ELECTRICAL)	S45-W65
TA-16-882	16-882	MANHOLE (ELECTRICAL)	S45-W65
TA-16-883	16-883	MANHOLE (ELECTRICAL)	S45-W65
TA-16-884	16-884	MANHOLE (ELECTRICAL)	S35-W70
TA-16-885	16-885	MANHOLE (ELECTRICAL)	S35-W70
TA-16-886	16-886	MANHOLE (ELECTRICAL)	S30-W70
TA-16-887	16-887	MANHOLE (ELECTRICAL)	S40-W15
TA-16-888	16-888	MANHOLE (ELECTRICAL)	S35-W15
TA-16-889	16-889	MANHOLE (ELECTRICAL)	S35-W10
TA-16-890	16-890	MANHOLE (ELECTRICAL)	S45-W65
TA-16-891	16-891	MANHOLE (ELECTRICAL)	S45-W70
TA-16-892	16-892	MANHOLE (ELECTRICAL)	S65-W20
TA-16-893	16-893	RESERVE	
TA-16-894	16-894	-	
TA-16-895	16-895	-	
TA-16-896	16-896	-	
TA-16-897	16-897	-	
TA-16-898	16-898	-	
TA-16-899	16-899	-	
NOTE: 900 SERIES RESERVED FOR UTILITIES DESIGNATIONS			
TA-16-1000	16-1000	GUARD HOUSE (NOW TA-16-112)	
TA-16-1001	16-1001	GUARD HOUSE (NOW TA-1-288)	
TA-16-1002	16-1002	MANHOLE (STEAM)	S15-W50
TA-16-1003	16-1003	MANHOLE (STEAM)	S15-W50
TA-16-1004	16-1004	MANHOLE (STEAM)	S15-W50
TA-16-1005	16-1005	MANHOLE (STEAM)	S15-W50
TA-16-1006	16-1006	MANHOLE (STEAM)	S20-W50
TA-16-1007	16-1007	MANHOLE (STEAM)	S20-W45
TA-16-1008	16-1008	MANHOLE (STEAM)	S25-W45
TA-16-1009	16-1009	MANHOLE (STEAM)	S25-W40
TA-16-1010	16-1010	MANHOLE (STEAM)	S25-W40
TA-16-1011	16-1011	MANHOLE (STEAM)	S20-W35
TA-16-1012	16-1012	MANHOLE (STEAM)	S30-W40
TA-16-1013	16-1013	MANHOLE (STEAM)	S30-W40
TA-16-1014	16-1014	MANHOLE (STEAM)	S30-W35
TA-16-1015	16-1015	MANHOLE (STEAM)	S35-W35
TA-16-1016	16-1016	MANHOLE (STEAM)	S35-W35
TA-16-1017	16-1017	MANHOLE (STEAM)	S40-W30
TA-16-1018	16-1018	MANHOLE (STEAM)	S35-W30
TA-16-1019	16-1019	MANHOLE (STEAM)	S35-W25
TA-16-1020	16-1020	MANHOLE (STEAM)	S35-W20
TA-16-1021	16-1021	MANHOLE (STEAM)	S35-W20
TA-16-1022	16-1022	MANHOLE (STEAM)	S35-W20
TA-16-1023	16-1023	MANHOLE (STEAM)	S35-W20
TA-16-1024	16-1024	MANHOLE (STEAM)	S35-W15
TA-16-1025	16-1025	MANHOLE (STEAM)	S35-W15
TA-16-1026	16-1026	MANHOLE (STEAM)	S35-W10
TA-16-1027	16-1027	MANHOLE (STEAM)	S40-W30
TA-16-1028	16-1028	MANHOLE (STEAM)	S40-W30
TA-16-1029	16-1029	MANHOLE (STEAM)	S45-W30
TA-16-1030	16-1030	MANHOLE (STEAM)	S45-W30
TA-16-1031	16-1031	MANHOLE (STEAM)	S50-W25
TA-16-1032	16-1032	MANHOLE (STEAM)	S50-W25
TA-16-1033	16-1033	MANHOLE (STEAM)	S50-W30
TA-16-1034	16-1034	MANHOLE (STEAM)	S55-W25
TA-16-1035	16-1035	MANHOLE (STEAM)	S55-W25
TA-16-1036	16-1036	MANHOLE (STEAM)	S60-W25
TA-16-1037	16-1037	MANHOLE (STEAM)	S60-W20
TA-16-1038	16-1038	MANHOLE (STEAM)	S65-W15
TA-16-1039	16-1039	MANHOLE (STEAM)	S55-W35
TA-16-1040	16-1040	MANHOLE (STEAM)	S55-W40
TA-16-1041	16-1041	MANHOLE (STEAM)	S55-W40
TA-16-1042	16-1042	MANHOLE (STEAM)	S60-W35
TA-16-1043	16-1043	MANHOLE (STEAM)	S60-W35
TA-16-1044	16-1044	MANHOLE (STEAM)	S55-W40
TA-16-1045	16-1045	MANHOLE (STEAM)	S55-W45
TA-16-1046	16-1046	MANHOLE (STEAM)	S55-W45
TA-16-1047	16-1047	MANHOLE (STEAM)	S55-W45

STRUCTURE NUMBER	DESIG-NATION	REMARKS & FORMER DESIGNATION	GRID
TA-16-1048	16-1048	MANHOLE (STEAM)	S60-W45
TA-16-1049	16-1049	MANHOLE (STEAM)	S55-W50
TA-16-1050	16-1050	MANHOLE (STEAM)	S55-W50
TA-16-1051	16-1051	MANHOLE (STEAM)	S55-W55
TA-16-1052	16-1052	MANHOLE (STEAM)	S55-W60
TA-16-1053	16-1053	MANHOLE (STEAM)	S50-W65
TA-16-1054	16-1054	MANHOLE (STEAM)	S55-W65
TA-16-1055	16-1055	MANHOLE (STEAM)	S55-W70
TA-16-1056	16-1056	MANHOLE (STEAM)	S45-W65
TA-16-1057	16-1057	MANHOLE (STEAM)	S45-W65
TA-16-1058	16-1058	MANHOLE (STEAM)	S40-W70
TA-16-1059	16-1059	MANHOLE (STEAM)	S40-W70
TA-16-1060	16-1060	MANHOLE (STEAM)	S40-W70
TA-16-1061	16-1061	MANHOLE (STEAM)	S40-W75
TA-16-1062	16-1062	MANHOLE (STEAM)	S30-W70
TA-16-1063	16-1063	MANHOLE (STEAM)	S30-W65
TA-16-1064	16-1064	MANHOLE (STEAM)	S30-W60
TA-16-1065	16-1065	MANHOLE (STEAM)	S35-W65
TA-16-1066	16-1066	MANHOLE (STEAM)	S35-W60
TA-16-1067	16-1067	MANHOLE (STEAM)	S40-W60
TA-16-1068	16-1068	MANHOLE (STEAM)	S40-W65
TA-16-1069	16-1069	MANHOLE (STEAM)	S40-W65
TA-16-1070	16-1070	MANHOLE (STEAM)	S30-W65
TA-16-1071	16-1071	MANHOLE (STEAM)	S25-W65
TA-16-1072	16-1072	MANHOLE (STEAM)	S25-W65
TA-16-1073	16-1073	MANHOLE (STEAM)	S20-W60
TA-16-1074	16-1074	MANHOLE (STEAM)	S20-W60
TA-16-1075	16-1075	MANHOLE (STEAM)	S20-W60
TA-16-1076	16-1076	MANHOLE (STEAM)	S15-W55
TA-16-1077	16-1077	MANHOLE (STEAM)	S20-W55
TA-16-1078	16-1078	MANHOLE (STEAM)	S20-W50
TA-16-1079	16-1079	MANHOLE (STEAM)	S25-W60
TA-16-1080	16-1080	MANHOLE (STEAM)	S30-W70
TA-16-1081	16-1081	MANHOLE (STEAM)	S40-W60
TA-16-1082	16-1082	MANHOLE (STEAM)	S40-W60
TA-16-1083	16-1083	MANHOLE (STEAM) (REMOVED)	
TA-16-1084	16-1084	MANHOLE (STEAM)	S25-W60
TA-16-1085	16-1085	RESERVE	
TA-16-1086	16-1086	-	
TA-16-1087	16-1087	-	
TA-16-1088	16-1088	-	
TA-16-1089	16-1089	-	
TA-16-1090	16-1090	-	
TA-16-1091	16-1091	-	
TA-16-1092	16-1092	-	
TA-16-1093	16-1093	-	
TA-16-1094	16-1094	-	
TA-16-1095	16-1095	-	
TA-16-1096	16-1096	-	
TA-16-1097	16-1097	-	
TA-16-1098	16-1098	-	
TA-16-1099	16-1099	CONDENSATE PUMP	S50-W30
TA-16-1100	16-1100	MANHOLE (DRIP POT) GAS	S25-W35
TA-16-1101	16-1101	OIL SWITCH	S55-W35
TA-16-1102	16-1102	OIL SWITCH	S55-W25
TA-16-1103	16-1103	OIL SWITCH	S20-W50
TA-16-1104	16-1104	DRUM STORAGE	S40-W55
TA-16-1105	16-1105	DRUM STORAGE	S40-W55
TA-16-1106	16-1106	DRUM STORAGE	S40-W55
TA-16-1107	16-1107	DRUM STORAGE	S40-W55
TA-16-1108	16-1108	DRUM STORAGE (REMOVED) 1955	
TA-16-1109	16-1109	DRUM STORAGE (REMOVED) 1956	
TA-16-1110	16-1110	DRUM STORAGE (REMOVED)	
TA-16-1111	16-1111	DRUM STORAGE	S35-W65
TA-16-1112	16-1112	MANHOLE (DRIP POT) GAS	S45-W70
TA-16-1113	16-1113	MANHOLE (DRIP POT) GAS	S40-W70
TA-16-1114	16-1114	MANHOLE (DRIP POT) GAS	S40-W75
TA-16-1115	16-1115	MANHOLE (WATER PRV)	S45-W70
TA-16-1116	16-1116	MANHOLE (WATER PRV)	S30-W35
TA-16-1117	16-1117	MANHOLE (WATER PRV)	S35 W40
TA-16-1118	16-1118	MANHOLE (WATER)	S40 W65
TA-16-1119	16-1119	MANHOLE (WATER)	S25-W40
TA-16-1120	16-1120	MANHOLE (WATER)	S65-W20
TA-16-1121	16-1121	MANHOLE (WATER)	S30-W65
TA-16-1122	16-1122	MANHOLE (WATER PRV)	S55-W30
TA-16-1123	16-1123	MANHOLE (GAS PRV)	S65 W5
TA-16-1124	16-1124	MANHOLE (WATER)	S30-W75
TA-16-1125	16-1125	MANHOLE (WATER)	S30-W75
TA-16-1126	16-1126	MANHOLE (WATER)	S30-W65
TA-16-1127	16-1127	MANHOLE (WATER)	S20-W55
TA-16-1128	16-1128	MANHOLE (GAS)	
TA-16-1129	16-1129	RESERVE	
TA-16-1130	16-1130	WATER TANK (REMOVED)	
TA-16-1131	16-1131	WATER TANK (REMOVED)	
TA-16-1132	16-1132	SEPTIC TANK (REMOVED)	
TA-16-1133	16-1133	GUARD HOUSE (REMOVED)	
TA-16-1134	16-1134	TROUGH (BASKET WASHING FAC.)	S25-E5
TA-16-1135	16-1135	TROUGH (BASKET WASHING FAC.)	S25-E5
TA-16-1136	16-1136	TROUGH (BASKET WASHING FAC.)	S25-E5
TA-16-1137	16-1137	MANHOLE (GREASE TRAP)	S40-W60
TA-16-1138	16-1138	FUEL TANK (ABANDONED)	S25-W35
TA-16-1139	16-1139	FUEL TANK (ABANDONED)	S25-W35
TA-16-1140	16-1140	FUEL TANK (REMOVED) 1956	
TA-16-1141	16-1141	GUARD TOWER (REMOVED) 1946	
TA-16-1142	16-1142	RESERVE	
TA-16-1143	16-1143	-	
TA-16-1144	16-1144	-	
TA-16-1145	16-1145	-	
TA-16-1146	16-1146	-	
TA-16-1147	16-1147	-	
TA-16-1148	16-1148	-	
TA-16-1149	16-1149	-	
TA-16-1150	16-1150	-	
TA-16-1151	16-1151	-	
TA-16-1152	16-1152	-	
TA-16-1153	16-1153	-	
TA-16-1154	16-1154	-	
TA-16-1155	16-1155	-	
TA-16-1156	16-1156	-	
TA-16-1157	16-1157	-	
TA-16-1158	16-1158	-	
TA-16-1159	16-1159	-	
TA-16-1160	16-1160	-	
TA-16-1161	16-1161	-	
TA-16-1162	16-1162	-	
TA-16-1163	16-1163	-	
TA-16-1164	16-1164	-	
TA-16-1165	16-1165	-	
TA-16-1166	16-1166	-	
TA-16-1167	16-1167	-	
TA-16-1168	16-1168	-	
TA-16-1169	16-1169	-	

STRUCTURE NUMBER	DESIG-NATION	REMARKS & FORMER DESIGNATION	GRID
TA-16-1170	16-1170	RESERVE	
TA-16-1171	16-1171	-	
TA-16-1172	16-1172	-	
TA-16-1173	16-1173	-	
TA-16-1174	16-1174	-	
TA-16-1175	16-1175	-	
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TA-16-1177	16-1177	-	
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TA-16-1188	16-1188	-	
TA-16-1189	16-1189	-	
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TA-16-1192	16-1192	-	
TA-16-1193	16-1193	-	
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TA-16-1196	16-1196	-	
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TA-16-1198	16-1198	-	
TA-16-1199	16-1199	-	
TA-16-1200	16-1200	-	
TA-16-1201	16-1201	-	
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TA-16-1203	16-1203	-	
TA-16-1204	16-1204	-	
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TA-16-1213	16-1213	-	
TA-16-1214	16-1214	-	
TA-16-1215	16-1215	-	
TA-16-1216	16-1216	-	
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TA-16-1218	16-1218	-	
TA-16-1219	16-1219	-	
TA-16-1220	16-1220	-	
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TA-16-1222	16-1222	-	
TA-16-1223	16-1223	-	
TA-16-1224	16-1224	-	
TA-16-1225	16-1225	-	
TA-16-1226	16-1226	-	
TA-16-1227	16-1227	-	
TA-16-1228	16-1228	-	
TA-16-1229	16-1229	-	
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TA-16-1233	16-1233	-	
TA-16-1234	16-1234	-	
TA-16-1235	16-1235	-	
TA-16-1236	16-1236	-	
TA-16-1237	16-1237	-	
TA-16-1238	16-1238	-	
TA-16-1239	16-1239	-	
TA-16-1240	16-1240	-	
TA-16-1241	16-1241	-	
TA-16-1242	16-1242	-	
TA-16-1243	16-1243	-	
TA-16-1244	16-1244	-	
TA-16-1245	16-1245	-	
TA-16-1246	16-1246	-	
TA-16-1247	16-1247	-	
TA-16-1248	16-1248	-	
TA-16-1249	16-1249	-	
TA-16-1250	16-1250	-	
TA-16-1251	16-1251	-	
TA-16-1252	16-1252	-	
TA-16-1253	16-1253	-	
TA-16-1254	16-1254	-	
TA-16-1255	16-1255	-	
TA-16-1256	16-1256	-	
TA-16-1257	16-1257	-	
TA-16-1258	16-1258	-	
TA-16-1259	16-1259	-	
TA-16-1260	16-1260	-	
TA-16-1261	16-1261	-	
TA-16-1262	16-1262	-	
TA-16-1263	16-1263	-	

NO.	DATE	REVISIONS	BY	CHKD	GRP LDR	ENG D.O.
7	7-8-57	REVISED TO STATUS OF 7-1-57	F.R.	JAS		
8	11/28/55	REDRAWN TO STATUS OF JULY 1, 1955	NOB	JAS		

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

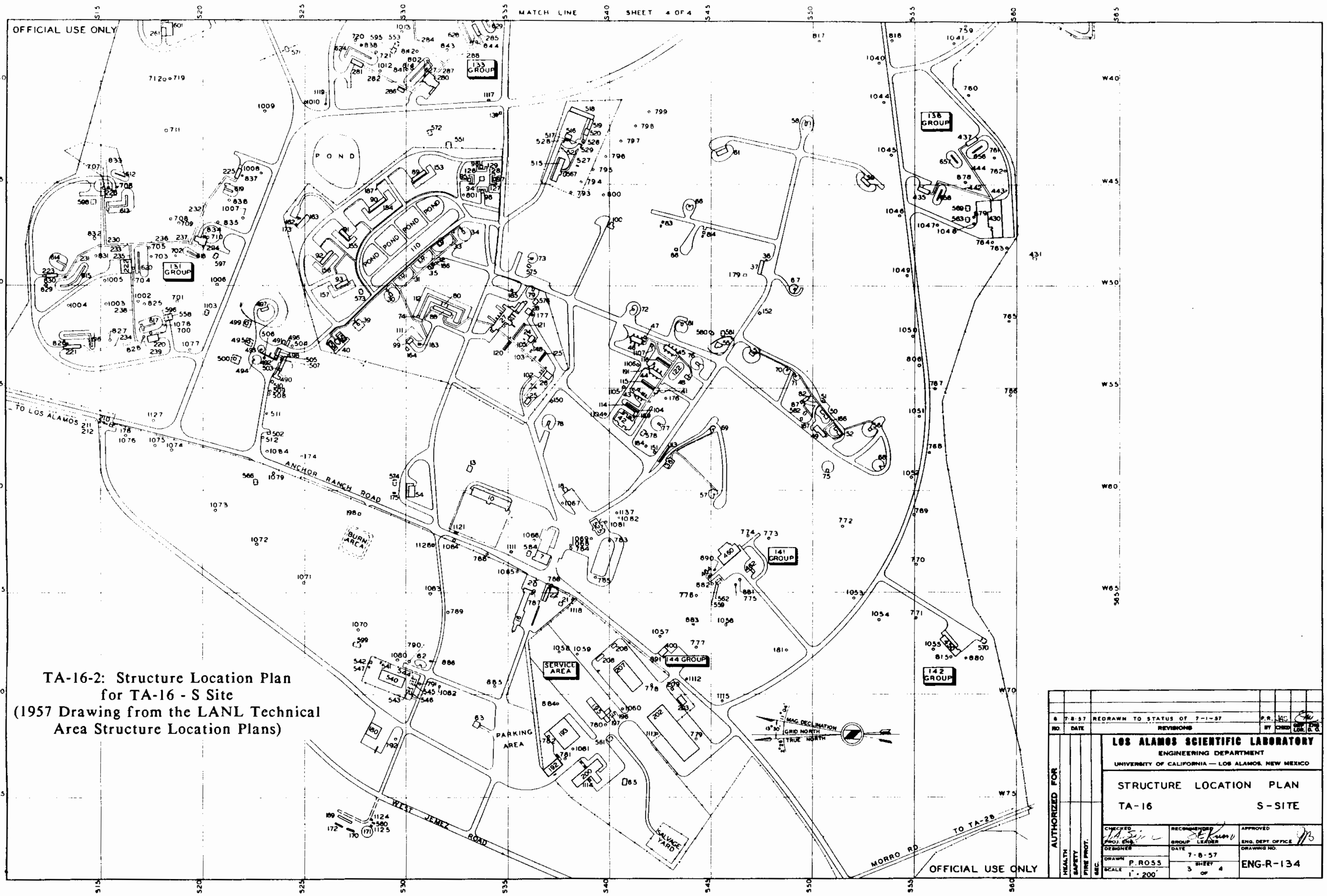
STRUCTURE LOCATION PLAN
INDEX SHEET
TA-16 S-SITE

CHECKED	RECOMMENDED	APPROVED
DESIGNER	GROUP LEADER	ENG. DEPT. OFFICE

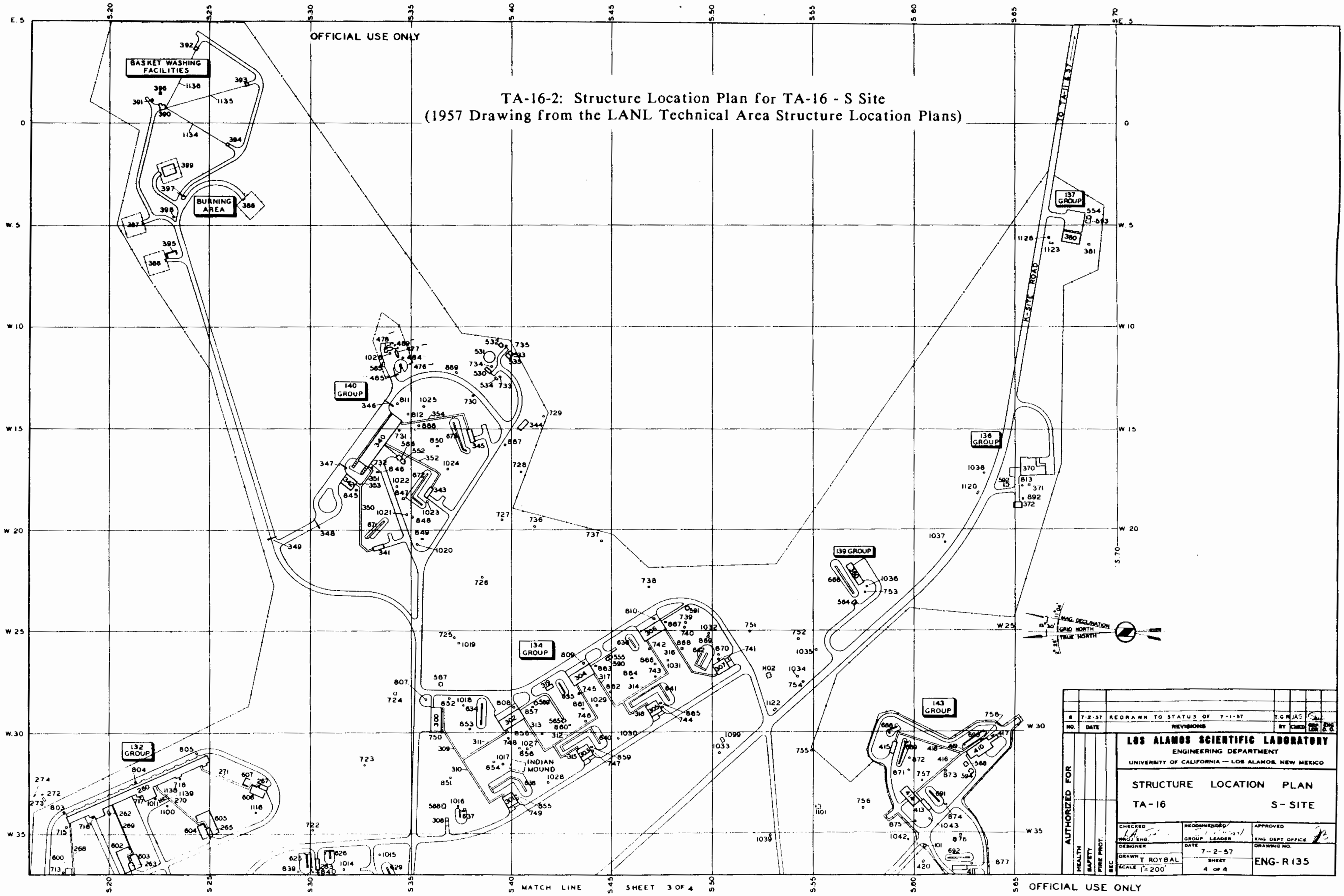
DRAWN	DATE	DRAWING NO.
N. BYERS	11/28/55	ENG- R133
SCALE: NONE	SHEET 2 OF 4	

OFFICIAL USE ONLY

TA-16-2: Structure Location Plan for TA-16 - S Site
(1957 Drawing from the LANL Technical Area Structure Location Plans)



TA-16-2: Structure Location Plan
for TA-16 - S Site
(1957 Drawing from the LANL Technical
Area Structure Location Plans)



TA-16-2: Structure Location Plan for TA-16 - S Site
(1957 Drawing from the LANL Technical Area Structure Location Plans)

TA-17 - X SITE

CURRENT OPERATIONS

This site was planned but never built.

POTENTIAL CERCLA/RCRA SITES

Potential CERCLA/RCRA sites do not exist and no further action is warranted.

TA-18 - PAJARITO SITE

CURRENT OPERATIONS

TA-18 is currently occupied by the Advanced Nuclear Technology Group (N-2). N-2 is responsible for critical assembly research and for nuclear emergency operations. Hazardous materials used include special nuclear materials (SNM) and other supporting materials for nuclear criticality studies.

POTENTIAL CERCLA/RCRA SITES

TA-18 was first developed in 1944 for G Division. Located in Pajarito Canyon, the site had three firing points: one for small charges of a few pounds, a second for charges of several hundred pounds, and a third for tests using up to 2 tons of charges. A heavily bunkered laboratory, a trimming building, and a magazine completed the site.

Although the site is no longer used for firing activities, concrete shielded structures known as "battleships," which were used as protection from explosives during tests, remain in place. The buildings associated with this site are suspected to be contaminated with such materials as mercury, beryllium, plutonium, and uranium-235 and -233. Acid drains, sanitary drains, septic tanks, underground pits and lines, and drain fields may also be contaminated.

A magazine that was used to store materials contaminated with uranium and beryllium oxide was removed, but the surrounding area may not have been sampled for contaminants.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigation will be documented in the CEARP Phase IIA Monitoring Plan for TA-18. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-18 is 14.3 (Appendix B).

FIGURES

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TABLE TA-18 - POTENTIAL CERCLA/RCRA SITES

TA18-1-CA-I-HW/RW (Firing sites, drop tower, and ballistic tests)

Background--TA-18, the Pajarito Canyon Laboratory, was developed in 1944 for G Division. Three firing points were established: one in the west wing of the canyon for small charges of a few pounds each, a second in the south wing for charges of several hundred pounds, and a third in the east wing for testing charges of up to 2 tons. The latter probably became included in TA-27. A heavily bunkered laboratory was built at the junction of the two canyons, and a trimming building and magazine were constructed along the road toward Anchor Ranch.

During 1945, several storage hutments, two magazines, a carpenter's shop, and an underground battery building were constructed in the central area, and substantial alterations were made in the second firing point to allow for firing charges of up to 2 tons. Use of the site passed to M Division in the fall of 1945. Early in 1946, a 26-ft by 40-ft addition to the central laboratory building was constructed for integral assembly work involving radioactive material. In the spring of 1947, the permanent Integral Assembly Building was completed in the north wing of the canyon and the area was abandoned as a location for experiments using explosives (LASL 1947:12).

A 1946 map shows that two upper firing sites were located near battleships (concrete shielded structures) TA-18-2 and TA-18-5, which remain in place. This placement is reasonable, because the battleships were constructed to protect equipment from the high-explosive detonations. The magnetic method was used as a detection technique at the two upper sites (McMillan 1944). Another memo mentions that equipment used in drop tests on both inert and high-explosive units was set up at the "large firing site" (Dike 1945). In addition to the drop tests, ballistic tests were reported, at least one of which resulted in scattering high explosive.

Other memos and records indicate that natural uranium, aluminum, copper, lead, and cadmium were used at the two upper firing sites (CEARP n.d.). In general, it appears that there was no recovery. Early 1945 pictures show cables running from the battleship. One employee said in an interview that buried cables probably remain in place today.

There have been no recent surveys to determine the extent of residual contamination at the firing sites. It is difficult to determine from available documents the quantities of uranium, barium containing high explosive, and cadmium that may have been expended.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with the test areas will be determined during supplemental Phase I.

TA18-2-CA-I-HW/RW (Battleships)

Background--Engineering drawings 6090 and 6091 show battleships TA-18-2 and -5, respectively, to be possible contamination areas. These battleships were part of the early firing sites. Both high explosive and radionuclide contamination may be present.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination in the area of the battleships will be determined during supplemental Phase I.

TA18-3-CA-A/I-HW/RW (Ducts, building floors, and walls)

Background--After being used as a firing site, TA-18 was used for other kinds of work including critical assembly experiments. Memos indicate that one unidentified building was highly contaminated with mercury (Schulte 1955). Beryllium was handled in building PL-129 (LASL Notebook n.d.:64). Building 141 had an ultrasonic cleaner used to clean beryllium in a solution of ethyl alcohol (Safety Office, H-3 1966:2). Critical assemblies containing plutonium, uranium-235 and -233 were operated in the "kivas," TA-18-23 (Kiva 1), TA-18-32 (Kiva 2), and TA-18-116 (Kiva 3) (Paxton 1978). Reports mention contamination occurrences in both Kivas 1 and 2 (H Division 1955a:4 and b, 1956:10, 1957:1,3). Also included in lists of contaminated sites are buildings 26, 129, and 168 (Balo and Warren 1984:53). In addition, engineering drawings -6093, -6096, and -6097 (1962) for this site list room 111 of building 30, and buildings 119 and 122 as possibly contaminated areas.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination will be determined during supplemental Phase I investigations. The active facilities are covered by routine LANL operations.

TA18-4-CA/ST/O-A/I-HW/RW (Septic tanks, lines, and drain fields)

Background--The activities carried on over the many years of work at TA-18, may have caused the contamination of acid drains and sanitary drains with uranium-233, uranium-235, beryllium, mercury, and with some organics, photographic chemicals, and acids.

Photography was associated with the early firing sites, and the photoprocessing may have taken place in the main laboratory building (McMillan 1944). In addition, an employee remembers a photoprocessing facility in building 30 being used in the 1950s. The CEARP 1987 field survey confirmed that this photoprocessing facility is still in building 30, and the drain connects to an outfall, which discharges to the stream.

Engineering drawing R1061 shows an acid sewer from Kiva 1 (TA-18-23) that appears to go to septic tank 39 and then to a drain field. The sanitary sewer is shown going to septic tank 105, also listed as a settling pit. Radionuclides are suspected contaminants in the tanks and drainage fields. The CEARP 1987 field survey confirmed that a sump drained liquids from Kiva 1.

Engineering drawing R1065 shows only one drain system from Kiva 2, TA-18-32, served by septic tank 42. Septic tank 120 serves Kiva 3 (TA-18-116). Again, radionuclides are the chief suspected contaminants. During the 1987 CEARP field survey, investigators learned that the janitors put wash water from the kivas down the drains of the kivas. In 1960, tanks 39 and 42 and structure 105 were listed as needing health clearance, thus indicating possible contamination (Blackwell 1960). A 1981 report indicates high oil content in tank 120 (Stump, Paxton, and Gonzales 1981:8).

Engineering drawing R1063 shows building 30 as having had a sanitary sewer served by septic tank 41 and a large drain field. The acid sewer system was removed; however, part of the contaminated pipe remains (see TA18-5).

Building 1 had a sanitary sewer served by septic tank 43, and building 31 had a sanitary sewer served by septic tank 40. Both systems appear to have had outfalls to the canyon, according to drawing ENG-R1064. Septic tank 152 may have served building 28. Today, drains from the kivas continue to go to septic tanks and drain fields, whereas a lagoon system, TA-18-162, receives other sanitary waste, as shown on drawing ENG-R5112.

An employee said in an interview that two sump pits located in the basement of building 30 pump subsurface water to the main stream bed. At least one major contamination event, involving polonium, has occurred in this building, but the polonium would have decayed to insignificant levels. The possibility for contamination of sump water is unknown.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with the inactive septic systems will be determined during supplemental Phase I activities. The active systems are covered by routine LANL operations.

TA18-5-CA/UST-I-HW/RW (Underground pit and lines)

Background--Acid waste lines from the tanks on the west side of building 30 extended and connected to tank TA-18-38. The tank was a subsurface concrete pit containing two small, stainless steel tanks, which stored the waste until a tank was full. The steel tank was then removed for waste collection and returned. In 1977, these tanks were removed and the inlet lines were capped. The walls of the pit were knocked down, and the debris was left in place and covered with soil to the existing grade. The area was paved with asphalt. At the time the tanks were removed, there was no evidence that the tanks were leaking (Ahlquist 1978:2).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination will be determined during supplemental Phase I.

TA18-6-CA-I-HW/RW (Magazine)

Background--TA-18-15 was used first as a magazine for the firing group and later as a storage area for materials contaminated with uranium and beryllium oxide. Finally, it was removed. At that time, there was a suggestion that samples be taken in the general area to ensure that there was no residual uranium or beryllium contamination. Whether the sampling was ever done is not known (Ahlquist 1978).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The general area will be sampled for gross alpha and beryllium contamination during supplemental Phase I.

TA18-7-UST-I-RW (Underground pipe)

Background--Building 168 housed the Kinglet reactor, which used a solution containing uranium. The solution was stored in an underground pipe. Although the solution is believed to have been removed, the pipe and associated pump running from the building northward toward the fence are still in place, according to 1987 CEARP field survey observations.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination in the area of the underground pipe will be determined during supplemental Phase I.

TA18-8-L-I-HW/RW (Possible burial site)

Background--An undated, unsigned memo in engineering file 1757 indicates the possibility of material buried beyond old kiva at TA-18. An employee remembers burying a tank about 1.25 miles up the canyon from Kiva 2 in 1949. The tank may have been contaminated with radionuclides and/or high explosives.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The possible burial site will be investigated during supplemental Phase I.

TA18-9-UST-I-PP (Underground storage tank)

Background--The location and status of an abandoned underground fuel tank, TA-18-104, is not known. Engineering drawing R5112 notes it as being abandoned in 1966.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The location and condition of the tank will be determined during supplemental Phase I.

TA18-10-CA-I-PP (PCBs/oil leak)

Background--In the spring of 1982, a transformer at TA-18-136 was found to be leaking oil contaminated with PCBs. Approximately 50 m^3 of contaminated soil was removed and disposed of at Area G (Emelity 1982).

There is no indication of residual environmental contamination of concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

TA18-11-CA-I-HW/RW (Disposal)

Background--A 1963 report includes a map showing disposal apparently in or near the stream bed at TA-18. The report states, "Small quantities of wastes are discharged here occasionally."

No more information is given as to the type or form of the wastes (USGS 1963:33). Employees at the site do not remember any wastes, other than those from the photography laboratory drain line, being discharged directly to the stream (see TA-18-4).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of contamination in the stream bed will be determined during supplemental Phase I.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-18-1	PL-1	LABORATORY BUILDING		S 42+50 E197+50
TA-18-2	PL-2	BATTLESHIP BUILDING		S 37+50 E187+50
TA-18-3	PL-3		REMOVED 1945	
TA-18-4	PL-4		REMOVED 1945	
TA-18-5	PL-5	BATTLESHIP BUILDING		S 50+00 E182+50
TA-18-6	PL-6		REMOVED 1952	
TA-18-7	PL-7	SUBMARINE BUILDING	RELOCATED TO TA-27-1	
TA-18-8	PL-8	SUBMARINE BUILDING	RELOCATED TO TA-27-2	
TA-18-9	PL-9	INSTRUMENT CHAMBER	RELOCATED TO TA-27-3	
TA-18-10	PL-10	ASSEMBLY BUILDING	RELOCATED TO TA-5-1	
TA-18-11	PL-11		REMOVED 1960	
TA-18-12	PL-12		REMOVED 1960	
TA-18-13	PL-13		REMOVED 1950	
TA-18-14	PL-14		REMOVED 1964	
TA-18-15	PL-15	MAGAZINE	DEMOLISHED 1977	
TA-18-16	PL-16		REMOVED 1952	
TA-18-17	PL-17	WAREHOUSE	RELOCATED TO TA-20-46	
TA-18-18	PL-18		REMOVED 1983	
TA-18-19	PL-19		REMOVED 1983	
TA-18-20	PL-20		REMOVED 1952	
TA-18-21	PL-21	STORAGE BUILDING	RELOCATED TO TA-2-14	
TA-18-22	PL-22		REMOVED 1950	
TA-18-23	PL-23	ASSEMBLY BUILDING	KIVA NO. 1	S 35+00 E187+50
TA-18-24	PL-24		REMOVED 1958	
TA-18-25	PL-25		REMOVED 1958	
TA-18-26	PL-26	VAULT		S 42+50 E197+50
TA-18-27	PL-27	GUARD HOUSE	DEMOLISHED 1977	
TA-18-28	PL-28	WAREHOUSE		S 42+50 E197+50
TA-18-29	PL-29	LOG CABIN		S 45+00 E195+00
TA-18-30	PL-30	LABORATORY & OFFICE BLDG		S 42+50 E195+00
TA-18-31	PL-31	UTILITY BUILDING		S 45+00 E195+00
TA-18-32	PL-32	ASSEMBLY BUILDING	KIVA NO. 2	S 50+00 E182+50
TA-18-33	PL-33	TANK	WATER, UNDERGROUND	S 25+00 E187+50
TA-18-34	PL-34	TANK	WATER, UNDERGROUND	S 35+00 E185+00
TA-18-35	PL-35		REMOVED 1953	
TA-18-36	PL-36		REMOVED 1953	
TA-18-37	PL-37	GUARD HOUSE		S 45+00 E197+50
TA-18-38	PL-38	WASTE PIT & HOIST	DEMOLISHED 1977	
TA-18-39	PL-39	TANK	SEPTIC	S 37+50 E185+00
TA-18-40	PL-40	TANK	SEPTIC	S 45+00 E197+50
TA-18-41	PL-41	TANK	SEPTIC	S 43+00 E192+50
TA-18-42	PL-42	TANK	SEPTIC	S 50+00 E182+50
TA-18-43	PL-43	TANK	SEPTIC	S 42+50 E197+50
TA-18-44	PL-44	SWITCHGEAR STATION		S 45+00 E197+50
TA-18-45	PL-45	TRANSFORMER STATION		S 42+50 E197+50
TA-18-46	PL-46	TRANSFORMER STATION		S 37+50 E185+00
TA-18-47	PL-47	MANHOLE	SANITARY	S 45+00 E197+50
TA-18-48	PL-48	MANHOLE	SANITARY	S 45+00 E197+50
TA-18-49	PL-49	MANHOLE	ELECTRICAL	S 42+50 E195+00
TA-18-50	PL-50		REMOVED 1968	
TA-18-51	PL-51		REMOVED 1967	
TA-18-52	PL-52		REMOVED 1967	
TA-18-53	PL-53	MANHOLE	ELECTRICAL	S 40+00 E192+50
TA-18-54	PL-54	MANHOLE	ELECTRICAL	S 37+50 E190+00
TA-18-55	PL-55	MANHOLE	ELECTRICAL	S 37+50 E190+00
TA-18-56	PL-56	MANHOLE	ELECTRICAL	S 37+50 E187+50
TA-18-57	PL-57	MANHOLE	ELECTRICAL	S 35+00 E187+50
TA-18-58	PL-58	MANHOLE	ELECTRICAL	S 40+00 E192+50
TA-18-59	PL-59	MANHOLE	ELECTRICAL	S 42+50 E192+50
TA-18-60	PL-60	MANHOLE	ELECTRICAL	S 42+50 E192+50
TA-18-61	PL-61	MANHOLE	ELECTRICAL	S 42+50 E192+50
TA-18-62	PL-62	MANHOLE	ELECTRICAL	S 42+50 E195+00
TA-18-63	PL-63	MANHOLE	TELEPHONE	S 42+50 E195+00
TA-18-64	PL-64	MANHOLE	ELECTRICAL	S 42+50 E192+50
TA-18-65	PL-65	MANHOLE	TELEPHONE	S 42+50 E192+50
TA-18-66	PL-66	MANHOLE	ELECTRICAL	S 40+00 E192+50
TA-18-67	PL-67	MANHOLE	TELEPHONE	S 40+00 E192+50
TA-18-68	PL-68	MANHOLE	ELECTRICAL	S 40+00 E190+00
TA-18-69	PL-69	MANHOLE	TELEPHONE	S 40+00 E190+00
TA-18-70	PL-70	MANHOLE	ELECTRICAL	S 40+00 E187+50
TA-18-71	PL-71	MANHOLE	TELEPHONE	S 40+00 E187+50
TA-18-72	PL-72	MANHOLE	ELECTRICAL	S 40+00 E187+50
TA-18-73	PL-73	MANHOLE	TELEPHONE	S 37+50 E187+50
TA-18-74	PL-74	MANHOLE	ELECTRICAL	S 37+50 E185+00
TA-18-75	PL-75	MANHOLE	TELEPHONE	S 37+50 E185+00
TA-18-76	PL-76	MANHOLE	ELECTRICAL	S 45+00 E195+00
TA-18-77	PL-77	MANHOLE	ELECTRICAL	S 45+00 E192+50
TA-18-78	PL-78	MANHOLE	ELECTRICAL	S 45+00 E192+50
TA-18-79	PL-79	MANHOLE	ELECTRICAL	S 47+50 E192+50
TA-18-80	PL-80	MANHOLE	ELECTRICAL	S 47+50 E192+50
TA-18-81	PL-81	MANHOLE	ELECTRICAL	S 47+50 E190+00
TA-18-82	PL-82	MANHOLE	ELECTRICAL	S 47+50 E190+00
TA-18-83	PL-83	MANHOLE	ELECTRICAL	S 47+50 E187+50
TA-18-84	PL-84	MANHOLE	ELECTRICAL	S 47+50 E187+50
TA-18-85	PL-85	MANHOLE	ELECTRICAL	S 47+50 E187+50
TA-18-86	PL-86	MANHOLE	ELECTRICAL	S 47+50 E185+00
TA-18-87	PL-87	MANHOLE	ELECTRICAL	S 47+50 E185+00
TA-18-88	PL-88	MANHOLE	ELECTRICAL	S 50+00 E185+00
TA-18-89	PL-89	MANHOLE	ELECTRICAL	S 50+00 E182+50
TA-18-90	PL-90	MANHOLE	ELECTRICAL	S 50+00 E182+50
TA-18-91	PL-91	MANHOLE	ELECTRICAL	S 50+00 E182+50
TA-18-92	PL-92	HOSE HOUSE	TRANSFERRED TO ZIA 1957	S 42+50 E195+00
TA-18-93	PL-93	MANHOLE	SANITARY	S 42+50 E192+50
TA-18-94	PL-94	MANHOLE	ABANDONED 1953	S 45+00 E192+50
TA-18-95	PL-95	MANHOLE	ELECTRICAL	S 42+50 E195+00
TA-18-96	PL-96	MANHOLE	ELECTRICAL	S 50+00 E182+50
TA-18-97	PL-97	MANHOLE	ELECTRICAL	S 50+00 E182+50
TA-18-98	PL-98	MANHOLE	SANITARY	S 45+00 E195+00
TA-18-99	PL-99		REMOVED 1960	
TA-18-100	PL-100	MANHOLE	WATER P.R.V.	S 42+50 E195+00
TA-18-101	PL-101	MANHOLE	WATER P.R.V.	S 25+00 E190+00
TA-18-102	PL-102		REMOVED 1948	
TA-18-103	PL-103		REMOVED 1948	
TA-18-104	PL-104	TANK, FUEL UNDERGROUND	ABANDONED JUNE 1966	S 42+50 E197+50
TA-18-105	PL-105	MANHOLE	ACID SETTLING PIT	S 37+50 E185+00
TA-18-106	PL-106		REMOVED 1952	
TA-18-107	PL-107		REMOVED 1948	
TA-18-108	PL-108		REMOVED 1953	
TA-18-109	PL-109		REMOVED 1947	
TA-18-110	PL-110	DRUM STORAGE PLATFORM		S 42+50 E195+00
TA-18-111	PL-111		REMOVED 1961	
TA-18-112	PL-112		REMOVED 1961	
TA-18-113	PL-113	DISTRIBUTION BOX	SANITARY	S 42+50 E192+50
TA-18-114	PL-114		CANCELLED	
TA-18-115	PL-115	EXPERIMENTAL SLAB		S 50+00 E182+50
TA-18-116	PL-116	ASSEMBLY BUILDING	KIVA NO. 3	S 50+00 E197+50
TA-18-117	PL-117		CANCELLED	
TA-18-118	PL-118		CANCELLED	
TA-18-119	PL-119	STORAGE BUILDING		S 35+00 E185+00
TA-18-120	PL-120	TANK	SEPTIC	S 50+00 E197+50
TA-18-121	PL-121	MANHOLE	SANITARY	S 52+50 E197+50
TA-18-122	PL-122	STORAGE BUILDING		S 50+00 E182+50
TA-18-123	PL-123	ROAD BLOCK		S 47+50 E192+50
TA-18-124	PL-124	ROAD BLOCK		S 47+50 E192+50
TA-18-125	PL-125	ROAD BLOCK		S 42+50 E195+00
TA-18-126	PL-126	POWER PEDESTAL		S 45+00 E192+50
TA-18-127	PL-127	PULSED ACCEL. BUILDING		S 42+50 E185+00
TA-18-128	PL-128	ASSEMBLY COVER		S 50+00 E182+50
TA-18-129	PL-129	REACTOR SUB-ASSY. BLDG.		S 45+00 E197+50
TA-18-130	PL-130	MANHOLE	ELECTRICAL	S 42+50 E195+00
TA-18-131	PL-131	TANK	SHIELD	S 50+00 E182+50
TA-18-132	PL-132	CONTROL BOX	ELECTRICAL	S 47+50 E192+50
TA-18-133	PL-133	CONTROL BOX	ELECTRICAL	S 47+50 E192+50
TA-18-134	PL-134	CONTROL BOX	ELECTRICAL	S 47+50 E192+50
TA-18-135	PL-135	DISTRIBUTION BOX	SANITARY	S 47+50 E197+50
TA-18-136	PL-136	UNIT SUBSTATION		S 50+00 E200+00
TA-18-137	PL-137	BRIDGE		S 45+00 E192+50
TA-18-138	PL-138	WAREHOUSE		S 50+00 E197+50
TA-18-139	PL-139	CONTROL BOX	ELECTRICAL	S 42+50 E192+50
TA-18-140	PL-140	TRANSFORMER STATION		S 45+00 E195+00
TA-18-141	PL-141	ULTRA-SONIC CLEANING BLDG.		S 42+50 E197+50
TA-18-142	PL-142	SUBSTATION		S 42+50 E195+00
TA-18-143	PL-143	MANHOLE	ELECTRICAL	S 42+50 E195+00
TA-18-144	PL-144	MANHOLE	ELECTRICAL	S 42+50 E197+50
TA-18-145	PL-145	MANHOLE	TELEPHONE	S 42+50 E197+50
TA-18-146	PL-146			
TA-18-147	PL-147	OFFICE BUILDING		S 42+50 E197+50
TA-18-148	PL-148	TRANSFORMER STATION		S 42+50 E197+50
TA-18-149	PL-149	TRANSFORMER STATION		S 42+50 E197+50
TA-18-150	PL-150	TRANSFORMER STATION		S 50+00 E197+50
TA-18-151	PL-151		CANCELLED	
TA-18-152	PL-152	TANK	SEPTIC	S 42+50 E197+00
TA-18-153	PL-153	MANHOLE	SANITARY	S 42+50 E195+00
TA-18-154	PL-154	MANHOLE	SANITARY	S 45+00 E195+00
TA-18-155	PL-155	MANHOLE	SANITARY	S 45+00 E195+00
TA-18-156	PL-156	MANHOLE	SANITARY	S 45+00 E197+50
TA-18-157	PL-157	MANHOLE	SANITARY	S 45+00 E195+00
TA-18-158	PL-158	MANHOLE	SANITARY	S 47+50 E200+00
TA-18-159	PL-159	MANHOLE	SANITARY	S 47+50 E202+50
TA-18-160	PL-160	MANHOLE, SANITARY	410' SE OF STRUCT. 159	
TA-18-161	PL-161	MANHOLE, SANITARY	460' SE OF STRUCT. 160	
TA-18-162	PL-162	LAGOON, SANITARY	40' N. PL-161, N OF PAJARITO RD.	
TA-18-163	PL-163		REMOVED 1968	
TA-18-164	PL-164		REMOVED 1968	
TA-18-165	PL-165		CANCELLED	
TA-18-166	PL-166		CANCELLED	
TA-18-167	PL-167		CANCELLED	
TA-18-168	PL-168	DYNAMIC CRITICAL ASSAY FAC.	BLDG.	S 37+50 E185+00
TA-18-169	PL-169	MANHOLE, SANITARY	425' SE OF PL-161	
TA-18-170	PL-170	MANHOLE, SANITARY	318' SE OF PL-169	
TA-18-171	PL-171	MANHOLE, SANITARY	205' SE OF PL-170	
TA-18-172	PL-172	MANHOLE, SANITARY	333' SE OF PL-171	
TA-18-173	PL-173	MANHOLE, SANITARY	425' SE OF PL-172	
TA-18-174	PL-174	MANHOLE, SANITARY	425' SE OF PL-173	
TA-18-175	PL-175	MANHOLE, SANITARY	380' SE OF PL-174	
TA-18-176	PL-176	MANHOLE, SANITARY	360' SE OF PL-175	
TA-18-177	PL-177	MANHOLE, SANITARY	360' SE OF PL-176	
TA-18-178	PL-178	MANIFOLD		S 50+00 E197+50
TA-18-179	PL-179	TRANSFORMER STATION		S 37+50 E185+00
TA-18-180	PL-180	DISTRIBUTION BOX	60' SE OF PL-177	
TA-18-181	PL-181	FLOW CONTROL BOX, SANITARY	65' SE OF PL-180	
TA-18-182	PL-182	MANHOLE, WATER		S 25+00 E190+00
TA-18-183	PL-183		CANCELLED	

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV.	DATE	REVISION	BY	CKD	APP
18	9-21-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-27-83	HS	TB	DP

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-18 PAJARITO LABORATORY

SEC. CLASSIFICATION — CLASS: U — REVIEWER — DATE: 11-2-83

SUBMITTED — RECOMMENDED — APPROVED

DRAWN — CHECKED — DATE: 9-21-83 — SHEET NO. 1 of 2 — DRAWING NO. ENG-R 5112

Figure TA-18-1: Structure Location Plan for TA-18 - Pajarito Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

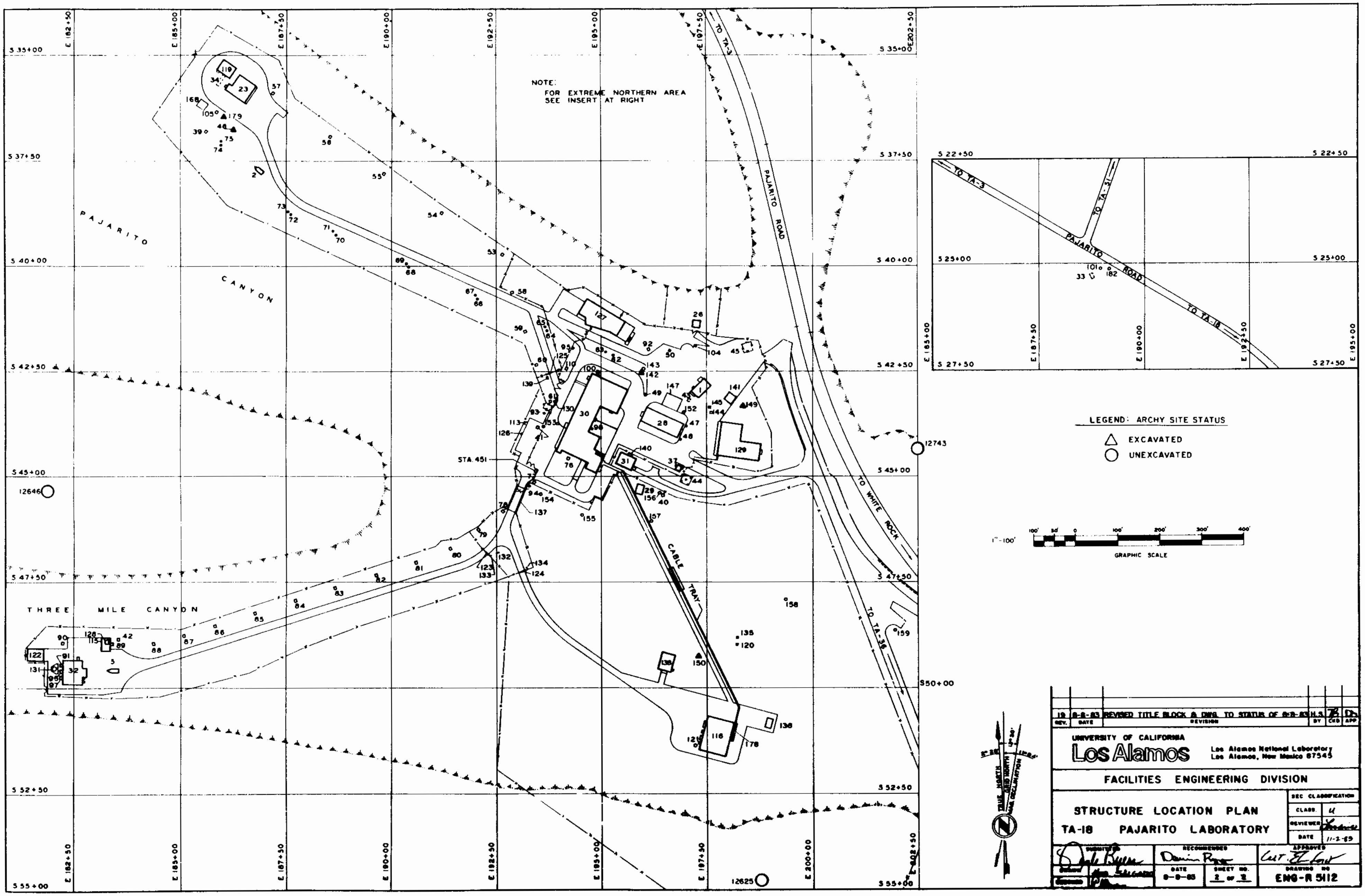


Figure TA-18-1: Structure Location Plan for TA-18 - Pajarito Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-18-1	PL-1	LABORATORY BUILDING		S 42+50 E197+50
TA-18-2	PL-2	BATTLESHIP BUILDING		S 37+50 E187+50
TA-18-3	PL-3		REMOVED 1945	
TA-18-4	PL-4		REMOVED 1945	
TA-18-5	PL-5	BATTLESHIP BUILDING		S 50+00 E182+50
TA-18-6	PL-6		REMOVED 1952	
TA-18-7	PL-7	SUBMARINE BUILDING	RELOCATED TO TA-27-1	
TA-18-8	PL-8	SUBMARINE BUILDING	RELOCATED TO TA-27-2	
TA-18-9	PL-9	INSTRUMENT CHAMBER	RELOCATED TO TA-27-3	
TA-18-10	PL-10	ASSEMBLY BUILDING	RELOCATED TO TA-5-1	
TA-18-11	PL-11		REMOVED 1960	
TA-18-12	PL-12		REMOVED 1960	
TA-18-13	PL-13		REMOVED 1950	
TA-18-14	PL-14		REMOVED 1964	
TA-18-15	PL-15	MAGAZINE	DEMOLISHED 1977	
TA-18-16	PL-16		REMOVED 1952	
TA-18-17	PL-17	WAREHOUSE	RELOCATED TO TA-20-46	
TA-18-18	PL-18		REMOVED 1963	
TA-18-19	PL-19		REMOVED 1963	
TA-18-20	PL-20		REMOVED 1952	
TA-18-21	PL-21	STORAGE BUILDING	RELOCATED TO TA-2-14	
TA-18-22	PL-22		REMOVED 1950	
TA-18-23	PL-23	ASSEMBLY BUILDING	KIVA NO. 1	S 35+00 E187+50
TA-18-24	PL-24		REMOVED 1958	
TA-18-25	PL-25		REMOVED 1958	
TA-18-26	PL-26	VAULT		S 42+50 E197+50
TA-18-27	PL-27	GUARD HOUSE	DEMOLISHED 1977	
TA-18-28	PL-28	WAREHOUSE		S 42+50 E197+50
TA-18-29	PL-29	LOG CABIN		S 45+00 E195+00
TA-18-30	PL-30	LABORATORY & OFFICE BLDG		S 42+50 E195+00
TA-18-31	PL-31	UTILITY BUILDING		S 45+00 E195+00
TA-18-32	PL-32	ASSEMBLY BUILDING	KIVA NO. 2	S 50+00 E182+50
TA-18-33	PL-33	TANK	WATER, UNDERGROUND	S 25+00 E187+50
TA-18-34	PL-34	TANK	WATER, UNDERGROUND	S 35+00 E185+00
TA-18-35	PL-35		REMOVED 1953	
TA-18-36	PL-36		REMOVED 1953	
TA-18-37	PL-37	GUARD HOUSE		S 45+00 E197+50
TA-18-38	PL-38	WASTE PIT & HOIST	DEMOLISHED 1977	
TA-18-39	PL-39	TANK	SEPTIC Kiva1	S 37+50 E185+00
TA-18-40	PL-40	TANK	SEPTIC	S 45+00 E197+50
TA-18-41	PL-41	TANK ?	SEPTIC	S 45+00 E192+50
TA-18-42	PL-42	TANK ?	SEPTIC Kiva 2	S 50+00 E182+50
TA-18-43	PL-43	TANK	SEPTIC	S 42+50 E197+50
TA-18-44	PL-44	SWITCHGEAR STATION		S 45+00 E197+50
TA-18-45	PL-45	TRANSFORMER STATION		S 42+50 E197+50
TA-18-46	PL-46	TRANSFORMER STATION		S 37+50 E185+00
TA-18-47	PL-47	MANHOLE	SANITARY	S 45+00 E197+50
TA-18-48	PL-48	MANHOLE	SANITARY	S 45+00 E197+50
TA-18-49	PL-49	MANHOLE	ELECTRICAL	S 42+50 E195+00
TA-18-50	PL-50		REMOVED 1968	
TA-18-51	PL-51	MANHOLE	REMOVED 1965	
TA-18-52	PL-52	MANHOLE	REMOVED 1965	
TA-18-53	PL-53	MANHOLE	ELECTRICAL	S 40+00 E192+50
TA-18-54	PL-54	MANHOLE	ELECTRICAL	S 37+50 E190+00
TA-18-55	PL-55	MANHOLE	ELECTRICAL	S 37+50 E190+00
TA-18-56	PL-56	MANHOLE	ELECTRICAL	S 37+50 E187+50
TA-18-57	PL-57	MANHOLE	ELECTRICAL	S 35+00 E187+50
TA-18-58	PL-58	MANHOLE	ELECTRICAL	S 40+00 E192+50
TA-18-59	PL-59	MANHOLE	ELECTRICAL	S 42+50 E192+50
TA-18-60	PL-60	MANHOLE	ELECTRICAL	S 42+50 E192+50
TA-18-61	PL-61	MANHOLE	ELECTRICAL	S 42+50 E192+50
TA-18-62	PL-62	MANHOLE	ELECTRICAL	S 42+50 E195+00
TA-18-63	PL-63	MANHOLE	TELEPHONE	S 42+50 E195+00
TA-18-64	PL-64	MANHOLE	ELECTRICAL	S 42+50 E192+50
TA-18-65	PL-65	MANHOLE	TELEPHONE	S 42+50 E192+50
TA-18-66	PL-66	MANHOLE	ELECTRICAL	S 40+00 E192+50
TA-18-67	PL-67	MANHOLE	TELEPHONE	S 40+00 E192+50
TA-18-68	PL-68	MANHOLE	ELECTRICAL	S 40+00 E190+00
TA-18-69	PL-69	MANHOLE	TELEPHONE	S 40+00 E190+00
TA-18-70	PL-70	MANHOLE	ELECTRICAL	S 40+00 E187+50
TA-18-71	PL-71	MANHOLE	TELEPHONE	S 40+00 E187+50
TA-18-72	PL-72	MANHOLE	ELECTRICAL	S 40+00 E187+50
TA-18-73	PL-73	MANHOLE	TELEPHONE	S 37+50 E187+50
TA-18-74	PL-74	MANHOLE	ELECTRICAL	S 37+50 E185+00
TA-18-75	PL-75	MANHOLE	TELEPHONE	S 37+50 E185+00
TA-18-76	PL-76	MANHOLE	ELECTRICAL	S 45+00 E195+00
TA-18-77	PL-77	MANHOLE	ELECTRICAL	S 45+00 E192+50
TA-18-78	PL-78	MANHOLE	ELECTRICAL	S 45+00 E192+50
TA-18-79	PL-79	MANHOLE	ELECTRICAL	S 47+50 E192+50
TA-18-80	PL-80	MANHOLE	ELECTRICAL	S 47+50 E192+50
TA-18-81	PL-81	MANHOLE	ELECTRICAL	S 47+50 E190+00
TA-18-82	PL-82	MANHOLE	ELECTRICAL	S 47+50 E190+00
TA-18-83	PL-83	MANHOLE	ELECTRICAL	S 47+50 E187+50
TA-18-84	PL-84	MANHOLE	ELECTRICAL	S 47+50 E187+50
TA-18-85	PL-85	MANHOLE	ELECTRICAL	S 47+50 E187+50
TA-18-86	PL-86	MANHOLE	ELECTRICAL	S 47+50 E185+00
TA-18-87	PL-87	MANHOLE	ELECTRICAL	S 47+50 E185+00
TA-18-88	PL-88	MANHOLE	ELECTRICAL	S 50+00 E185+00
TA-18-89	PL-89	MANHOLE	ELECTRICAL	S 50+00 E182+50
TA-18-90	PL-90	MANHOLE	ELECTRICAL	S 50+00 E182+50
TA-18-91	PL-91	MANHOLE	ELECTRICAL	S 50+00 E182+50
TA-18-92	PL-92	HOSE HOUSE	TRANSFERRED TO ZIA 1957	S 42+50 E195+00
TA-18-93	PL-93	MANHOLE	SANITARY	S 42+50 E192+50
TA-18-94	PL-94	MANHOLE	ABANDONED 1953	S 45+00 E192+50
TA-18-95	PL-95	MANHOLE	ELECTRICAL	S 42+50 E195+00
TA-18-96	PL-96	MANHOLE	ELECTRICAL	S 50+00 E182+50
TA-18-97	PL-97	MANHOLE	ELECTRICAL	S 50+00 E182+50
TA-18-98	PL-98	MANHOLE	SANITARY	S 45+00 E195+00
TA-18-99	PL-99		REMOVED 1960	
TA-18-100	PL-100	MANHOLE	WATER PRV.	S 42+50 E195+00
TA-18-101	PL-101	MANHOLE	WATER PRV	S 25+00 E190+00
TA-18-102	PL-102		REMOVED 1948	
TA-18-103	PL-103		REMOVED 1948	
TA-18-104	PL-104	TANK, FUEL UNDERGROUND	ABANDONED JUNE 1966	S 42+50 E197+50
TA-18-105	PL-105	MANHOLE	ACID SETTLING PIT	S 37+50 E185+00
TA-18-106	PL-106		REMOVED 1952	
TA-18-107	PL-107		REMOVED 1948	
TA-18-108	PL-108		REMOVED 1953	
TA-18-109	PL-109		REMOVED 1947	
TA-18-110	PL-110	DRUM STORAGE PLATFORM		S 42+50 E195+00
TA-18-111	PL-111		REMOVED 1961	
TA-18-112	PL-112		REMOVED 1961	
TA-18-113	PL-113	DISTRIBUTION BOX	SANITARY	S 42+50 E192+50
TA-18-114	PL-114	GUARD HOUSE	CANCELLED 1958	
TA-18-115	PL-115	EXPERIMENTAL SLAB		S 50+00 E182+50
TA-18-116	PL-116	ASSEMBLY BUILDING	KIVA NO. 3	S 50+00 E197+50
TA-18-117	PL-117	CONTROL BUILDING	CANCELLED	
TA-18-118	PL-118	PROMPT BURST FACILITY	CANCELLED	
TA-18-119	PL-119	STORAGE BUILDING		S 35+00 E185+00
TA-18-120	PL-120	TANK	SEPTIC	S 50+00 E197+50
TA-18-121	PL-121	MANHOLE	SANITARY	S 52+50 E197+50
TA-18-122	PL-122	STORAGE BUILDING		S 50+00 E182+50
TA-18-123	PL-123	ROAD BLOCK		S 47+50 E192+50
TA-18-124	PL-124	ROAD BLOCK		S 47+50 E192+50
TA-18-125	PL-125	ROAD BLOCK		S 42+50 E195+00
TA-18-126	PL-126	POWER PEDESTAL		S 45+00 E192+50
TA-18-127	PL-127	PULSED ACCEL. BUILDING		S 42+50 E195+00
TA-18-128	PL-128	ASSEMBLY COVER		S 50+00 E182+50
TA-18-129	PL-129	REACTOR SUB-ASSY. BLDG.		S 45+00 E197+50
TA-18-130	PL-130	MANHOLE	ELECTRICAL	S 42+50 E195+00
TA-18-131	PL-131	TANK	SHIELD	S 50+00 E182+50
TA-18-132	PL-132	CONTROL BOX	ELECTRICAL	S 47+50 E192+50
TA-18-133	PL-133	CONTROL BOX	ELECTRICAL	S 47+50 E192+50
TA-18-134	PL-134	CONTROL BOX	ELECTRICAL	S 47+50 E192+50
TA-18-135	PL-135	DISTRIBUTION BOX	SANITARY	S 47+50 E197+50
TA-18-136	PL-136	UNIT SUBSTATION		S 50+00 E200+00
TA-18-137	PL-137	BRIDGE		S 45+00 E192+50
TA-18-138	PL-138	WAREHOUSE		S 50+00 E197+50
TA-18-139	PL-139	CONTROL BOX	ELECTRICAL	S 42+50 E192+50
TA-18-140	PL-140	TRANSFORMER STATION		S 45+00 E195+00
TA-18-141	PL-141	ULTRA-SONIC CLEANING BLDG		S 42+50 E197+50
TA-18-142	PL-142	SUBSTATION		S 42+50 E195+00
TA-18-143	PL-143	MANHOLE		S 42+50 E195+00
TA-18-144	PL-144	MANHOLE	ELECTRICAL	S 42+50 E197+50
TA-18-145	PL-145	MANHOLE	TELEPHONE	S 42+50 E197+50
TA-18-146	PL-146			
TA-18-147	PL-147	OFFICE BUILDING		S 42+50 E197+50
TA-18-148	PL-148	TRANSFORMER STATION		S 42+50 E197+50
TA-18-149	PL-149	TRANSFORMER STATION		S 42+50 E197+50
TA-18-150	PL-150	TRANSFORMER STATION		S 50+00 E197+50
TA-18-151	PL-151		CANCELLED	
TA-18-152	PL-152 ?	TANK	SEPTIC	S 42+50 E197+00
TA-18-153	PL-153	MANHOLE	SANITARY	S 42+50 E195+00
TA-18-154	PL-154	MANHOLE	SANITARY	S 45+00 E195+00
TA-18-155	PL-155	MANHOLE	SANITARY	S 45+00 E195+00
TA-18-156	PL-156	MANHOLE	SANITARY	S 45+00 E197+50
TA-18-157	PL-157	MANHOLE	SANITARY	S 45+00 E195+00
TA-18-158	PL-158	MANHOLE	SANITARY	S 47+50 E200+00
TA-18-159	PL-159	MANHOLE	SANITARY	S 47+50 E202+50
TA-18-160	PL-160	MANHOLE, SANITARY	410' SE OF STRUCT 159	
TA-18-161	PL-161	MANHOLE, SANITARY	460' SE OF STRUCT. 160	
TA-18-162	PL-162	LAGOON, SANITARY	40' N PL-161, N OF PAJARITO RD	
TA-18-163	PL-163	TRAILER, OFFICE	RENUMBERED ULR-309, MOVED TO TA 35	
TA-18-164	PL-164		REMOVED NOV. 1968	
TA-18-165	PL-165			
TA-18-166	PL-166			
TA-18-167	PL-167			
TA-18-168	PL-168	DYNAMIC CRITICAL ASSAY FAC.	BLDG.	S 37+50 E185+00
TA-18-169	PL-169	MANHOLE, SANITARY	425' SE OF PL-161	
TA-18-170	PL-170	MANHOLE, SANITARY	318' SE OF PL-169	
TA-18-171	PL-171	MANHOLE, SANITARY	205' SE OF PL-170	
TA-18-172	PL-172	MANHOLE, SANITARY	333' SE OF PL-171	
TA-18-173	PL-173	MANHOLE, SANITARY	425' SE OF PL-172	
TA-18-174	PL-174	MANHOLE, SANITARY	425' SE OF PL-173	
TA-18-175	PL-175	MANHOLE, SANITARY	380' SE OF PL-174	
TA-18-176	PL-176	MANHOLE, SANITARY	360' SE OF PL-175	
TA-18-177	PL-177	MANHOLE, SANITARY	360' SE OF PL-176	
TA-18-178	PL-178	MANIFOLD		S 50+00 E197+50
TA-18-179	PL-179	TRANSFORMER STATION		S 37+50 E185+00
TA-18-180	PL-180	DISTRIBUTION BOX	60' SE OF PL-177	
TA-18-181	PL-181	FLOW CONTROL BOX, SANITARY	65' SE OF PL-180	
TA-18-182	PL-182	MANHOLE, WATER		S 25+00 E190+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA 0-547	ULR-547	TRAILER	OFFICE	S42+50 E195+00
TA 0 654	ULR-654	TRAILER	OFFICE	S42+50 E197+50

REVIEWER

CLASS ______ DATE

NO	DATE	REVISIONS	BY	CHKD	GRP LDR	ENG D.O.
17	7-17-78	REVISED TO STATUS OF 7-17-78	SV			
16	4-6-77	REVISED DWG NO (FORMERLY R2445)	MM			
15	11-4-75	REVISED TO STATUS OF 11-4-75	BH			
14	8-20-74	REVISED TO STATUS OF 8-20-74	BH			
13	2-14-72	REVISED TO STATUS OF 2-14-72	DAD			
12	10-29-69	REVISED TO STATUS OF 10-29-69	DAD			
11	11-8-65	REVISED TO STATUS OF 10-13-65	ERW			
10	3-3-64	REVISED TO STATUS OF 12-24-63	DLG			
9	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG R136)	NOB			

MF

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-18 PAJARITO LABORATORY

CHECKED: PROJ ENG
RECOMMENDED: GROUP LEADER
APPROVED: ENG DEPT OFFICE
DESIGNER
DRAWN: BYERS
SCALE: NONE
DATE: 8-15-61
SHEET NO: 1
DRAWING NO: ENG-R5112

Figure TA-18-2: Structure Location Plan for TA-18 - Pajarito Site
(1957 Drawing from the LANL Technical Area Structure Location Plans)

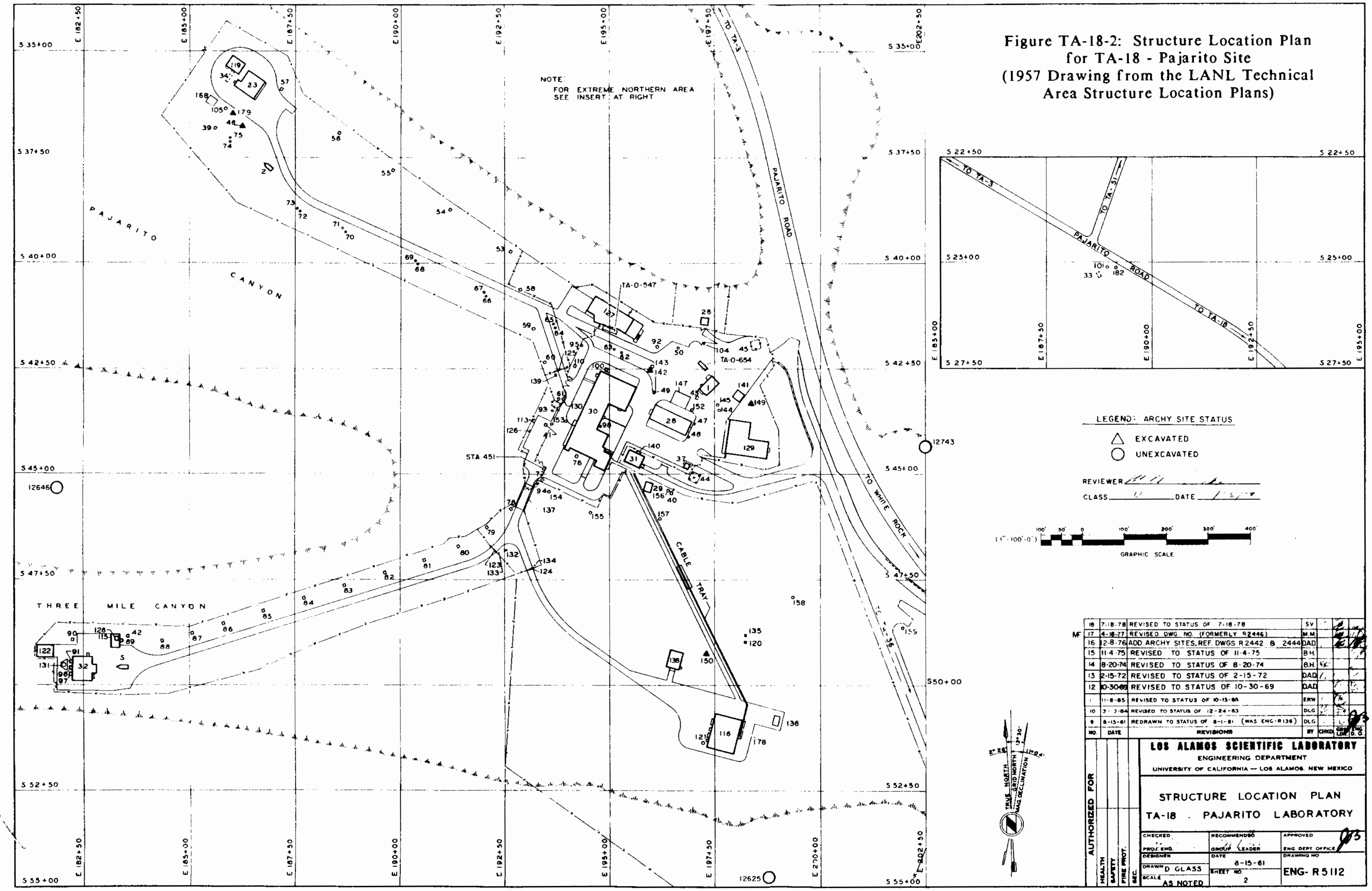
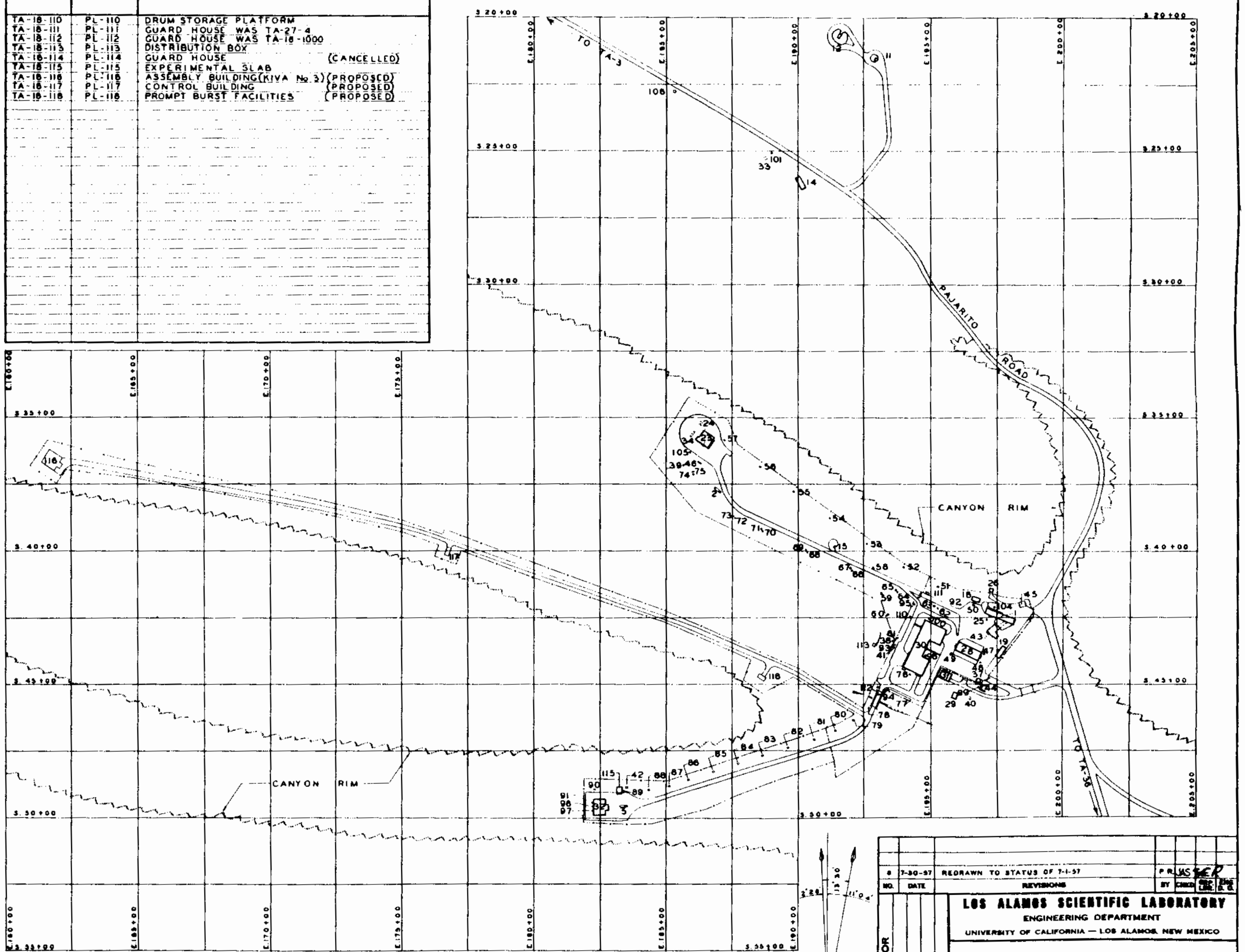


Figure TA-18-2: Structure Location Plan for TA-18 - Pajarito Site (1957 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-18-1	PL-1	LABORATORY BLDG.
TA-18-2	PL-2	BATTLESHIP BLDG.
TA-18-3	PL-3	CHAMBER (REMOVED) 1945
TA-18-4	PL-4	CHAMBER (REMOVED) 1945
TA-18-5	PL-5	BATTLESHIP BLDG.
TA-18-6	PL-6	SUBMARINE BLDG. (REMOVED) 1951
TA-18-7	PL-7	SUBMARINE BLDG. (RELOCATED TO TA-27)
TA-18-8	PL-8	SUBMARINE BLDG. (RELOCATED TO TA-27)
TA-18-9	PL-9	INSTRUMENT CHAMBER (RELOCATED TO TA-27)
TA-18-10	PL-10	ASSEMBLY BLDG. (REMOVED) 1947
TA-18-11	PL-11	MAGAZINE
TA-18-12	PL-12	MAGAZINE
TA-18-13	PL-13	LUMBER STORAGE (REMOVED)
TA-18-14	PL-14	CARPENTER SHOP
TA-18-15	PL-15	MAGAZINE
TA-18-16	PL-16	BATTERY BLDG. & CONDUIT SYSTEM (REMOVED)
TA-18-17	PL-17	WAREHOUSE (REMOVED) 1951
TA-18-18	PL-18	COUNTING BLDG.
TA-18-19	PL-19	LABORATORY BLDG.
TA-18-20	PL-20	CARPENTER SHOP (REMOVED)
TA-18-21	PL-21	STORAGE BLDG. (REMOVED) 1949
TA-18-22	PL-22	GENERATOR BLDG. (REMOVED) 1950
TA-18-23	PL-23	ASSEMBLY BLDG. (KIVA No. 1)
TA-18-24	PL-24	GUARD TOWER A (WEST)
TA-18-25	PL-25	GUARD TOWER B (EAST)
TA-18-26	PL-26	VAULT (FORMERLY BLDG. 17)
TA-18-27	PL-27	GUARD - BLDG. (ABANDONED)
TA-18-28	PL-28	WAREHOUSE (FORMERLY BLDG. 19)
TA-18-29	PL-29	LOG CABIN
TA-18-30	PL-30	LABORATORY & OFFICE BLDG.
TA-18-31	PL-31	UTILITY BLDG.
TA-18-32	PL-32	ASSEMBLY BLDG. (KIVA No. 2)
TA-18-33	PL-33	UNDERGROUND TANK
TA-18-34	PL-34	WATER TANK
TA-18-35	PL-35	PROPANE TANK (REMOVED) 1953
TA-18-36	PL-36	PROPANE TANK (REMOVED) 1953
TA-18-37	PL-37	GUARD HOUSE (STATION 450)
TA-18-38	PL-38	WASTE PIT & HOIST
TA-18-39	PL-39	SEPTIC TANK
TA-18-40	PL-40	SEPTIC TANK
TA-18-41	PL-41	SEPTIC TANK
TA-18-42	PL-42	SEPTIC TANK
TA-18-43	PL-43	SEPTIC TANK
TA-18-44	PL-44	TRANSFORMER STATION
TA-18-45	PL-45	TRANSFORMER STATION
TA-18-46	PL-46	TRANSFORMER STATION
TA-18-47	PL-47	MANHOLE (SEWER)
TA-18-48	PL-48	MANHOLE (SEWER)
TA-18-49	PL-49	MANHOLE (ELECTRIC)
TA-18-50	PL-50	MANHOLE (CONTROL)
TA-18-51	PL-51	MANHOLE (CONTROL)
TA-18-52	PL-52	MANHOLE (CONTROL)
TA-18-53	PL-53	MANHOLE (CONTROL)
TA-18-54	PL-54	MANHOLE (CONTROL)
TA-18-55	PL-55	MANHOLE (CONTROL)
TA-18-56	PL-56	MANHOLE (CONTROL)
TA-18-57	PL-57	MANHOLE (CONTROL)
TA-18-58	PL-58	MANHOLE (ELECTRIC)
TA-18-59	PL-59	MANHOLE (ELECTRIC)
TA-18-60	PL-60	MANHOLE (SEWER)
TA-18-61	PL-61	MANHOLE (SEWER)
TA-18-62	PL-62	MANHOLE (CONTROL)
TA-18-63	PL-63	MANHOLE (TELEPHONE)
TA-18-64	PL-64	MANHOLE (CONTROL)
TA-18-65	PL-65	MANHOLE (TELEPHONE)
TA-18-66	PL-66	MANHOLE (CONTROL)
TA-18-67	PL-67	MANHOLE (TELEPHONE)
TA-18-68	PL-68	MANHOLE (CONTROL)
TA-18-69	PL-69	MANHOLE (TELEPHONE)
TA-18-70	PL-70	MANHOLE (CONTROL)
TA-18-71	PL-71	MANHOLE (TELEPHONE)
TA-18-72	PL-72	MANHOLE (CONTROL)
TA-18-73	PL-73	MANHOLE (TELEPHONE)
TA-18-74	PL-74	MANHOLE (CONTROL)
TA-18-75	PL-75	MANHOLE (TELEPHONE)
TA-18-76	PL-76	MANHOLE (ELECTRIC)
TA-18-77	PL-77	MANHOLE (ELECTRIC)
TA-18-78	PL-78	MANHOLE (ELECTRIC)
TA-18-79	PL-79	MANHOLE (ELECTRIC)
TA-18-80	PL-80	MANHOLE (ELECTRIC)
TA-18-81	PL-81	MANHOLE (ELECTRIC)
TA-18-82	PL-82	MANHOLE (ELECTRIC)
TA-18-83	PL-83	MANHOLE (ELECTRIC)
TA-18-84	PL-84	MANHOLE (ELECTRIC)
TA-18-85	PL-85	MANHOLE (ELECTRIC)
TA-18-86	PL-86	MANHOLE (ELECTRIC)
TA-18-87	PL-87	MANHOLE (ELECTRIC)
TA-18-88	PL-88	MANHOLE (ELECTRIC)
TA-18-89	PL-89	MANHOLE (ELECTRIC)
TA-18-90	PL-90	MANHOLE (ELECTRIC)
TA-18-91	PL-91	MANHOLE (ELECTRIC)
TA-18-92	PL-92	HOSEHOUSE
TA-18-93	PL-93	MANHOLE (HANDHOLE)
TA-18-94	PL-94	MANHOLE (HANDHOLE)
TA-18-95	PL-95	MANHOLE (HANDHOLE)
TA-18-96	PL-96	MANHOLE (ELECTRIC)
TA-18-97	PL-97	MANHOLE (ELECTRIC)
TA-18-98	PL-98	MANHOLE (SEWER)
TA-18-99	PL-99	MANHOLE (ELECTRIC)
TA-18-100	PL-100	MANHOLE (WATER)
TA-18-101	PL-101	MANHOLE (ELECTRIC)
TA-18-102	PL-102	WATER TANK (REMOVED)
TA-18-103	PL-103	WATER TANK (REMOVED)
TA-18-104	PL-104	OIL TANK (UNDERGROUND)
TA-18-105	PL-105	MANHOLE (SETTLING-PIT)
TA-18-106	PL-106	TRANSFORMER STATION (REMOVED) 1952
TA-18-107	PL-107	SENTRY BUILDING (REMOVED) 1948
TA-18-108	PL-108	SIREN
TA-18-109	PL-109	TRANSFORMER STATION (REMOVED)

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-18-110	PL-110	DRUM STORAGE PLATFORM
TA-18-111	PL-111	GUARD HOUSE WAS TA-27-4
TA-18-112	PL-112	GUARD HOUSE WAS TA-18-1000
TA-18-113	PL-113	DISTRIBUTION BOX
TA-18-114	PL-114	GUARD HOUSE (CANCELLED)
TA-18-115	PL-115	EXPERIMENTAL SLAB
TA-18-116	PL-116	ASSEMBLY BUILDING (KIVA No. 3) (PROPOSED)
TA-18-117	PL-117	CONTROL BUILDING (PROPOSED)
TA-18-118	PL-118	PROMPT BURST FACILITIES (PROPOSED)



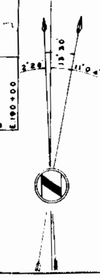


Figure TA-18-3: Structure Location Plan for TA-18 - Pajarito Site
(1957 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

NO.	DATE	REVISIONS	BY
8	7-30-57	REDRAWN TO STATUS OF 7-1-57	

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

STRUCTURE LOCATION PLAN
TA-18 PAJARITO LABORATORY

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

CHECKED: PROJ. ENG. — RECOMMENDED: GROUP LEADER — APPROVED: ENG. DEPT. OFFICE
DESIGNER — DATE: 7-30-57 — DRAWING NO.: ENG-R 138
DRAWN: M BOND — SHEET: 1 OF 1
SCALE: 1" = 200'

TA-19 - EAST GATE LABORATORY

CURRENT OPERATIONS

East Gate Laboratory was not used after about 1956. The site has been decommissioned--the buildings have been removed.

POTENTIAL CERCLA/RCRA SITES

Animal irradiation experiments were conducted at East Gate Laboratory, TA-19, using a sealed 300-Ci cobalt-60 source (SOP 1961). Physics Group P-8 also used the buildings for a limited time. A battery building, guard building, and latrine were removed in 1956. The remaining three buildings and a septic tank were transferred to the DOE Los Alamos Area Office (LAAO) in 1962 for Civil Defense purposes. LAAO later authorized the Los Alamos Radio Club to use the site.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-19. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-19 is 7.0 (Appendix B).

FIGURES

Figure TA-19-1: Structure Location Plan for TA-19 - East Gate Laboratory (1955).

REFERENCES

Employee Interviews. 1984. Los Alamos National Laboratory employee interview with CEARP team, December 5, 1984.

Engineering Division. n.d. Los Alamos National Laboratory engineering records.

H Division. 1952. "H Division Progress Report," Los Alamos Scientific Laboratory, November 20-December 20, 1952.

H Division. 1958. "H Division Progress Report," Los Alamos Scientific Laboratory, August 20-September 20, 1958.

H Division. 1960. "H Division Progress Report," Los Alamos Scientific Laboratory, January 20-February 20, 1960.

LASL. 1947. "A Technical Maintenance Group Report on General Background Data Concerning Los Alamos Scientific Laboratory Required for Planning Purposes," Los Alamos Scientific Laboratory report LAB-A-5, September 11, 1947.

Maddy, James R. 1957. "Use of East Gate Pass Office Building," Atomic Energy Commission memorandum to Thomas L. Shipman, Los Alamos Scientific Laboratory, March 29, 1957.

Shipman, T. L. 1960. "Los Alamos Scientific Laboratory Motel Site," Los Alamos Scientific Laboratory memorandum to R. E. Dunning, LAAO, February 3, 1960.

SOP. 1961. Los Alamos Scientific Laboratory, "Standard Operating Procedures for TA-19," February 24, 1961.

TABLE TA-19 - POTENTIAL CERCLA/RCRA SITES

TA19-1-ST-I-HW/RW (Septic tank)

Background--This small site, which consisted of a laboratory building and a storage hutment in 1947, was constructed in the summer of 1944 for Dr. Emilio Segre, "who needed an isolated spot for exacting experimental work on small sources." Because construction was rushed, the site was located just east of Los Alamos Laboratory (LASL 1947:17).

Early work included spontaneous fission experiments (Employee Interviews 1984). More buildings were added until the site consisted of a laboratory building, battery building, guard building, latrine, retreat building, septic tank, and shelter building (Engineering Division n.d.) In 1952, trimethyl borate was reported mixed with toluene and other materials at East Gate Laboratory (H Division 1952). A 1957 memo states, "Radioactive source material is now stored, or has been stored, in the old East Laboratory Building" (Maddy 1957). In 1958, H-4 reported that an employee was exposed to radioactivity while working in the East Gate Laboratory calibration building (H Division 1958:3). Activity at East Gate was reported in 1960 to have resulted in external radiation offsite (H Division 1960:10; Shipman 1960), and in 1961 a 300-Ci cobalt-60 source was reported to be in use (SOP 1961).

Engineering records indicate that in 1956 the battery building, guard building, and latrine were removed. In 1962, the laboratory building, retreat building, and shelter building were transferred to the Zia Company and assigned to the Municipal Activities Branch, Los Alamos Area Office of DOE, for Civil Defense purposes. The 1986 CEARP field survey indicated that the rest of the buildings have been removed and all that remains is the septic tank, TA-19-6.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the septic tank will be sampled for gross alpha and beta/gamma contamination, and a reconnaissance survey will be made for radiation in the area.

TA19-2-CA-I-HW (Debris)

Background--The 1986 CEARP field survey observed that pieces of the former buildings remained at the site, and a small number of battery pieces had been disposed of over the cliff to the north of the site.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The debris will be evaluated during supplemental CEARP Phase I reconnaissance.

OFFICIAL USE ONLY

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-19-1	EGL-1	LABORATORY BLDG.
TA-19-2	EGL-2	BATTERY BLDG.
TA-19-3	EGL-3	GUARD BLDG. (REMOVED) 1956
TA-19-4	EGL-4	LATRINE (REMOVED) 1956
TA-19-5	EGL-5	RETREAT BLDG.
TA-19-6	EGL-6	SEPTIC TANK (SANITARY)

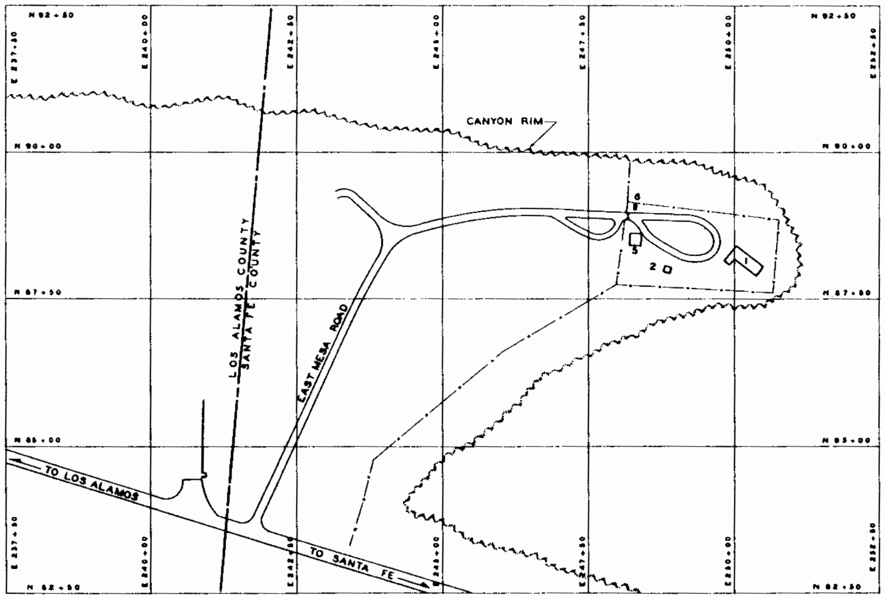


Figure TA-19-1: Structure Location Plan for TA-19 - East Gate Laboratory (1955).
(1955 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

NO.	DATE	REVISIONS	BY	CHKD
6	9-17-57	REVISED TO STATUS OF 7-1-57	P.R.	NB
7	10/3/55	REDRAWN TO STATUS OF JULY 1, 1955	HOB	JAS

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-19 EAST GATE LABORATORY

CHECKED — DESIGNER | RECOMMENDED — GROUP LEADER | APPROVED

DRAWN: N. BYERS | DATE: 10/3/55 | DRAWING NO.: ENG- R 137
SCALE: 1" = 100' | SHEET: 1 OF 1

TA-20 - SANDIA CANYON SITE

CURRENT OPERATIONS

TA-20 was abandoned around 1947 so a truck route could be built to Los Alamos. Several structures were left standing along the route for security purposes because the town and Laboratory were closed to the public until 1957. The remaining buildings are now used in conjunction with the firing range for Laboratory security forces.

POTENTIAL CERCLA/RCRA SITES

TA-20 was used during World War II mainly as a proving ground for initiators, devices that add extra neutrons for a nuclear explosion. Initiator tests were principally of two sizes--25 lb or 200 lb of high explosive driving a device normally made of polonium-210, beryllium, and nickel. The initiators were designed so they could be recovered and examined.

Equation-of-state studies were conducted with a smooth-bore Navy gun, and timing tests on initiators were performed with a 20-mm gun. After the initiator work was finished, various researchers did their own experiments at the site. The Electric (pin) Method Group, M-4, probably did fewer than 10 tests at the site around 1946. One test involving 500 lb of high explosive went low-order, scattering high explosive about.

There are recollections of up to three disposal pits having been in the canyon, but they have never been located, even though searches have been made (Drake 1973). It is possible the pits were excavated. Geophysical surveys were performed during 1986 within the suspected areas in attempts to locate the pits. The principal contaminant, polonium-210, has decayed away. Other minor contaminants might be uranium or beryllium.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I will be documented in the CEARP Phase IIA

Monitoring Plan for TA-20. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-20 is 12.6 (Appendix B).

FIGURES

Figure TA-20-1: Structure Location Plan for TA-20 - Sandia Canyon Site (1950)

REFERENCES

Buckland, Carl. 1948. "Sandia Canyon--Clearing for Future Public Road, Picnic Area," Los Alamos Scientific Laboratory memorandum to Roger J. Westcott, April 20, 1948.

Drake, R. W. 1973. "Biennial Inspection, TAs 10, 20, and 27," Los Alamos Scientific Laboratory memorandum, May 8, 1973.

Engineering Division, LANL. 1965. "Probable Burial Areas: Former Sandia Canyon Site, TA-20," Los Alamos Scientific Laboratory memorandum to Roy Reider, H-3, April 21, 1965.

Littlejohn, G. J. 1946. "Monitoring of Sandia Equipment," Los Alamos Scientific Laboratory memorandum to L. H. Hepplemann, M.D., November 26, 1946.

Truslow, E. C., and R. C. Smith. 1983. "Project Y: The Los Alamos Story; Part II, Beyond Trinity," Tomash Publishers, Los Angeles.

TABLE TA-20 - POTENTIAL CERCLA/RCRA SITES

TA20-1-L-I-HW/RW (Three disposal pits)

Background--In a 1965 memo from the Engineering Department to Roy Reider of H-3, a past employee describes the contents of three burial areas:

"Area 1: In this general area metal scrap and contaminated metal scrap are buried in a relatively small hole, probably not more than five feet deep.

"Area 2: In this area, near the old gun mount base, it is thought that a number of gun barrels were buried in a trench, which was excavated and covered by a bulldozer.

"Area 3: In this area, it is thought that a number of 3- to 5-in. bore guns were cut into sections, and buried in a trench which was excavated by a bulldozer."

This burial was suspected to have taken place in the fall of 1945 (Engineering Division 1965). It is assumed that the pits contain material from this site only and that the material is contaminated. One employee interviewed thought the dumbos (large, oval, steel containment vessels) and the steel-lined pit were also buried in Area 3. A November 1946 internal memo stated that one of the dumbos was clean and the other was contaminated with ". . . 3000 counts/min to 5000 counts/min on the rim and 20000+ counts/min on the interior. . ." of radioactivity (Littlejohn 1946). Earlier conflicting records imply that the area had been cleared of all possible debris and contaminants and that the ". . . three burial grounds [had been] excavated. Ground check [for radioactivity was] negative after removal" (Buckland 1948). The need to have this issue clarified led to a survey using geophysical instrumentation and search techniques in late August/early September of 1986. Preliminary findings show no anomalies (no buried materials or ground disturbance) in Area 1 but do show anomalies in Areas 2 and 3. Contaminants of concern are depleted uranium, high explosives, and beryllium.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Additional supplemental Phase I investigations will be conducted to verify existing conditions.

TA20-2-CA-I-HW/RW (Firing sites)

Background--The Initiator Group, G-10, actively used the Sandia Canyon Site as a proving ground for "gadget" initiators from autumn 1944 until the design for the implosion bomb was completed in the spring of 1945. One employee interviewed said that individuals used the site to perform experiments of personal interest for a period of time after the war (approximately 1947). During this active period, G Division was reorganized into M Division and G-10 became M-3 (Truslow and Smith 1983:323).

The site was occasionally used by M-4 (G-8), the Electric Method Group, and M-9 (G-3), the Magnetic Method Group, for their larger shots. An employee familiar with the site reported that testing initiators involved 22-mm smooth-bore Navy guns being fired into the cliffs at the site, two dumbos, and a steel-lined pit. Shaped high explosives were used in the contained shots, and, because of the scarcity of shaped charges, tests were conducted no more than several times per week. The amount of high explosives used in most shots was usually 25 or 200 lb. One dumbo was only used once because, when the shot was imploded within the dumbo, it was exceedingly difficult to open and recover the initiator for study. The second dumbo remained unused. Dumbos were replaced by large steel-lined pits (20 ft x 20 ft x 20 ft), which made fragment recovery easier. One employee recalls a shot that did not explode completely and scattered high explosives about.

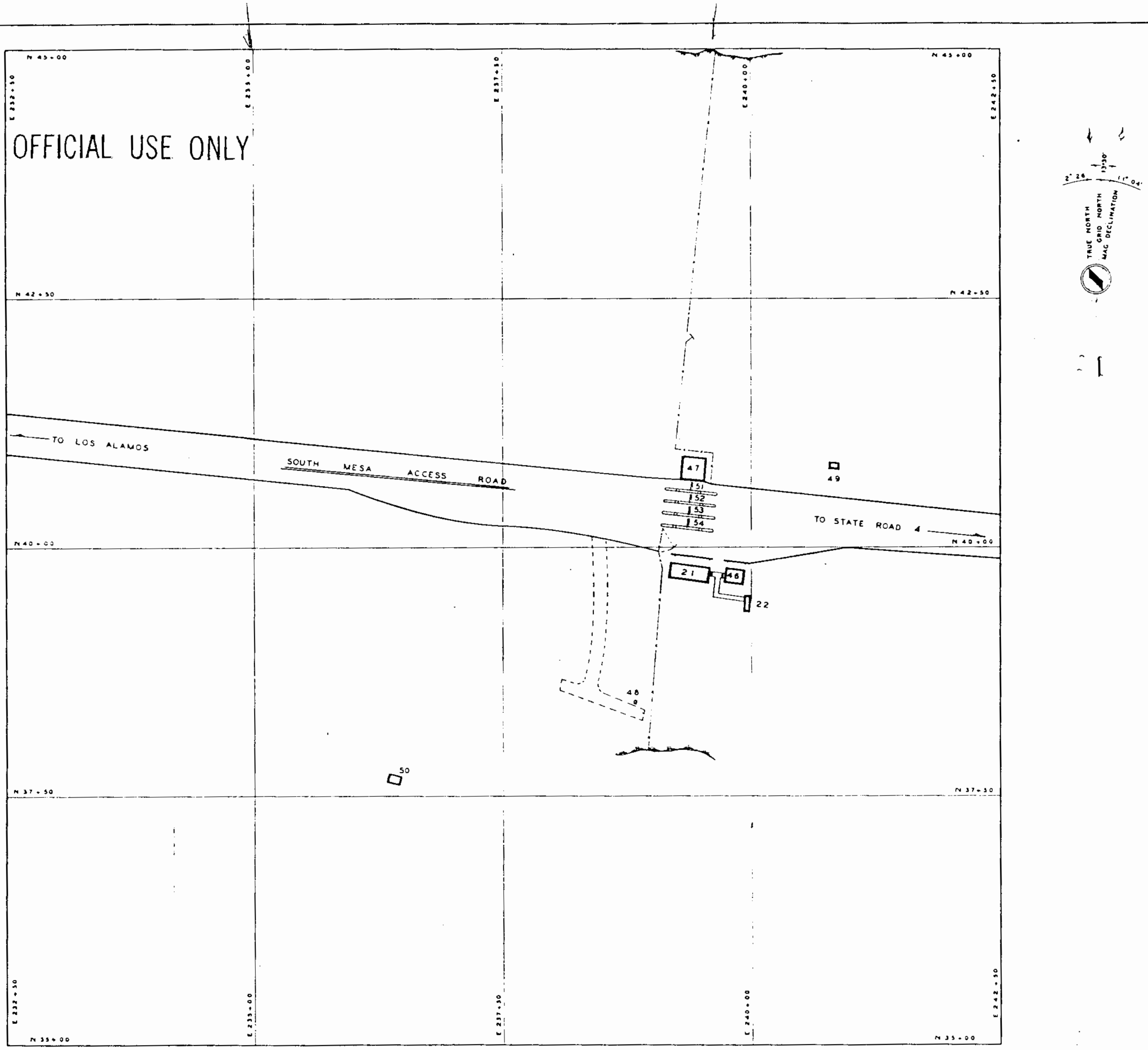
The smooth-bore guns that were used for equation-of-state studies were fired into the cliffs against a steel plate. One former employee thinks there may be some contamination in the sloughed material from the cliffs, and others said environmental contaminants include beryllium, nickel, strontium, radioisotopic tungsten, high explosives (Composition B), and uranium.

As part of the Los Alamos Site Characterization Program (precursor to CEARP), environmental samples were taken in 1985 and analyzed for uranium, beryllium, gross alpha, gross beta, and high explosives. Some radioactivity was detected in the samples. Preliminary soil sample results indicate readings of two times background at the steel-lined recovery pit area (TA-20-6). Two readings, one at six times background and the other at ten times background, were made at the platform and yoke area (TA-20-29), which is believed to have been a firing or shot set-up area. All other results are very near background.

As well as sampling, a partial cleanup was performed in 1985. In approximately two-thirds of the site south of Jemez Road, structures were excavated. Because of budget and time constraints, excavation of this site was not completed. No contamination was detected during this activity.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--Phase II investigations will be conducted based on the preliminary findings of the Los Alamos Site Characterization Program, including verification of the partial cleanup.



STRUCTURE NUMBER	DESIGNATIC	REMARKS
TA-20-1	SAN-1	LABORATORY (REMOVED)
TA-20-2	SAN-2	CONTROL BUILDING (REMOVED)
TA-20-3	SAN-3	MANHOLE (ABANDONED)
TA-20-4	SAN-4	MANHOLE (ABANDONED)
TA-20-5	SAN-5	MANHOLE (ABANDONED)
TA-20-6	SAN-6	RECOVERY PIT (REMOVED)
TA-20-7	SAN-7	DUMBO & MOUNT (REMOVED)
TA-20-8	SAN-8	PLATFORM & HOIST (REMOVED)
TA-20-9	SAN-9	FOUNDATION RAMP & BIN (REMOVED)
TA-20-10	SAN-10	BARRICADE (REMOVED)
TA-20-11	SAN-11	HOT STORAGE (REMOVED)
TA-20-12	SAN-12	STORAGE (ABANDONED)
TA-20-13	SAN-13	20 MM GUN BUILDING (REMOVED)
TA-20-14	SAN-14	MAGAZINE (ABANDONED)
TA-20-15	SAN-15	WATER TANK (REMOVED)
TA-20-16	SAN-16	OLD GUNSIGHT INSTALLATION (REMOVED)
TA-20-17	SAN-17	CUT OFF SHACK (REMOVED)
TA-20-18	SAN-18	STORAGE BUILDING (REMOVED)
TA-20-19	SAN-19	STORAGE BUILDING (REMOVED)
TA-20-20	SAN-20	GUARD HOUSE (REMOVED)
TA-20-21	SAN-21	PASS OFFICE
TA-20-22	SAN-22	LATRINE
TA-20-23	SAN-23	ROAD BLOCK (ABANDONED)
TA-20-24	SAN-24	LATRINE (REMOVED)
TA-20-25	SAN-25	BARRICADE (REMOVED)
TA-20-26	SAN-26	BARRICADE (REMOVED)
TA-20-27	SAN-27	SEPTIC TANK (ABANDONED)
TA-20-28	SAN-28	CONDUIT MANHOLE (ABANDONED)
TA-20-29	SAN-29	PLATFORM & YOKE (REMOVED)
TA-20-30	SAN-30	SUBSTATION (REMOVED)
TA-20-31	SAN-31	GUARD HOUSE (REMOVED)
TA-20-32	SAN-32	PULL BOX D.C. (ABANDONED)
TA-20-33	SAN-33	PULL BOX DC (ABANDONED)
TA-20-34	SAN-34	PULL BOX DC (ABANDONED)
TA-20-35	SAN-35	PULL BOX DC. (ABANDONED)
TA-20-36	SAN-36	PULL BOX DC (ABANDONED)
TA-20-37	SAN-37	PULL BOX DC (ABANDONED)
TA-20-38	SAN-38	PULL BOX DC. (ABANDONED)
TA-20-39	SAN-39	PULL BOX DC (ABANDONED)
TA-20-40	SAN-40	PULL BOX DC (ABANDONED)
TA-20-41	SAN-41	PULL BOX DC. (ABANDONED)
TA-20-42	SAN-42	PULL BOX D.C. (ABANDONED)
TA-20-43	SAN-43	CABLE SUSPENSION (ABANDONED)
TA-20-44	SAN-44	20 MM HUTMENT (REMOVED)
TA-20-45	SAN-45	MAGAZINE (REMOVED)
TA-20-46	SAN-46	LECTURE BUILDING
TA-20-47	SAN-47	GUARD HOUSE (NEW STATION 330)
TA-20-48	SAN-48	WATER TANK (UNDERGROUND)
TA-20-49	SAN-49	SEPTIC TANK
TA-20-50	SAN-50	WATER TANK HOUSE (ABANDONED)
TA-20-51	SAN-51	ROAD BLOCK
TA-20-52	SAN-52	ROAD BLOCK
TA-20-53	SAN-53	ROAD BLOCK
TA-20-54	SAN-54	ROAD BLOCK

NO	DATE	REVISIONS	BY	CHKD
1	7-4-55	REDRAWN TO STATUS OF JULY 1, 1955		

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-20 SANDIA CANYON SITE

CHECKED / DESIGNER — RECOMMENDED / GROUP LEADER — APPROVED / ENG DEPT OFFICE
DRAWN: N. BYERS — DATE: 9/14/55 — DRAWING NO.: ENG- R 138
SCALE: 1" = 50' — SHEET 1 OF 1

Figure TA-20-1: Structure Location Plan for TA-20 - Sandia Canyon Site
(1950 Drawing from the LANL Technical Area Structure Location Plans)

TA-21 - DP SITE

CURRENT OPERATIONS

TA-21 is currently being used by a number of Laboratory groups whose activities are quite varied and include the following. Pan Am uses TA-21-14 as a plumbing and electrical repair/equipment shop and TA-21-46 as a storage unit. The Plutonium Metal Technology Group (MST-13) uses TA-21-30, the former paint shop, to prepare cold (nonradioactive) salts used in the production of plutonium metal at TA-55. The Electronic Maintenance Group (E-1) uses TA-21-31 for equipment repair and a small machine shop. The Geophysics Group (ESS-3) uses TA-21-210 for the study of rocks. TA-21-3 houses the Isotopes and Structural Chemistry Group (INC-4), which has three main projects: basic organic actinide chemistry, formulation of sulfuric oxide-containing compounds or reactions, and extraction chemistry, which studies how certain molecules may be removed from a given compound.

INC-4 does actinide chemistry using protactinium, plutonium, americium, neptunium, and uranium-238 in TA-21-4. INC-4 uses TA-21-150 for a wide variety of biological studies. For example, bacteria are grown for various studies, plants are raised to study plant pathogens, and the effects of nutrients on animal hearts are being investigated through nuclear magnetic resonance. The site is designated a National Institute of Health facility for making labeled compounds using stable elements such as carbon-13, nitrogen-15, and oxygen-17.

The Radiation Protection Group (HSE-1) uses TA-21-286 to store equipment and extra supplies. In former times, the building was a nuclear material storage vault. The Waste Management Group (HSE-7) operates TA-21-257 as the radioactive waste treatment plant for TA-21. TA-21-357 is the steam plant. HSE-7 uses TA-21-61 and the bermed asphalt storage pad nearby to store capacitors, transformers, and oils before they are shipped offsite.

MST-3 operates the Tritium Systems Test Assembly (TSTA) in TA-21-155. The objective of the TSTA is to develop and demonstrate an effective technology for handling and processing deuterium and tritium fuel to use in fusion reactors. MST-3 also has an experimental test program to develop solutions for problems that result from using tritium, such as diffusion into metals, embrittlement of metals, and polymerization of elastomers.

The Plasma Chemical Synthesis Laboratory of MST-3 performs gas phase nucleation using a thermal plasma and generates many fine powders. Another section of MST-3 works on powders/combustion synthesis, focusing on thermite reactions.

POTENTIAL CERCLA/RCRA SITES

Many varied operations involving hazardous materials have occurred at this complex site, which was first occupied in mid-1945 and divided into two sections, DP West and DP East (LASL 1947a:13). DP West was built to replace the plutonium metal production being done in D Building at TA-1 because D Building could not handle large production safely. DP East was built to process polonium and to produce initiators. Plutonium production involved taking materials from Pacific Northwest Laboratories in Hanford, Washington, and converting them into plutonium metal. Plutonium work was transferred to TA-55 in late 1977 and early 1978. Cleanup operations continued at TA-21 until mid-1978. The plutonium glovebox lines were removed in 1978-81 (Garde, Cox, and Valentine 1982).

Several Laboratory Material Disposal Areas exist at TA-21 (i.e., Areas A, B, T, U, and V (see Material Disposal Areas). The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-21. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-21 is 20.2 (Appendix B).

FIGURES

Figure TA-21-1: Structure Location Plan for TA-21 - DP Site (1983)
Figures TA-21-2: Structure Location Plan for TA-21 - DP Site (1955)

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TABLE TA-21 - POTENTIAL CERCLA/RCRA SITES

TA21-1-CA-I/A-RW/HW (Buildings, ducts, utility trenches, and associated facilities)

Background--The DP West facility provided the capability to produce metal and alloys of plutonium and other transuranic elements from nitrate solution feedstock; to fabricate these metals into precision shapes; to provide and install protective claddings; to measure the chemical and physical properties of these metals and alloys; and to permit recycling of scrap materials (Garde, Cox, and Valentine 1982:2). Beryllium, tritium, and uranium have also been handled at the site (LASL 1959a; H Division 1953a:4; LASL 1957).

In 1977, a transfer of work to the new Plutonium Facility began and much of the complex was vacated. At that time a massive cleanup was initiated (Garde, Cox, and Valentine 1982:17). Equipment contaminated with plutonium was completely removed from buildings 150 and 5, and the buildings were decontaminated; rooms 401E and 406 of building 4, room 308 in building 3, and all of building 2 received similar treatment. The basic goal was to remove all swipeable surface contamination and fixed surface contamination to less than 1,000 dis/min/100 cm^2 alpha in those areas in which the new groups occupying the buildings might be working. Contaminated liquids were processed at the TA-21 liquid waste treatment plant and contaminated solids were taken either to retrievable storage or to be buried. More specific information on remaining areas of contamination in buildings 2, 3, 4, 5, and 150 can be found in "Los Alamos DP West Plutonium Facility Decontamination Project 1978-1981" (Garde, Cox, and Valentine 1982). Some areas of building 286, which was built in 1972, were used to store plutonium solutions. At one time, a plutonium nitrate solution leaked, causing a high level of contamination. This area was also reported to have been decontaminated (Garde, Cox, and Valentine 1982).

A filter house, TA-21-12, was placed in service in May 1945, and it treated air from DP West rooms and processes with electrostatic precipitators and filters. Although intermediate decontamination and decommissioning occurred, in 1972 the ductwork was removed and work was begun on demolishing building 12. The interior was cleaned and painted and the stacks, filters, frames, and other items were removed for burial. The building was carefully demolished, inside to outside, and contaminated items were removed for disposal. The drain pipe to the tile field and contaminated soil were also removed. The tile field was reported to have been removed at an earlier date.

In addition to disposal of building 12 debris at "the radioactive disposal site 9 km from the demolition site," 400 m^3 of concrete, dirt, and large metal items from building 12 are reported to have been buried at a "disposal site located at TA-21 300 m from the building site" (Area A). Wastes having >10 nCi/g of plutonium had been placed in retrievable storage during the decontamination phase. Demolition began in February 1973 and was completed in July of that year. Additionally, soil was removed to an approximate depth of 30 cm below the building. Core samples were taken and analyzed; the readings indicated 1.3 to 70 pCi/g of plutonium-239. The area was backfilled with soil, a composite sample of which contained 1.3 ± 0.1 pCi/g plutonium-239 (Christensen, Garde, and Valentine 1975; LASL 1972).

Building 32 was surveyed in 1959 and found to be free of contamination (Meyer 1959). This building had been used as a warehouse and was removed in 1960. The old waste treatment laboratory at the west entry to DP, TA-21-33, was found to be free of contamination, except for two pipes under the building (Blackwell 1953). Engineering document ENG-R5113 shows that this building was removed in 1965 but does not indicate that the pipes were removed.

Building 45, the safety training building, located across from building 33 and to the west of the main entry to the site, was removed in 1954, according to engineering document ENG-R139. During the field survey, it was noted that all soils here had been removed down to the tuff, but the reason for their removal is not known.

Six storage hutments were located by the rim of the canyon on the north side of the road, across from the old laundry, TA-21-20. They were numbered TA-21-23, -24, -25, -26, -27, and -28, and ENG-R113 shows that they were removed in 1953-54. Small sheds to the south of buildings 3, 4, and 5, noted as TA-21-10, -11, and -13, were removed in 1965. Buildings 7 and 8 were warehouses and were removed in 1967, according to ENG-R5113. Small building 29, used for emergency equipment, was removed in 1959. Laboratory building TA-21-34, next to the filter house, was removed in 1969. Barrel storage TA-21-38, southeast of TA-21-31, was removed in 1966, according to ENG-R5113. Building 54, noted as a laboratory building, was removed in 1968. No data have been found about the possible contamination of these buildings or their method of disposal.

Building 22 was a warehouse used to store slightly contaminated equipment (LASL 1957). It was removed in 1967, but no data have been found about its decontamination. The north end of building 6, a corridor, was reported to be contaminated (LASL 1957). ENG-R5113 notes that it was removed in 1966, but where it was taken is not known.

A liquid waste treatment facility, TA-21-35, began operating in 1952. A new facility was put in operation in 1967, and the old one, TA-21-35, was found to be contaminated with loose alpha contamination and its waste storage tanks and waste processing tank to be highly contaminated (Romero 1967). The building and tanks and piping associated with it were removed--this included TA-21-93, -145, -147, -185, -192, -255, and -271. All material was hauled to the radioactive disposal site on Mesita del Buey. The raw waste storage tanks and cement silo were moved to the new plant, DP-257, and incorporated into its operation.

DP East is somewhat smaller than DP West and does not have the long history of handling plutonium that DP West has. Activities conducted at DP East are reviewed in the following documents (LASL 1947b:4-5; H Division 1950:10; H Division 1954:3; LASL 1957; H Division 1958; LASL 1960a; LASL 1960b; H Division 1960; Shipman 1965:2; and Meyer 1969:3).

During the field survey, it was observed that tritium is being handled in TA-21-155 and that the work includes highly reactive metal tritides. The cooling water for the building can become contaminated because of gaseous diffusion of tritium. Another facility, the Tritium Systems Test Assembly, TSTA, has been installed at building 155. The part of building 155 that was used to distill radioactive isotopes is being renovated. The floor and some debris is contaminated with radioactivity and is destined for the contaminated waste disposal facility, TA-54. Building 151 at DP East, known as the administration building and shop, is noted on engineering drawing ENG-R5113 to have been removed in 1966; no documentation as to the extent of its contamination or its decommissioning has been found.

In the late 1940s, a filter building, TA-21-153, was constructed to clean air from some of the process areas at DP East. The building contained both filters and electrostatic precipitators and was constructed in a manner similar to that of building 12 of DP West. The facility was shut down in 1970. In 1969, the filter building, 153, was found to have uranium-235 contamination up to 10,000 counts/min alpha. The associated utility lines in the plenum and on the second floor were also contaminated (Romero 1969b). In 1974, the main contaminant in the building was found to be actinium-227 and its daughters (Chelius 1974). After the 1970 shutdown, most of the contamination in the accessible parts of the building was removed.

However, contamination remained in the internal structures. Further decommissioning began in April 1978. The building and its contents, and contaminated soil associated with them, were removed to the radioactive waste disposal/storage site at TA-54. Additional information on decommissioning is available in "The Decommissioning of TA-21-153" (Harper and Garde 1981).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Additional documentation on potential environmental contamination from past activities at DP West and DP East will be obtained during supplemental Phase I. The active facilities are covered by routine LANL operations. The planned action for Area A is discussed under Material Disposal Areas.

TA21-2-SI-I-HW/RW (Seepage pits)

Background--A gravel seepage pit is believed to have existed somewhere to the north of the main DP West facilities. A memo states that wash water containing approximately 28 micrograms of plutonium a day was poured down floor drains that connected to a gravel pit, from which the overflow ran into the canyon on the north side of DP West. The same memo indicates that a gravel seepage pit on the south side of DP West received up to 4,000 L a day of fluorine waste containing approximately 0.18 micrograms per liter of plutonium. Overflow from the pit went to the canyon; however, the location of this pit is not known. It may be sump TA-21-118. Again, the memo indicates that a seepage pit located 15 ft outside the door of room 322 in building 3 received about 1.9 mg of plutonium a day because of waste solutions being dumped in the pit. Other contaminants mentioned were ethylene glycol and phosphorus acid (Tribby 1947). It appears from the date of the memo that these pits may have been in operation for at least 2 years--how much longer they were active is not known.

A 1947 plan showing the layout of DP appears to show that three main seepage-bed complexes were in operation at that time to handle the major portion of industrial liquid discharges. One of these complexes, TA-21-20, was constructed at TA-21 in 1945 to wash contaminated clothing. The wash water was discharged to three waste pits, and the discharge continued until 1963, when the laundry facility was deactivated (LASL 1962). The pits were 25 ft by 200 ft; the first basin was designed to act as a grease sump and the next two were for seepage (Veltman 1945:2). Plutonium was the major contaminant. This area is designated as Material Disposal Area V (see Material Disposal Area V).

The 1947 map indicates a set of four seepage beds to the northeast of building 5. The drain area is noted to be between the two upper beds to the south. Another drawing notes lines from buildings 2, 3, 4, and 5 running to this drain and the floor drain from building 12 having an outlet at the southwest corner of the southwest seepage pit. This area is now designated Area T and includes wastes other than those that went to the seepage pits. Reports state that from 1945 to 1952, untreated liquid waste was released from DP West to the beds. At infrequent intervals from 1952 to 1967, a few hundred gallons of treated wastes were released, and an untreated release was reported in 1963 (Christenson 1963). From 1965 to 1967, some low-level waste from DP East was put in beds one and two. As of January 1973, the four seepage beds were believed to contain 4 Ci of tritium and 10 Ci of plutonium-239. Nonradioactive chemicals were also discharged. In 1947, fluorine was reported to be in the liquid discharged (Rogers 1977). Ammonium citrate was also a contaminant in the liquid (Purtymun 1967) (see Material Disposal Area T for additional information).

A set of two seepage beds is shown to the northeast of building 152 at DP East on the 1947 map. Drain areas are noted for each pit. A 1964 memo states, "At the present time, contaminated wastes from DP East are simply discharged to an open pit north of the installation" (Shipman 1964). Another report indicates that the beds were used from 1948 to 1968 and that the amount of liquid is unknown (Balo and Warren 1986:68). This area was designated as Area U (see Material Disposal Area U).

Another underground pit for liquid disposal was noted to be "unmarked;" it was between TA-21-2 and -3 and received liquids from the Hanford container-washing operations (LASL 1978:48). The Laboratory's "Radioactive Waste Management Site Plan" of 1978 indicates that the estimated radioactivity was high and that plutonium was the principal radionuclide (Balo and Warren 1986:68).

Drawing ENG-R5113 indicates a waste storage test pit, TA-21-331; however, it was not found during the 1986 CEARP field survey and its use is not known. A sewage pit, TA-21-348, of unknown status is also noted on the drawing.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--The seepage pits will be characterized during Phase II. Planned actions for areas U, V, and T are discussed under Material Disposal Areas.

TA21-3-CA/O-I/A-HW/RW (Outfalls)

Background--A 1946 inspection found that the pits at DP East were not working and the oil used to wash down the precipitators was lying on the surface of the pit (Drazer 1946). In the same year, the seepage pits for the DP laundry were inspected. A large amount of contaminated water was lying above the ground in the pits. Whether the water drained off and ran down into the canyon is not known (Drazer 1946).

A later survey (Tribby n.d.) found that the seepage pits for the laundry were clogged and water was collecting on top. A 1957 memo indicated that 1945 data showed fluid in pools in the canyon to be contaminated with up to 20 times drinking water MPC for plutonium and up to 15 times for polonium, but that since that time, concentrations had decreased. The memo states, "The present source of possible contamination of the area is overflow from the laundry waste sump. The spots where the greatest amount of activity has been found in the past are at or just below where this overflow joins the main stream" (Kennedy 1957).

Concerning the four seepage pits at DP West, an early report reads, "For some reason the seepage pits have clogged up and the effluent is now collecting on the surface of the pits. It forms a drain right over the surface to the second seepage pit and then down into the canyon" (Tribby n.d.). Thus it appears that the DP East pits may have also been draining to the canyon at that time.

The same report indicates an acid sewer outlet to the south end of building 2 having some type of tank and line to the canyon. The 1956 engineering drawing ENG-R1194 shows this line to come from the east side of building 2, to run south across the road to settling tank TA-21-118, and notes that it "extends over canyon rim to shelf below." This area, then, probably received wastes containing radioactivity for a number of years.

The same drawing appears to indicate that the floor drains from buildings 6 and 3 went to their respective storm drains, which in turn drained to the south rim of the canyon. These floor drains probably were contaminated.

A 1963 report notes that a culvert on the south side of TA-21 drained storm runoff: "Samples of this runoff have not been collected, but small quantities of radioactive materials may be washed into Los Alamos Canyon through the culvert" (USGS 1963:25).

A 1946 report states, "It is evident that most every sewer line originating from the Tech Area or at DP Site is contaminated" (Drazer 1946). A report a month earlier said that the five septic tanks at DP Site drained their effluent into Los Alamos Canyon (LASL 1946). In 1946, measurements of sewer outlets were reported. The most activity was found at the two sewer outlets of DP laundry, the sewer drains from buildings 152 and 153, and the drain from filter building 12 (the latter apparently went to a seepage pit). The report states, "These sewers having high disintegration rates correlate directly with counts found in the canyons near where they empty" (Tribby 1946:1). In 1947, contamination from outfalls on the south rim was thought to be great enough to warrant fencing the area (Director 1947). During the field survey, the fence was observed to be constructed across Los Alamos Canyon below the point of DP Mesa. This was an effective technique to seal the area from the public, because the walls of the canyon are so steep that entry into this area is difficult, except from the floor of the canyon.

In the mid-1950s, the sewage from the laundry went to tank TA-21-123 and from there to the canyon to the south, according to drawing ENG-R1193. The sewage from building 1 went to TA-21-106 and then drained south to the canyon. The hall between buildings 4 and 5 had a sanitary sewer that went to septic tank 55, from which the effluent drained to the south rim of the canyon. The sanitary waste from TA-21-54 went to septic tank 56 and then to an outfall on the south rim. The septic system of TA-21-151 was served by septic tank 163, with an outfall on the north rim, as shown on ENG-R1195, whereas the system of TA-21-152 was served by tank 181, with the outfall on the south rim. These six tanks would have been the most likely to handle radioactively contaminated sewage.

Other buildings used in the 1950s had septic tanks that drained to the canyons:

1. Building 45, which drained to an unnumbered tank and then to the north rim of the canyon, shown on ENG-R1191;

2. Building 33, which apparently had one drain that went directly to the south rim, shown on ENG-R1191, and one that went to septic tank 62 and then to the south rim, shown on ENG-R1193;

3. Buildings 7 and 31, which were served by tank 125, with outfall on the north rim, as shown on ENG-R1191;

4. The diesel plant, which had a drain (shown on ENG-R1193) that went directly to the canyon;

5. Building 9, whose drain went to tank 53 and then to the south rim; there was at least one blowdown line to the south rim as well; both are shown on ENG-R1195.

Early measurements on the chilled water system at DP West show that the circulating water systems in buildings 2 and 4 were often contaminated with plutonium (H Division 1952a:12, b:20). In 1953, circulating water in buildings 4 and 5 at DP West was reported to be 1,294 dis/min/L (H Division 1953b:21). In 1970, the amount of water overflowing to the canyon in the chilled water system was reported to be 30,000-40,000 gal. per week, with a high of 150,000 gal. a week in the summer. Samples of the water indicated approximately 30 counts/min/mL. The location of the outfalls for the circulating water is not known (Christenson 1970). In 1979, the area south of building 43, which was removed in 1960, was thought to be contaminated because the recirculated chilled water system overflowed that year (Walker 1979).

In 1952, liquid wastes from DP West, which had been going into the seepage beds in Area T, were diverted to a new liquid waste treatment plant. This plant operated until 1967. The chemical composition of the incoming waste stream in terms of chemicals changed as new programs and new processes came on-line in the laboratories at DP West. In the 1950s, citric acid was used; it was later replaced by solvent extraction. Fluoride concentrations were high until the fluoride was precipitated as calcium fluoride. Iodine-containing wastes were treated (Christenson 1955). In 1955, effluent from the DP plant averaged 99 ppm of fluoride, 22 ppm of nitrogen in the form of ammonia, and 151 ppm of nitrogen in the form of nitrates (Hutchinson 1956). During its years of operation, the 1952 plant underwent several modifications, including adding an americium waste treatment facility in 1959 (Fowler 1964.)

In 1965, the acid waste lines from TA-21-207, -206, -152, and -155, which had previously carried wastes to the DP East tile field, were connected to the DP East raw holding tank at building 35 DP West (Garde 1965). In the mid-1960s, the decision was made to treat at least some of the DP East waste at a new plant, DP-257, constructed at DP West to replace the old one. It was put in operation in late 1967 (Emelity n.d.). Not all of the wastes from DP East are believed to have been included in the liquid that was treated--only those high in activity (LASL 1968).

In 1973, nonradioactive chemicals undergoing chemical treatment in the new DP-257 plant were reported to include sodium, nitrates, and chlorine. The discharge rate of treated waste to the canyon averaged 143,000 gal. a month (LASL 1973a).

Over the years, the outfall from both plants discharged into DP canyon and resulted in a chemical and radionuclide inventory in the canyon. In the outfall region, concentrations of plutonium of 1 nCi/gm have been measured. Within a few hundred meters of the outfall, external beta-gamma levels of up to 1 mR/hr have been found (Stoker 1976). The approximate size of the area of inventory has been estimated to be 280,000 m^2, with concentrations of 0.036 to 1,640 pCi/g plutonium-239 (Voelz 1980).

In 1971 and 1972, at one location in DP canyon, the surface water had cadmium in solution in concentrations of 6.9 micrograms/L and 0.43 micrograms/L in particulates. Beryllium in solution was measured as 0.3 micrograms/L, whereas lead measured 1.8 micrograms/L and mercury 0.09 micrograms/L (LANL 1981).

In 1971, rodents living in DP Canyon were compared with those living in an uncontaminated canyon. The tritium concentration in water from the livers of these animals ranged from 5 to 55 pCi/mL water for those in DP Canyon and from <5 to 15 pCi/mL water for those in the uncontaminated canyons. Mercury concentrations in the kidney tissues ranged from 0.10 to 0.70 micrograms/g for wet tissue at DP, whereas they ranged from 0.02 to 0.10 micrograms/g for tissue at the control site. For plutonium, the bone from the rodents at the DP outfall showed 0.12 to 0.30 dis/min/g for wet tissue, whereas the control results were <0.01 to 0.02 dis/min/g for wet tissue (LASL 1973b).

According to the DOE Onsite Discharge Information System of July 12, 1982, the DP Canyon discharge inventory decayed to December 1981 was as follows for a gross volume of 9.242×10^8 L:

Radionuclide	Ci
americium-241	0.006
cesium-137	0.020
hydrogen-3	30.715
plutonium-238	0.002
plutonium-239	0.003
strontium-89	0.000
strontium-89,-90	0.037
strontium-90	0.006
natural uranium	0.000
uranium-234	0.004
uranium-235	0.000
uranium-238	0.000
unidentified alpha	0.015
unidentified beta, gamma	0.560

Sludges from the treatment plants received various treatments, including placement in Area T.

In 1971, the amount of cooling tower discharge was 325,000 gal./yr for cooling tower TA-21-143, 16,700 gal./yr for cooling tower TA-21-152, 42,600 gal./yr for cooling tower TA-21-166, 20,600 gal./yr for another cooling tower in TA-21-166, 36,500 gal./yr for cooling tower TA-21-167, and 910,000 gal./yr for cooling tower TA-21-220. The discharge was thought to be treated with biodegradable and nontoxic chemicals (Reynolds 1971:6-11).

In the early 1980s, outfalls at TA-21 were shown to originate in buildings 210, 2, 150, 9 (probably cooling), and 152. Other outfalls included those from equipment building 166, cooling tower 220, cooling tower 143, and corridor 314 (NPDES n.d.). The waste treatment plant's outfall had been eliminated by pumping the liquid to the TA-50 plant. During the field survey, only three outfalls were noted at TA-21. However, some drains may be below the rim of the canyon, and because the survey did not include this area, outfalls may have been missed. In addition, a sewage treatment plant near the end of DP Mesa has an outfall to Los Alamos Canyon. It was built in 1966 (Hilton 1966).

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with the inactive and active outfall areas that received past discharges of concern will be obtained during Phase II. The active outfalls are covered by routine LANL operations.

TA21-4-IN-I-HW/RW (Incineration)

Background--In the 1960s and 1970s, salamanders--incinerators--were used to burn various types of wastes at DP West (LASL 1964; Shaykin and Davis 1967:10; Davis and Shaykin 1968:9; and LASL 1973a). Additionally, while the plutonium facility was operating, a small "glovebox incinerator" was used to recover desired elements. It was removed during the decontamination of the building (Perkins 1976:62-67).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will be conducted to determine if incinerator operation resulted in residual environmental contamination.

TA21-5-S-I-HW/RW (Sumps and pits)

Background--Structure TA-21-70, an acid pit, was used to dispose of classified correspondence by having the paper digested in concentrated acid. The pit was southeast of existing building TA-21-30, as shown on ENG-R140, dated 1957. The pit and contents were removed in 1967 and taken to the contaminated waste disposal site (Safety Office 1966).

Five industrial liquid waste wells were at the northeast corners of buildings 2, 3, 4, and 5 and at the northwest corner of building 150. They were removed in the 1978-1981 cleanup. Contaminated soil around the wells was removed to the point that further excavation would have jeopardized the integrity of the adjacent buildings (Garde, Cox, and Valentine 1982).

Vessel TA-21-335 was noted to be possibly "hot." In addition, sump pumps, which may be contaminated, were reported to be at the south end of buildings 2 and 3. The area around the TA-21-272 dock associated with building 2 was reported to possibly have a stone pit nearby that was contaminated (Walker 1979). The old waste processing building, TA-21-35, had numerous tanks and sumps. In 1957, a buried tank was reported to be leaking in several places (CEARP 1957).

The waste sump for the pumping station at DP East was noted to be concrete; however, its integrity is unknown (CEARP 1974). (The reference is thought to be to structure TA-21-223.) The sump had an overflow line to the canyon for disposing of wastes in the event the pumps failed to operate. Later, tanks were added to store overflow if and when it occurred. No further data have been found on possible contamination of surrounding soil caused by leaks from this sump. During the field survey, it was observed that the steam plant had at one time used a dry well to dispose of liquids.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with the sumps and pits will be determined during supplemental Phase I.

TA21-6-ST-I-HW/RW (Septic tanks)

Background--In addition to the septic tanks described above, in the section on outfalls, there was a septic tank located at the old waste treatment plant, which was removed when the plant was removed. A 500-gal. septic tank is shown on ENG-R1194 at the northeast side of building 3. Its status is not known. Septic tanks 62 and 142 were reported to have been removed in 1965. The remaining septic tanks have been abandoned in place, as shown in ENG-R5113. A 1969 field report indicated that TA-21-56 is covered with soil and cannot be monitored (Romero 1969a).

In 1977, TA-21 was reported to have 10 possibly contaminated septic tanks (LASL 1977:53).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with the inactive septic tanks will be determined during Phase I.

TA21-7-CA-A/I-HW/RW (Drain lines)

Background--The utility drawings show a line from building 2 to an acid pit, TA-21-118 (see section on outfalls above). This line may still be in place. According to one source, a buried trench on the south side from building 2 to building 3 is probably associated with the line. The pipe may have been removed, but the concrete trench is believed to remain and to be highly contaminated with radionuclides (Walker 1979).

The 1956 ENG-R1194 drawing indicates a new 4-in. waste line connecting buildings 2, 3, 4, and 5 to treatment plant TA-21-35 and an old 6-in. steel line that was to be abandoned. At DP East, ENG-R1196 shows drains from building 152 to the disposal pit's sump, and from the filter house, 153, to the disposal pit. During decommissioning the drains were removed (Harper and Garde 1981).

During the 1978-81 cleanup, an abandoned acid line between buildings 2 and 3 was noted to have been removed. Because no trench was mentioned, this area may be different from the one described above (Garde, Cox, and Valentine 1982:17). Little information was found about the location of inactive contaminated industrial waste lines, the possibility that they leaked, and the number of lines that might have been removed.

Today, lines link DP East with DP West. Treated effluent is pumped to the TA-50 treatment plant.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with the drain systems will be determined during supplemental Phase I. The active drain systems are covered by routine LANL operations.

TA21-8-CA-I-RW/HW (Leaks and spills to areas outside buildings)

Background--In the 1950s, a leak in a tunnel was reported to be on the east side of building 4 (West 1962). It was thought to have been caused by leaching of the tunnel with hydrogen fluoride water and to have possibly resulted in contamination (Walker 1979). In 1955, soil that had become contaminated because of a leak in a waste storage tank was removed from the west side of building 35 (H Division 1955a:5).

Contamination of the paved surface between the north sides of buildings 2 and 3 was reported several times. After the cleanup, if any residual contamination remained, the area was repaved (H Division 1955a). In the 1978-81 cleanup, soil from several asphalt driveway areas is reported to have been removed (Garde, Cox, and Valentine 1982:17).

In 1959, a filter in building 5 caught fire and considerable contamination was spread outside the building (LASL 1959b). The extent of the cleanup is not known. In 1972, the ground around TA-21-257 was found to have surface contamination (Stafford 1972).

Before the 1970s, pumping station TA-21-223 would at times overflow to the canyon (Ahlquist and Garde 1975). In an incident in 1976, radioactive "retrievable paste" from TA-21-257 discharged to the area reported to have been decontaminated (McGinnis 1976).

In 1977, a large area at TA-21 was contaminated with americium-241, with up to 5 x 10^4 counts/min/100 cm^2, when a transport trailer leaked. The area was either near building 2 or TA-21-257; however, according to a former employee it was probably building 2 (Walker 1979). A report indicated the area would be covered with asphalt (Wenzel 1977). In 1982, waste liquid escaped from a tank vent at TA-21-257, contaminating the building's roof, wall, and the surrounding area with low levels of plutonium, americium, and uranium. A cleanup was reported (Emelity 1982).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with leaks and spills will be determined during supplemental Phase I.

TA21-9-CA-I-HW/RW (Surface contamination from routine operations)

Background--At least three H Division reports have expressed concern about stack emissions from DP (H Division 1955b:21, 1956:13, and 1957:15). In 1970, the concentrations of plutonium and strontium were measured in the vicinity of TA-21. The surface soil was 0.11 pCi/g north of East Road and 0.9 pCi/g south of East Road. The study concluded that the plutonium was probably deposited from DP Site's airborne effluents (Stoker 1976). Another report indicates that the estimated area of soil contaminated by TA-21 is approximately 300,000 m^2, with plutonium-239 concentrations ranging from 0.005 to 0.600 pCi/g (Voelz 1980).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of surface contamination will be determined during supplemental Phase I.

TA21-10-UST-A/I-RW/HW/PP (Underground storage tanks)

Background--During the field survey, it was observed that a standby diesel generator in the basement of TA-21-152 is served by a 300-gal. day tank and a 1,000-gal. underground tank. A half-buried tank of nitric acid, TA-21-325, was also observed in the survey. Several chemical and holding tanks are at the waste treatment plant, TA-21-257. Engineering drawing ENG-R5113 notes that several fuel tanks were removed. Whether the tanks were underground and whether any of them leaked is unknown.

CERCLA Finding--Uncertain for FFSDIF, PA, and PI.

Planned Future Action--The extent of residual environmental contamination resulting from the inactive tanks will be determined during supplemental Phase I. The active storage tanks are covered by routine LANL operations.

TA21-11-L-I-RW/HW/SW (Landfills)

Background--Material Disposal Areas A and B are located at TA-21 (see Material Disposal Areas A and B). Additionally, during the 1986 CEARP field survey, soil mounds with building debris protruding from them were observed northeast of DP East. It has also been indicated that another waste disposal area is "somewhere" around TA-21, perhaps on the north side of the road leading to DP Site (Walker 1979). An area in which soil material was piled above the natural contour was observed on the small mesa to the south of Area B during the 1986 CEARP field survey. It appears from a 1940s aerial photo that there were trenches in this area. Whether they were burial trenches and whether this is the "missing site" at TA-21 is not known.

A 1946 memo advised, "A permanent fence should be erected around the old contaminated dump east of the MP Area, which is no longer in use" (Hempelmann 1946). Because the location of Area MP has not yet been determined, it is not known whether this refers to Area A or B, or to another site.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The possibility of contamination associated with the landfills will be determined during supplemental Phase I. The planned action for Areas A and B is discussed under Material Disposal Areas.

TA21-12-OL-I-RW/HW (Surface disposal areas)

Background--In field reconnaissance, two surface disposal areas were noted. One disposal area, which is in Los Alamos Canyon, is near Material Disposal Area V. The area contains asphalt, concrete pipe, reinforcing rods, booties, and a tank.

The second is a small landfill possibly consisting of sand from the drying beds of the sanitary waste treatment plant. It is located near the north edge of the canyon near the treatment plant. Normally, sludge from the plant is taken to the contaminated disposal facility at TA-54. Whether the landfill is contaminated is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with surface disposal areas will be determined during supplemental Phase I.

TA21-13-CA-A-HW (Container storage)

Background--During the 1986 CEARP field survey, it was noted that drums--many of them unlabeled--are stored at several locations within TA-21. Some are leaking or have leaked (e.g., several drums marked "HF," which appear to be old, are stored outside TA-21-3 South and have made stains on the pavement). Gas cylinders, labeled and unlabeled are also stored in several locations.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active storage areas are covered by routine LANL operations.

TA21-14-CA-A-HW (Waste storage area, oils contaminated with PCBs)

Background--TA-21-61 and the bermed asphalt storage pad nearby are used to store drums containing oil, capacitors, and transformers.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active storage area is covered by routine LANL operations.

TA21-15-CA-A-HW (Asbestos in buildings)

Background--Many of the buildings at TA-21 were observed during the field survey to have been constructed using asbestos. Asbestos-covered pipes carry steam to the various buildings, and the asbestos appears to be coming loose in some areas, creating a potential problem.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The asbestos in buildings is covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-21-1	DP-1	OFFICE, VAULT BUILDING		N87+50 E150+00
TA-21-2	DP-2	LABORATORY BUILDING		N87+50 E152+50
TA-21-3	DP-3	LABORATORY BUILDING		N87+50 E155+00
TA-21-4	DP-4	LABORATORY BUILDING		N87+50 E155+00
TA-21-5	DP-5	LABORATORY BUILDING		N87+50 E157+50
TA-21-6	DP-6	MACH. SHOP, CAFETERIA	REMOVED 1966	
TA-21-7	DP-7	WAREHOUSE	REMOVED 1967	
TA-21-8	DP-8	WAREHOUSE	REMOVED 1967	
TA-21-9	DP-9	STEAM PLANT		N85+00 E162+50
TA-21-10	DP-10	STORAGE BUILDING	REMOVED 1965	
TA-21-11	DP-11	STORAGE BUILDING	REMOVED 1965	
TA-21-12	DP-12	FILTER BUILDING	REMOVED 1973	
TA-21-13	DP-13	STORAGE BUILDING	REMOVED 1965	
TA-21-14	DP-14	INSTRUMENT BUILDING		N90+00 E147+50
TA-21-15	DP-15	PASSAGEWAY	REMOVED 1969	
TA-21-16	DP-16	PASSAGEWAY	REMOVED 1969	
TA-21-17	DP-17	PASSAGEWAY	REMOVED 1969	
TA-21-18	DP-18	PASSAGEWAY		N87+50 E152+50
TA-21-19	DP-19	PASSAGEWAY	REMOVED 1965	
TA-21-20	DP-20	LAUNDRY	REMOVED 1965	
TA-21-21	DP-21	VAULT		N90+00 E152+50
TA-21-22	DP-22	WAREHOUSE	REMOVED 1967	
TA-21-23	DP-23	STORAGE BUILDING	REMOVED 1954	
TA-21-24	DP-24	STORAGE BUILDING	REMOVED 1953	
TA-21-25	DP-25	STORAGE BUILDING	REMOVED 1953	
TA-21-26	DP-26	STORAGE BUILDING	REMOVED 1954	
TA-21-27	DP-27	STORAGE BUILDING	REMOVED 1954	
TA-21-28	DP-28	STORAGE BUILDING	REMOVED 1954	
TA-21-29	DP-29	EMERGENCY EQUIP BLDG.	REMOVED 1959	
TA-21-30	DP-30	PAINT SHOP		N92+50 E147+50
TA-21-31	DP-31	ELECTRONICS BUILDING		N92+50 E150+00
TA-21-32	DP-32	WAREHOUSE	REMOVED 1960	
TA-21-33	DP-33	WASTE TREATMENT LAB	REMOVED 1965	
TA-21-34	DP-34	LABORATORY BUILDING	REMOVED 1969	
TA-21-35	DP-35	WASTE DISPOSAL LAB	REMOVED 1968	
TA-21-36	DP-36	GUARD TOWER	REMOVED 1960	
TA-21-37	DP-37	GUARD TOWER	REMOVED 1960	
TA-21-38	DP-38	BARREL STORAGE	REMOVED 1966	
TA-21-39	DP-39	GUARD QUARTERS	REMOVED 1946	
TA-21-40	DP-40	TANK SHELTER		N87+50 E162+50
TA-21-41	DP-41	GUARD TOWER	REMOVED 1960	
TA-21-42	DP-42	PUMP HOUSE		N85+00 E160+00
TA-21-43	DP-43	PUMP HOUSE	REMOVED 1960	
TA-21-44	DP-44	GUARD HOUSE	REMOVED 1964	
TA-21-45	DP-45	SAFETY TRAINING BLDG.	REMOVED 1954	
TA-21-46	DP-46	WAREHOUSE		N90+00 E147+50
TA-21-47	DP-47	TANK, FUEL	REMOVED 1960	
TA-21-48	DP-48	GUARD HOUSE	REMOVED 1958	
TA-21-49	DP-49	STORAGE BUILDING	REMOVED 1958	
TA-21-50	DP-50	DRUM STORAGE	REMOVED 1961	
TA-21-51	DP-51	CYLINDER STORAGE	REMOVED 1967	
TA-21-52	DP-52	CYLINDER STORAGE	REMOVED 1955	
TA-21-53	DP-53	TANK, SEPTIC	ABANDONED 1966	N82+50 E162+50
TA-21-54	DP-54	LABORATORY BUILDING	REMOVED 1968	
TA-21-55	DP-55	TANK, SEPTIC	ABANDONED 1966	N85+00 E155+00
TA-21-56	DP-56	TANK, SEPTIC	ABANDONED 1966	N82+50 E165+00
TA-21-57	DP-57	TANK	FUEL	N85+00 E162+50
TA-21-58	DP-58	TANK, FUEL	REMOVED 1957	
TA-21-59	DP-59	LABORATORY BUILDING		N85+00 E165+00
TA-21-60	DP-60	TANK FUEL	REMOVED 1957	
TA-21-61	DP-61	LABORATORY BUILDING		N82+30 E165+00
TA-21-62	DP-62	TANK, SEPTIC	REMOVED 1965	
TA-21-63	DP-63	TRANSFORMER STATION	REMOVED 1961	
TA-21-64	DP-64	TANK, FUEL	REMOVED 1963	
TA-21-65	DP-65	EXPERIMENTAL BUILDING		N85+00 E165+00
TA-21-66	DP-66	CYLINDER STORAGE		N85+00 E165+00
TA-21-67	DP-67	TRANSFORMER STATION	REMOVED 1958	
TA-21-68	DP-68	MANHOLE	WATER	N92+50 E145+00
TA-21-69	DP-69	MANHOLE	WATER	N92+50 E145+00
TA-21-70	DP-70	MANHOLE, ACID	REMOVED 1967	
TA-21-71	DP-71	MANHOLE, STEAM	REMOVED 1966	
TA-21-72	DP-72	MANHOLE, ELECTRIC	ABANDONED 1964	N87+50 E150+00
TA-21-73	DP-73	MANHOLE, STEAM	REMOVED 1966	
TA-21-74	DP-74	MANHOLE	ACID SUMP	N90+00 E152+50
TA-21-75	DP-75	MANHOLE	STEAM	N90+00 E152+50
TA-21-76	DP-76	MANHOLE	STORM DRAINAGE	N90+00 E152+50
TA-21-77	DP-77	MANHOLE	STEAM	N90+00 E152+50
TA-21-78	DP-78	MANHOLE	STEAM	N90+00 E152+50
TA-21-79	DP-79	MANHOLE	ELECTRICAL	N87+50 E152+50
TA-21-80	DP-80	P.R.V. STATION	WATER	N87+50 E152+50
TA-21-81	DP-81	MANHOLE	ACID	N87+50 E152+50
TA-21-82	DP-82	MANHOLE	WATER P.R.V.	N87+50 E152+50
TA-21-83	DP-83	P.R.V. STATION	WATER	N87+50 E155+00
TA-21-84	DP-84	MANHOLE	ACID	N87+50 E155+00
TA-21-85	DP-85	MANHOLE	REMOVED 1958	
TA-21-86	DP-86	P.R.V. STATION	WATER	N87+50 E157+50
TA-21-87	DP-87	MANHOLE	ACID	N87+50 E157+50
TA-21-88	DP-88	P.R.V. STATION	WATER	N87+50 E157+50
TA-21-89	DP-89	MANHOLE	ACID	N87+50 E157+50
TA-21-90	DP-90	MANHOLE	REMOVED 1966	
TA-21-91	DP-91	MANHOLE	REMOVED 1961	
TA-21-92	DP-92	MANHOLE	REMOVED 1968	
TA-21-93	DP-93	MANHOLE, ACID	REMOVED 1968	
TA-21-94	DP-94	MANHOLE	ELECTRICAL	N87+50 E160+00
TA-21-95	DP-95	MANHOLE, ELECTRICAL	REMOVED 1967	
TA-21-96	DP-96	MANHOLE	ELECTRICAL	N85+00 E162+50
TA-21-97	DP-97	MANHOLE	FUEL STRAINER PIT	N85+00 E162+50
TA-21-98	DP-98	MANHOLE	STEAM PIT	N85+00 E162+50
TA-21-99	DP-99	TRANSFORMER STATION		N90+00 E145+00
TA-21-100	DP-100	TRANSFORMER STATION		N87+50 E147+50
TA-21-101	DP-101	TRANSFORMER STATION	REMOVED 1977	
TA-21-102	DP-102	TRANSFORMER STATION	REMOVED 1977	
TA-21-103	DP-103	TRANSFORMER STATION	REMOVED 1977	
TA-21-104	DP-104	TRANSFORMER STATION	REMOVED 1977	
TA-21-105	DP-105	TRANSFORMER STATION	REMOVED 1977	
TA-21-106	DP-106	TANK, SEPTIC	ABANDONED 1966	N85+00 E150+00
TA-21-107	DP-107	TANK	UNDERGROUND, ACID	N87+50 E162+50
TA-21-108	DP-108	TANK	UNDERGROUND, ACID	N87+50 E162+50
TA-21-109	DP-109	TRANSFORMER STATION	REMOVED 1977	
TA-21-110	DP-110	TANK	ACID	N87+50 E160+00
TA-21-111	DP 111	TANK	ACID	N87+50 E160+00
TA-21-112	DP-112	TANK	ACID	N87+50 E160+00
TA-21-113	DP-113	TANK	ACID	N87+50 E160+00
TA-21-114	DP-114	EXPERIMENTAL TOWER	REMOVED 1968	
TA-21-115	DP-115	INSTRUMENT BUILDING	REMOVED 1958	
TA-21-116	DP-116	EQUIPMENT WAREHOUSE		N85+00 E155+00
TA-21-117	DP-117	TOWER		N85+00 E162+50
TA-21-118	DP-118	ACID PIT		N85+00 E152+50
TA-21-119	DP-119	TANK	FUEL	N85+00 E165+00
TA-21-120	DP-120	TANK	ACID	N87+50 E160+00
TA-21-121	DP-121	ACID SUMP		N87+50 E160+00
TA-21-122	DP-122	ACID SUMP		N90+00 E160+00
TA-21-123	DP-123	TANK, ACID	ABANDONED 1966	N87+50 E147+50
TA-21-124	DP-124	TANK, SEPTIC	ABANDONED 1966	N92+50 E145+00
TA-21-125	DP-125	TANK, SEPTIC	ABANDONED 1966	N95+00 E150+00
TA-21-126	DP-126	MANHOLE, ELECTRIC	ABANDONED 1961	N90+00 E147+50
TA-21-127	DP-127	MANHOLE, ELECTRIC	ABANDONED 1961	N90+00 E147+50
TA-21-128	DP-128	MANHOLE, ELECTRIC	ABANDONED 1961	N87+50 E147+50
TA-21-129	DP-129	MANHOLE	REMOVED 1965	
TA-21-130	DP-130	MANHOLE	WATER P.R.V.	N85+00 E162+50
TA-21-131	DP-131	ACID SUMP		N87+50 E160+00
TA-21-132	DP-132	ACID SUMP		N87+50 E160+00
TA-21-133	DP-133	STORAGE BUILDING	REMOVED 1962	
TA-21-134	DP-134	PUMP HOUSE	REMOVED 1948	
TA-21-135	DP-135	PUMP HOUSE	REMOVED 1948	
TA-21-136	DP-136	RETAINING WALL		N92+50 E150+00
TA-21-137	DP-137	PUMP HOUSE	CANCELLED	
TA-21-138	DP-138	GUARD TOWER	REMOVED 1952	
TA-21-139	DP-139	GUARD TOWER	REMOVED 1952	
TA-21-140	DP-140	GUARD TOWER	REMOVED 1952	
TA-21-141	DP-141	MANHOLE	CANCELLED	
TA-21-142	DP-142	TANK, SEPTIC	REMOVED 1965	
TA-21-143	DP-143	COOLING TOWER		N85+00 E152+50
TA-21-144	DP-144	PASSAGEWAY	BLDG. 116 TO PASS. 315	N85+00 E155+00
TA-21-145	DP-145	TANK	REMOVED 1968	
TA-21-146	DP-146	FILTER BUILDING		N90+00 E155+00
TA-21-147	DP-147	TANK	REMOVED 1968	
TA-21-148	DP-148	SUBSTATION		N85+00 E160+00
TA-21-149	DP-149	CORRIDOR STRUCTURE	BLDG. 5 TO 150	N85+00 E157+50
TA-21-150	DP-150	PLUT. FUEL SERVICE BLDG.		N85+00 E157+50
TA-21-151	DP-151	ADMIN. BLDG. & SHOP	REMOVED 1966	
TA-21-152	DP-152	LABORATORY BUILDING		N85+00 E170+00
TA-21-153	DP-153	FILTER	DEMOLISHED 1978	
TA-21-154	DP-154	DOUBLE HUTMENT	REMOVED 1949	
TA-21-155	DP-155	FURNACE BUILDING		N85+00 E170+00
TA-21-156	DP-156	PUMP HOUSE	REMOVED 1964	
TA-21-157	DP-157	GUARD HOUSE	REMOVED 1950	
TA-21-158	DP-158	GUARD TOWER	REMOVED 1960	
TA-21-159	DP-159	PASSAGEWAY	REMOVED 1965	
TA-21-160	DP-160		REMOVED 1971	
TA-21-161	DP-161	TANK, WATER	RELOCATED TO TA-35-38	
TA-21-162	DP-162	TANK, WATER	RELOCATED TO TA-3-738	
TA-21-163	DP-163	TANK, SEPTIC	ABANDONED 1966	N87+50 E167+50
TA-21-164	DP-164	ACID SUMP		N87+50 E172+50
TA-21-165	DP-165	STORAGE BUILDING	REMOVED 1964	
TA-21-166	DP-166	EQUIPMENT BUILDING		N85+00 E170+00
TA-21-167	DP-167	EQUIPMENT BUILDING		N85+00 E170+00
TA-21-168	DP-168	GUARD HOUSE	REMOVED 1966	
TA-21-169	DP-169	MANHOLE, WATER P.R.V.	REMOVED 1966	
TA-21-170	DP-170	MANHOLE	REMOVED 1964	
TA-21-171	DP-171	MANHOLE	WATER VALVE BOX	N87+50 E170+00
TA-21-172	DP-172	P.R.V. STATION	WATER	N85+00 E170+00
TA-21-173	DP-173	MANHOLE	ACID	N85+00 E170+00
TA-21-174	DP-174	MANHOLE	WATER	N85+00 E170+00
TA-21-175	DP-175	MANHOLE	REMOVED 1965	
TA-21-176	DP-176	MANHOLE	REMOVED 1965	
TA-21-177	DP-177	MANHOLE, ELECTRIC	ABANDONED 1965	N82+50 E172+50
TA-21-178	DP-178	TRANSFORMER STATION		N82+50 E172+50
TA-21-179	DP-179	TRANSFORMER STATION	REMOVED 1977	
TA-21-180	DP-180	TRANSFORMER STATION	REMOVED 1965	
TA-21-181	DP-181	TANK, SEPTIC	ABANDONED 1965	N82+50 E172+50
TA-21-182	DP-182	DRUM STORAGE	REMOVED 1964	
TA-21-183	DP-183	GUARD TOWER	REMOVED 1948	
TA-21-184	DP-184	SUBSTATION	REMOVED 1977	
TA-21-185	DP-185	TANK, ACID	REMOVED 1968	
TA-21-186	DP-186	ACID PIT		N90+00 E157+50
TA-21-187	DP-187	TANK ACID	REMOVED 1966	
TA-21-188	DP-188	SUBSTATION		N82+50 E170+00
TA-21-189	DP-189	MANHOLE	ACID	N87+50 E157+50
TA-21-190	DP-190	SAMPLING BUILDING	CANCELLED	
TA-21-191	DP-191	CEMENT STORAGE SILO		N87+50 E180+00
TA-21-192	DP-192	GRIT CHAMBER	REMOVED 1968	
TA-21-193	DP-193	SUBSTATION		N85+00 E157+50
TA-21-194	DP-194	TANK, SEPTIC	ABANDONED 1966	N85+00 E167+50
TA-21-195	DP-195	MANIFOLD	HELIUM	N87+50 E152+50
TA-21-196	DP-196	MANIFOLD	OXYGEN	N87+50 E157+50
TA-21-197	DP-197	MANIFOLD	HELIUM	N85+00 E157+50
TA-21-198	DP-198	MANIFOLD	CANCELLED	
TA-21-199	DP-199	MANIFOLD	HELIUM	N85+00 E170+00
TA-21-200	DP-200	MANIFOLD	HELIUM	N85+00 E165+00
TA-21-201	DP-201	MANIFOLD	OXYGEN	N87+50 E155+00
TA-21-202	DP-202	MANHOLE	ACID	N85+00 E157+50
TA-21-203	DP-203	DRY AIR SYSTEM BUILDING	CANCELLED	
TA-21-204	DP-204	VALVE PIT	ACID	N87+50 E160+00
TA-21-205	DP-205	VALVE PIT	ACID	N87+50 E160+00
TA-21-206	DP-206	DEVELOPMENT BUILDING	INCORPORATED DP-155	N85+00 E170+00
TA-21-207	DP-207	FURNACE BUILDING	INCORPORATED DP-155	N85+00 E170+00
TA-21-208	DP-208	RETAINING WALL		N85+00 E157+50
TA-21-209	DP-209	HIGH TEMP. CHEMISTRY BLDG		N85+00 E172+50
TA-21-210	DP-210	PU RESEARCH SUPPORT BLDG		N87+50 E150+00
TA-21-211	DP-211	MANIFOLD		N85+00 E170+00
TA-21 212	DP 212	CALCIUM BUILDING		N92+50 E152+50
TA-21-213	DP-213	LAB. SUPPLY WAREHOUSE		N87+50 E170+00
TA-21-214	DP-214	GUARD HOUSE	RELOCATED TO TA-49-1	
TA-21-215	DP-215	MANIFOLD	ARGON	N85+00 E157+50
TA-21-216	DP-216	MANHOLE	STEAM	N85+00 E170+00
TA-21-217	DP-217	MANHOLE	SANITARY	N85+00 E170+00
TA-21-218	DP-218	MANHOLE	SANITARY	N82+50 E170+00
TA-21-219	DP-219	TANK, SEPTIC	ABANDONED 1966	N82+50 E170+00
TA-21-220	DP-220	COOLING TOWER		N85+00 E167+50
TA-21-221	DP-221	MANHOLE	ACID	N85+00 E170+00
TA-21-222	DP-222	MANHOLE	ACID	N85+00 E170+00
TA-21-223	DP-223	MANHOLE	ACID SUMP	N87+50 E170+00
TA-21-224	DP-224	MANHOLE	ELECTRIC	N87+50 E150+00
TA-21-225	DP-225	TANK, SEPTIC	REMOVED 1966	
TA-21-226	DP-226	MANIFOLD	REMOVED 1968	
TA-21-227	DP-227	SEWAGE TREATMENT PLANT		N82+50 E182+50
TA-21-228	DP-228	REPLACEMENT WAREHOUSE		N90+00 E157+50
TA-21-229	DP-229	CONTROL BUILDING		N82+50 E182+50
TA-21-230	DP-230	SLUDGE DRYING BEDS		N82+50 E182+50
TA-21-231	DP-231	MANHOLE	SANITARY	N82+50 E180+00
TA-21-232	DP-232	MANHOLE	SANITARY	N82+50 E180+00
TA-21-233	DP-233	MANHOLE	SANITARY	N82+50 E175+00
TA-21-234	DP-234	MANHOLE	SANITARY	N82+50 E172+50
TA-21-235	DP-235	MANHOLE	SANITARY	N82+50 E170+00
TA-21-236	DP-236	MANHOLE	SANITARY	N82+50 E170+00
TA-21-237	DP-237	MANHOLE	SANITARY	N82+50 E165+00
TA-21-238	DP-238	MANHOLE	SANITARY	N82+50 E162+50
TA-21-239	DP-239	MANHOLE	SANITARY	N82+50 E162+50
TA-21-240	DP-240	MANHOLE	SANITARY	N82+50 E160+00
TA-21-241	DP-241	MANHOLE	SANITARY	N85+00 E160+00
TA-21 242	DP-242	MANHOLE	SANITARY	N87+50 E160+00
TA-21-243	DP-243	MANHOLE	SANITARY	N82+50 E157+50
TA-21-244	DP-244	MANHOLE	SANITARY	N82+50 E157+50
TA-21-245	DP-245	MANHOLE	SANITARY	N85+00 E157+50
TA-21-246	DP-246	MANHOLE	SANITARY	N85+00 E152+50
TA-21-247	DP-247	MANHOLE	SANITARY	N85+00 E150+00
TA-21-248	DP-248	MANHOLE	SANITARY	N85+00 E150+00
TA-21-249	DP-249	MANHOLE	SANITARY	N87+50 E147+50
TA-21-250	DP-250	MANHOLE	SANITARY	N90+00 E147+50
TA-21-251	DP-251	MANHOLE	SANITARY	N90+00 E147+50
TA-21-252	DP-252	MANHOLE	SANITARY	N92+50 E147+50
TA-21-253	DP-253	MANHOLE	ELECTRIC	N92+50 E147+50
TA-21-254	DP-254	GUARD HOUSE		
TA-21-255	DP-255	TANK	REMOVED 1968	
TA-21-256	DP-256	TANK	ACID	N87+57 E157+50
TA-21-257	DP-257	WASTE DISPOSAL PLANT		N87+50 E160+00
TA-21-258	DP-258	TANK	WATER	N92+50 E147+50
TA-21-259	DP-259	MANHOLE	WATER	N92+50 E147+50
TA-21-260	DP-260	MANHOLE	STEAM PIT	N90+00 E147+50

REV.	DATE	REVISION	BY	CKD	APP.
18	9-22-83	REVISED TITLE BLOCK AND DWG. TO STATUS OF 8-1-83	VM		

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INDEX SHEET
STRUCTURE LOCATION PLAN
TA-21 DP-SITE

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DATE 9-22-83
SHEET NO. 1 OF 1
DRAWING NO. ENG-R5113

Figure TA-21-1: Structure Location Plan for TA-21 - DP Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-21-261	DP-261	MANHOLE	STEAM	N92+50 E147+50
TA-21-262	DP-262	TANK, ACID	CANCELLED	
TA-21-263	DP-263	TANK, ACID	CANCELLED	
TA-21-264	DP-264	MANHOLE	SANITARY	N82+50 E185+00
TA-21-265	DP-265	MANHOLE	SANITARY	N82+50 E185+00
TA-21-266	DP-266	MANHOLE	STEAM PIT	N85+00 E162+50
TA-21-267	DP-267	MANHOLE	STEAM PIT	N85+00 E162+50
TA-21-268	DP-268	TANK	FUEL	N85+00 E162+50
TA-21-269	DP-269	MANHOLE	WATER P.R.V.	N92+50 E145+00
TA-21-270	DP-270	MANHOLE	WATER P.R.V.	N87+50 E170+00
TA-21-271	DP-271	MANHOLE, ACID FLOW METER	REMOVED 1968	
TA-21-272	DP-272	CONCRETE PAD		N87+50 E155+00
TA-21-273	DP-273	MANHOLE	SANITARY	N85+00 E152+50
TA-21-274	DP-274	MANHOLE	SANITARY	N85+00 E155+00
TA-21-275	DP-275	MANHOLE	SANITARY	N85+00 E155+00
TA-21-276	DP-276	TRANSFORMER STATION		N82+50 E160+00
TA-21-277	DP-277	TRANSFORMER STATION		
TA-21-278	DP-278	TRANSFORMER STATION	REMOVED 1977	
TA-21-279	DP-279	TRANSFORMER STATION		
TA-21-280	DP-280	TRANSFORMER STATION	REMOVED 1977	
TA-21-281	DP-281	TRANSFORMER STATION	REMOVED 1977	
TA-21-282	DP-282	TRANSFORMER STATION	REMOVED 1977	
TA-21-283	DP-283	TRANSFORMER STATION	REMOVED 1977	
TA-21-284	DP-284	TRANSFORMER STATION		
TA-21-285	DP-285	TRANSFORMER STATION		
TA-21-286	DP-286	HOT STORAGE REPL. WHSE		N90+00 E157+50
TA-21-287	DP-287	TANK	LIQUID ARGON	N85+00 E170+00
TA-21-288	DP-288	TANK	ACID	N87+50 E160+00
TA-21-289	DP-289	TANK	ACID	N87+50 E160+00
TA-21-290	DP-290	MANIFOLD		N87+50 E152+50
TA-21-291	DP-291	TRAILER, OFFICE	RENUMBERED TA-0-301 RELOC. TO TA-53	
TA-21-292	DP-292	TRAILER, OFFICE	RENUMBERED TA-0-305 RELOC. TO TA-3	
TA-21-293	DP-293	TRAILER, OFFICE	RENUMBERED TA-0-311 RELOC. TO TA-53	
TA-21-294	DP-294	TRAILER, OFFICE	RENUMBERED TA-0-304 RELOC. TO TA-36	
TA-21-295	DP-295	TRAILER, OFFICE	RENUMBERED TA-0-303 RELOC. IN TA-21	
TA-21-296	DP-296	TRAILER, OFFICE	RENUMBERED TA-0-306 RELOC. TO TA-35	
TA-21-297	DP-297	TRAILER, OFFICE	RENUMBERED TA-0-307 RELOC. TO TA-15	
TA-21-298	DP-298			
TA-21-299	DP-299			
TA-21-300	DP-300			
TA-21-301	DP-301	TRANSFORMER STATION	REMOVED 1977	
TA-21-302	DP-302			
TA-21-303	DP-303	MANHOLE	ELECTRICAL, PRI.	N85+00 E160+00
TA-21-304	DP-304	MANHOLE	ELECTRICAL, PRI.	N85+00 E157+50
TA-21-305	DP-305	MANIFOLD		N92+50 E152+50
TA-21-306	DP-306			
TA-21-307	DP-307	SUBSTATION		N92+50 E147+50
TA-21-308	DP-308	SUBSTATION		N90+00 E155+00
TA-21-309	DP-309	SUBSTATION		N85+00 E160+00
TA-21-310	DP-310	CABINET, TELEPHONE		N90+00 E155+00
TA-21-311	DP-311	CABINET, TELEPHONE		N85+00 E160+00
TA-21-312	DP-312	CORRIDOR STRUCTURE	REPLACES TA-21-18	N87+50 E152+50
TA-21-313	DP-313	CORRIDOR STRUCTURE	REPLACES TA-21-15	N87+50 E152+50
TA-21-314	DP-314	CORRIDOR STRUCTURE	REPLACES TA-21-16	N87+50 E152+50
TA-21-315	DP-315	CORRIDOR STRUCTURE	REPLACES TA-21-17	N87+50 E152+50
TA-21-316	DP-316	MANHOLE, TELEPHONE		N85+00 E160+00
TA-21-317	DP-317	MANHOLE, TELEPHONE		N85+00 E157+50
TA-21-318	DP-318	CAPACITOR BANK		
TA-21-319	DP-319	TRAILER, OFFICE	RENUMBERED TA-0-593 RELOC. IN TA-21	
TA-21-320	DP-320	CABINET, TELEPHONE		N92+50 E147+50
TA-21-321	DP-321	TRANSFORMER STATION		
TA-21-322	DP-322	EXH. STACK & FIL. HSG.		N85+00 E170+00
TA-21-323	DP-323	EXH. STACK & FIL. HSG.		N85+00 E170+00
TA-21-324	DP-324	FILTER HOUSE		N 90+00 E155+00
TA-21-325	DP-325	TANK	NITRIC ACID STORAGE	N 87+50 E152+50
TA-21-326	DP-326	TRANSFORMER		N 90+00 E147+50
TA-21-327	DP-327	TRANSFORMER		N 82+50 E172+50
TA-21-328	DP-328	MATERIAL RECEIVING FAC BLDG		N 87+50 E150+00
TA-21-329	DP-329	FIRE SCREEN	REMOVED 1980	
TA-21-330	DP-330	PLATFORM (GAS LOADING)		N 85+00 E155+00
TA-21-331	DP-331	WASTE STORAGE TEST PIT		N 92+50 E152+50
TA-21-332	DP-332	CANCELLED		
TA-21-333	DP-333	CANCELLED		
TA-21-334	DP-334	METAL UTILITY SHED		N 92+50 E147+50
TA-21-335	DP-335	CONTAINMENT VESSEL		N 92+50 E155+00
TA-21-336	DP-336	MODULAR OFFICE BUILDING	RELOCATED TO TA-53-20	
TA-21-337	DP-337	MODULAR OFFICE BUILDING	RELOCATED TO TA-53-21	
TA-21-338	DP-338	SUBSTATION		N 85+00 E157+50
TA-21-339	DP-339		CANCELLED	
TA-21-340	DP-340	TRANSFORMER STATION		N 80+00 E160+00
TA-21-341	DP-341	TANK	PROPANE	N 87+50 E152+50
TA-21-342	DP-342	TANK	WATER	N 85+00 E160+00
TA-21-343	DP-343	MANHOLE	WATER	N 87+50 E150+00
TA-21-344	DP-344	GUARD STATION		N 87+50 E152+00
TA-21-345	DP-345	GUARD STATION		N 85+00 E155+00
TA-21-346	DP-346	TANK, PUMP STATION	NOT SHOWN	
TA-21-347	DP-347	MANHOLE, STEAM	NOT SHOWN	
TA-21-348	DP-348	SEWAGE PIT	NOT SHOWN	
TA-21-349	DP-349	TRAILER, LUNCH ROOM		N 85+00 E155+00
TA-21-350	DP-350	TRAILER, OFFICE	FORMERLY TA-0-303	N 87+50 E152+50
TA-21-351	DP-351	TRAILER, OFFICE	FORMERLY TA-0-447	N 87+50 E150+00
TA-21-352	DP-352	TRAILER, OFFICE	FORMERLY TA-0-456	N 87+50 E152+50
TA-21-353	DP-353	TRAILER, CHANGE ROOM	FORMERLY TA-0-500	N 85+00 E152+50
TA-21-354	DP-354	TRAILER, OFFICE	FORMERLY TA-0-516	N 87+50 E155+00
TA-21-355	DP-355	TRAILER, OFFICE	FORMERLY TA-0-593	N 87+00 E157+50
TA-21-356	DP-356	TRAILER, OFFICE	FORMERLY TA-0-712	N 87+50 E152+50
TA-21-357	DP-357	STEAM PLANT		N 82+50 E162+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

Figure TA-21-1: Structure Location Plan for TA-21 - DP Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

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8	9-22-83	REVISED TITLE BLOCK AND DWG. TO STATUS OF 8-1-83	VM		

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TA-21 DP-SITE

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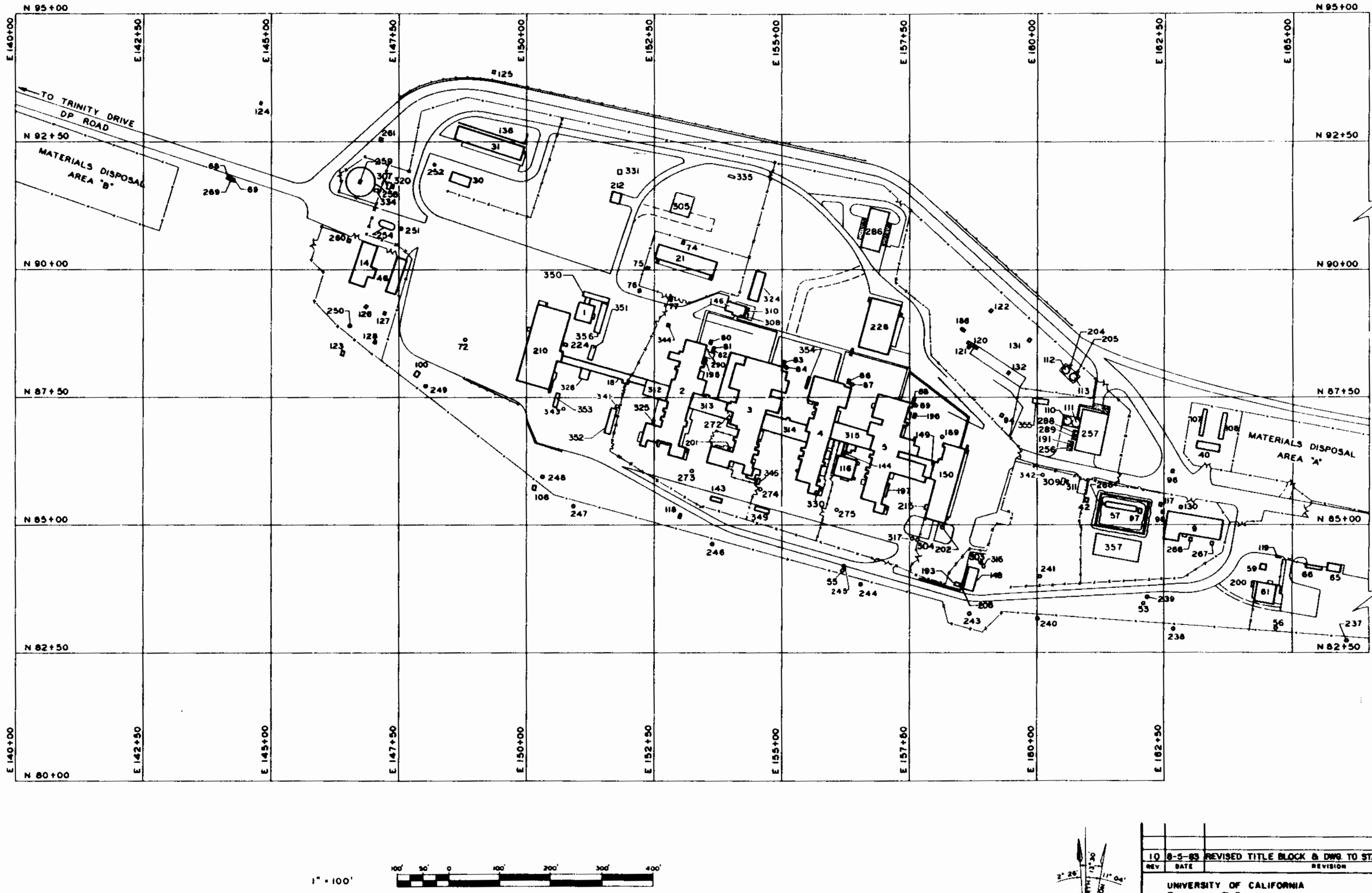
DATE: 9-22-83
SHEET NO. 2 of 4
DRAWING NO. ENG-R5113



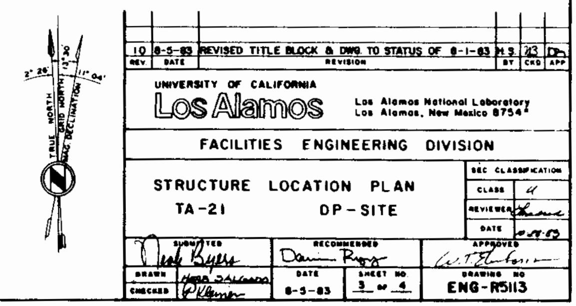
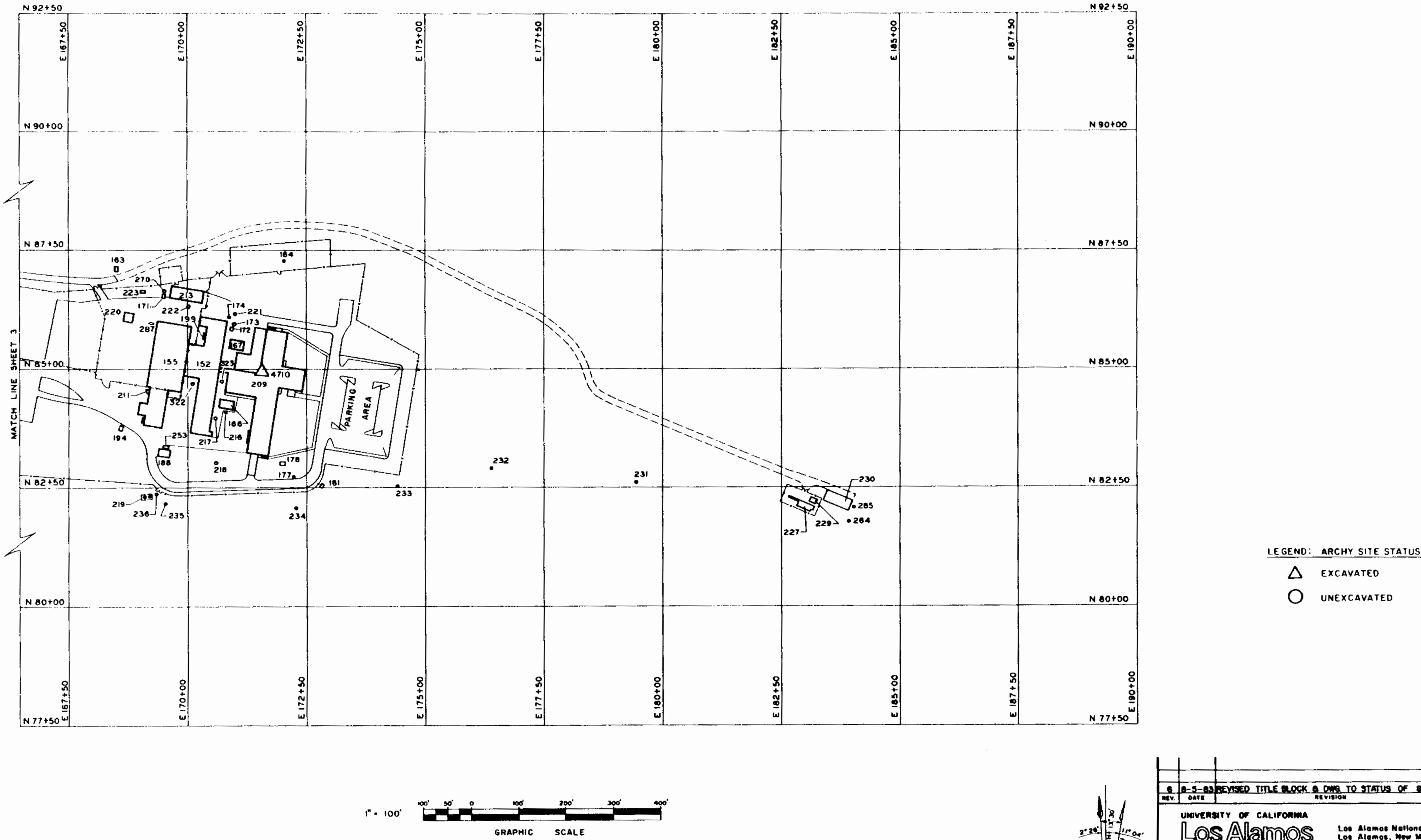


Figure TA-21-1: Structure Location Plan for TA-21 - DP Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)



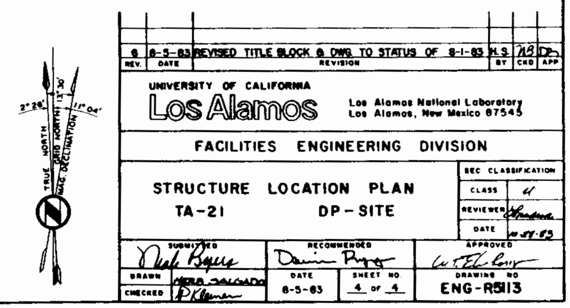


Figure TA-21-1: Structure Location Plan for TA-21 - DP Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

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STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-21-1	DP - 1	ADMINISTRATION BUILDING
TA-21-2	DP - 2	LABORATORY
TA-21-3	DP - 3	LABORATORY
TA-21-4	DP - 4	LABORATORY
TA-21-5	DP - 5	LABORATORY
TA-21-6	DP - 6	MACHINE SHOP & CAFETERIA
TA-21-7	DP - 7	WAREHOUSE
TA-21-8	DP - 8	WAREHOUSE
TA-21-9	DP - 9	STEAM PLANT
TA-21-10	DP - 10	STORAGE
TA-21-11	DP - 11	STORAGE
TA-21-12	DP - 12	FILTER HOUSE
TA-21-13	DP - 13	STORAGE
TA-21-14	DP - 14	POWER PLANT
TA-21-15	DP - 15	PASSAGEWAY (BLDG 2 TO 3)
TA-21-16	DP - 16	PASSAGEWAY (BLDG. 3 TO 4)
TA-21-17	DP - 17	PASSAGEWAY (BLDG. 4 TO 5)
TA-21-18	DP - 18	PASSAGEWAY (BLDG. 1 TO 2)
TA-21-19	DP - 19	PASSAGEWAY (BLDG. 1 TO 6)
TA-21-20	DP - 20	LAUNDRY
TA-21-21	DP - 21	VAULT
TA-21-22	DP - 22	WAREHOUSE
TA-21-23	DP - 23	STORAGE BLDG. (REMOVED)1954
TA-21-24	DP - 24	STORAGE BLDG. (REMOVED)1955
TA-21-25	DP - 25	STORAGE BLDG. (REMOVED)1953
TA-21-26	DP - 26	STORAGE BLDG. (REMOVED)1954
TA-21-27	DP - 27	STORAGE BLDG. (REMOVED)1954
TA-21-28	DP - 28	STORAGE BLDG. (REMOVED)1954
TA-21-29	DP - 29	EMERGENCY SHACK (WAS TA-1-7)
TA-21-30	DP - 30	PAINT SHOP
TA-21-31	DP - 31	SHOPS
TA-21-32	DP - 32	WAREHOUSE
TA-21-33	DP - 33	WASTE TREATMENT LAB
TA-21-34	DP - 34	LABORATORY
TA-21-35	DP - 35	WASTE DISPOSAL LAB
TA-21-36	DP - 36	GUARD TOWER "A"
TA-21-37	DP - 37	GUARD TOWER "B"
TA-21-38	DP - 38	BARREL STORAGE
TA-21-39	DP - 39	GUARD QUARTERS (REMOVED)
TA-21-40	DP - 40	TANK SHELTER
TA-21-41	DP - 41	GUARD TOWER "C"
TA-21-42	DP - 42	PUMP HOUSE
TA-21-43	DP - 43	PUMP HOUSE
TA-21-44	DP - 44	GUARD HOUSE (STATION 115)
TA-21-45	DP - 45	SAFETY TRAINING BLDG. (REMOVED) 1954
TA-21-46	DP - 46	DIESEL POWER PLANT
TA-21-47	DP - 47	TANK (FUEL OIL)
TA-21-48	DP - 48	GUARD HOUSE (STATION 125)
TA-21-49	DP - 49	STORAGE. BLDG.
TA-21-50	DP - 50	DRUM STORAGE (REMOVED)
TA-21-51	DP - 51	CYLINDER STORAGE
TA-21-52	DP - 52	CYLINDER STORAGE (REMOVED) 1955
TA-21-53	DP - 53	SEPTIC TANK (SANITARY)
TA-21-54	DP - 54	LABORATORY
TA-21-55	DP - 55	SEPTIC TANK (SANITARY)
TA-21-56	DP - 56	SEPTIC TANK (SANITARY)
TA-21-57	DP - 57	TANK (FUEL OIL)
TA-21-58	DP - 58	TANK (FUEL OIL)
TA-21-59	DP - 59	LABORATORY
TA-21-60	DP - 60	TANK (FUEL OIL)
TA-21-61	DP - 61	LABORATORY
TA-21-62	DP - 62	SEPTIC TANK (SANITARY)
TA-21-63	DP - 63	TRANSFORMER STATION
TA-21-64	DP - 64	TANK (FUEL OIL)
TA-21-65	DP - 65	EXP. BLDG.
TA-21-66	DP - 66	CYLINDER STORAGE
TA-21-67	DP - 67	TRANSFORMER STATION
TA-21-68	DP - 68	MANHOLE (WATER)
TA-21-69	DP - 69	MANHOLE (WATER)
TA-21-70	DP - 70	MANHOLE (ACID)
TA-21-71	DP - 71	MANHOLE (STEAM)
TA-21-72	DP - 72	MANHOLE (ELECTRIC)
TA-21-73	DP - 73	MANHOLE (STEAM)
TA-21-74	DP - 74	MANHOLE (STEAM)
TA-21-75	DP - 75	MANHOLE (STEAM)
TA-21-76	DP - 76	MANHOLE (DRAINAGE)
TA-21-77	DP - 77	MANHOLE (STEAM)
TA-21-78	DP - 78	MANHOLE (STEAM)
TA-21-79	DP - 79	MANHOLE (ELECTRIC)
TA-21-80	DP - 80	MANHOLE (WATER PRV)
TA-21-81	DP - 81	MANHOLE (ACID)
TA-21-82	DP - 82	MANHOLE (WATER)
TA-21-83	DP - 83	MANHOLE (WATER PRV)
TA-21-84	DP - 84	MANHOLE (ACID)
TA-21-85	DP - 85	MANHOLE (WATER)
TA-21-86	DP - 86	MANHOLE (WATER PRV)
TA-21-87	DP - 87	MANHOLE (ACID)
TA-21-88	DP - 88	MANHOLE (WATER PRV)
TA-21-89	DP - 89	MANHOLE (ACID)
TA-21-90	DP - 90	MANHOLE (ELECTRIC)
TA-21-91	DP - 91	MANHOLE (ELECTRIC)
TA-21-92	DP - 92	MANHOLE (ELECTRIC)
TA-21-93	DP - 93	MANHOLE (WATER)
TA-21-94	DP - 94	MANHOLE (ELECTRIC)
TA-21-95	DP - 95	MANHOLE (ELECTRIC)
TA-21-96	DP - 96	MANHOLE (ELECTRIC)
TA-21-97	DP - 97	MANHOLE (STRAINER PIT)
TA-21-98	DP - 98	MANHOLE (ACID)
TA-21-99	DP - 99	TRANSFORMER STATION
TA-21-100	DP - 100	TRANSFORMER STATION
TA-21-101	DP - 101	TRANSFORMER STATION
TA-21-102	DP - 102	TRANSFORMER STATION
TA-21-103	DP - 103	TRANSFORMER STATION
TA-21-104	DP - 104	TRANSFORMER STATION
TA-21-105	DP - 105	TRANSFORMER STATION
TA-21-106	DP - 106	SEPTIC TANK (SANITARY)
TA-21-107	DP - 107	UNDERGROUND TANK (ACID)
TA-21-108	DP - 108	UNDERGROUND TANK (ACID)
TA-21-109	DP - 109	TRANSFORMER STATION
TA-21-110	DP - 110	HOLDING TANK (ACID)
TA-21-111	DP - 111	HOLDING TANK (ACID)
TA-21-112	DP - 112	HOLDING TANK (ACID)
TA-21-113	DP - 113	HOLDING TANK (ACID)
TA-21-114	DP - 114	EXPERIMENTAL TOWER (WAS TA-33-38)
TA-21-115	DP - 115	INSTRUMENT BLDG.
TA-21-116	DP - 116	EQUIPMENT WHSE (PROPOSED)
TA-21-117	DP - 117	TOWER
TA-21-118	DP - 118	PIT (ACID)
TA-21-119	DP - 119	BUTANE TANK
TA-21-120	DP - 120	TANK (ACID)
TA-21-121	DP - 121	SUMP (ACID)
TA-21-122	DP - 122	SUMP (ACID)
TA-21-123	DP - 123	SEPTIC TANK (ACID)
TA-21-124	DP - 124	SEPTIC TANK (ABANDONED)
TA-21-125	DP - 125	SEPTIC TANK (SANITARY)
TA-21-126	DP - 126	MANHOLE (ELECTRIC)
TA-21-127	DP - 127	MANHOLE (ELECTRIC)
TA-21-128	DP - 128	MANHOLE (ELECTRIC)
TA-21-129	DP - 129	MANHOLE (WATER PRV)
TA-21-130	DP - 130	MANHOLE (WATER PRV)
TA-21-131	DP - 131	SUMP (ACID)
TA-21-132	DP - 132	SUMP (ACID)
TA-21-133	DP - 133	STORAGE BLDG. (WAS TA-1-150)
TA-21-134	DP - 134	PUMP HOUSE (REMOVED)
TA-21-135	DP - 135	PUMP HOUSE (REMOVED) 1948
TA-21-136	DP - 136	RETAINING WALL
TA-21-137	DP - 137	PUMP HOUSE (NEVER BUILT)
TA-21-138	DP - 138	GUARD TOWER (REMOVED)
TA-21-139	DP - 139	GUARD TOWER (REMOVED)
TA-21-140	DP - 140	GUARD TOWER (REMOVED)
TA-21-141	DP - 141	MANHOLE (NEVER BUILT)
TA-21-151	DP - 151	ADM. BLDG. & SHOP
TA-21-152	DP - 152	LABORATORY
TA-21-153	DP - 153	FILTER HOUSE
TA-21-154	DP - 154	DOUBLE HUTMENT (REMOVED)
TA-21-155	DP - 155	WAREHOUSE
TA-21-156	DP - 156	PUMP HOUSE
TA-21-157	DP - 157	GUARD BLDG. (REMOVED) 1950
TA-21-158	DP - 158	GUARD TOWER "D"
TA-21-159	DP - 159	PASSAGEWAY (BLDG 151 TO 152)
TA-21-160	DP - 160	TANK SHELTER
TA-21-161	DP - 161	TANK (WATER)
TA-21-162	DP - 162	TANK (WATER)
TA-21-163	DP - 163	SEPTIC TANK (SANITARY)
TA-21-164	DP - 164	SUMP (ACID)
TA-21-165	DP - 165	STORAGE
TA-21-166	DP - 166	EQUIPMENT ANNEX
TA-21-167	DP - 167	EQUIPMENT ANNEX
TA-21-168	DP - 168	GUARD HOUSE (STATION 127)
TA-21-169	DP - 169	MANHOLE (WATER PRV)
TA-21-170	DP - 170	MANHOLE (STEAM)
TA-21-171	DP - 171	MANHOLE (WATER VALVE BOX)
TA-21-172	DP - 172	MANHOLE (WATER PRV)
TA-21-173	DP - 173	MANHOLE (SANITARY)
TA-21-174	DP - 174	MANHOLE (WATER)
TA-21-175	DP - 175	MANHOLE (SANITARY)
TA-21-176	DP - 176	MANHOLE (ELECTRIC)
TA-21-177	DP - 177	MANHOLE (ELECTRIC)
TA-21-178	DP - 178	TRANSFORMER STATION
TA-21-179	DP - 179	TRANSFORMER STATION
TA-21-180	DP - 180	TRANSFORMER STATION
TA-21-181	DP - 181	SEPTIC TANK (SANITARY)
TA-21-182	DP - 182	DRUM STORAGE
TA-21-183	DP - 183	GUARD TOWER (REMOVED)
TA-21-184	DP - 184	SUBSTATION

NO.	DATE	REVISIONS	BY	CHKD		
8	[illegible]-57	REVISED TO STATUS OF 7-1-57	P.R.	NB		
7	[illegible]	ENG-R 139 REDRAWN AS ENG-R 139 AND ENG-R 140	HOB	JAS		

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-21 DP SITE

CHECKED: J. A. Sayer (DESIGNER) — RECOMMENDED: [illegible] (GROUP LEADER) — APPROVED: [illegible] (ENG. DEPT. OFFICE)

DRAWN: N. BYERS — DATE: 9-23-55 — DRAWING NO.: ENG-R 139
SCALE: NONE — SHEET 1 OF 2

Figure TA-21-2: Structure Location Plan for TA-21 - DP Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

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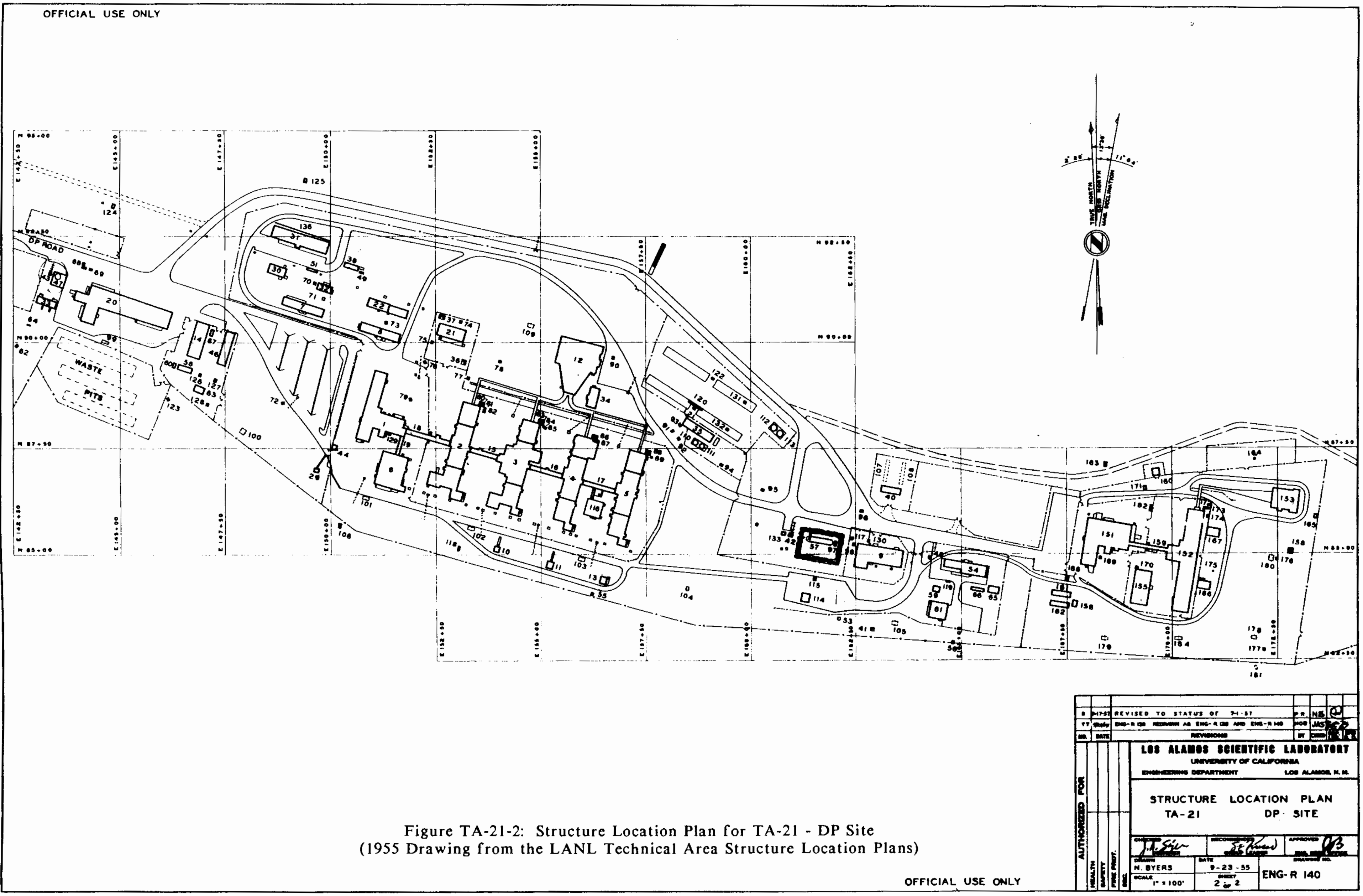

Figure TA-21-2: Structure Location Plan for TA-21 - DP Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

TA-22 - TD SITE

CURRENT OPERATIONS

TA-22 is occupied by the Detonation Systems Group (M-7), which is responsible for developing and fabricating detonation systems. Current operations mainly occur in two new buildings, TA-22-91 and -93, which were finished in 1984. In TA-22-91, detonation cables are made by a photoengraving process that starts with a commercially bought laminate of copper-coated plastic film. TA-22-93 houses the detonator fabrication facility, where detonators of all kinds are made. The main explosive used is pentaerythritol tetranitrate (PETN). TA-22-34 is used as a laboratory and testing facility and was first occupied in the early 1950s.

POTENTIAL CERCLA/RCRA SITES

Special assemblies were handled at TD (Trap Door) Site from the summer of 1945, when it was constructed for such assemblies, until the explosives division (X Division) took it over in 1946. Little data exist about possible contamination from this original operation. A log cabin that had been at the site at that time was surveyed in 1959 and found to be free of contamination; however, a ranch building and one of two prefabricated steel buildings that had also been there were removed. No records were kept of where they were taken, if they needed to be decontaminated, and how they might have been decommissioned. Most of the buildings at TD Site have some high-explosive contamination.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-22. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-22 is 2.7 (Appendix B).

FIGURES

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TABLE TA-22 - POTENTIAL CERCLA/RCRA SITES

TA22-1-CA-A/I-HW/RW (Various structures and projects)

Background--The site known as TD, Trap Door, was constructed in the summer of 1945 as a center to handle special assemblies, an operation that had previously been carried out at TA-25, V Site. It consisted originally of two prefabricated steel buildings, believed to be TA-22-1 and -4, two large-frame magazines, probably TA-22-2 and -3, now part of TA-40, and one ranch building used for storage, TA-22-26 (LASL 1947:13). These structures are shown on a 1948 topographic map and on engineering drawing ENG-R141, dated 1957.

A log cabin at the site was surveyed in 1959 and found to be free of all types of contaminants (LASL 1959). No other data on contamination from the 1945-1946 operations have been found. The assembly operations were moved elsewhere in 1946, and the site was taken over by the explosives division (LASL 1947:13). During the 1986 CEARP field survey, the ranch building and TA-22-4 were observed to have been removed.

By the mid-1950s, drawing ENG-R141 showed additional buildings: TA-22-5, a warehouse; TA-22-6, a boiler; TA-22-7, -8, -9, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -35, -36, -37, -38, -39, -40, -41, magazines; TA-22-25, a process building; TA-22-34, a laboratory; and TA-22-52, a shops building.

The work at TD Site has in general been associated with the development and manufacture of detonators, and most of the buildings have at least some areas of high-explosive contamination, the 1986 CEARP field survey verified. Structure 77 probably built in the late 1960s and known as the "contam wash pad," as shown on ENG-5114, is no longer in use. It was built for washing explosives-contaminated equipment with steam or hot water so that maintenance work or disposal of the equipment could take place. Solvents have been used in many areas; documentation is in the CEARP files. The machining and grinding of beryllium copper alloy took place in the shop (H Division 1954:19, 1955a:14). The site had soldering hoods and operations that included weighing and pressing lead (H Division 1955b:11). It also had a plating facility in building 52 (see TA-22-2) and a chemistry laboratory in building 34, as noted during the literature review and the field survey.

At the present time, two new buildings, TA-22-91 and -93, which were finished in 1984, house most of the operations for detonator development and manufacture. The CEARP field survey observed that hydrochloric acid, ferric chloride, sodium carbonate, sodium hydroxide, and organics are used in TA-22-91.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination from past activities will be determined during supplemental Phase I. No further action is warranted under CEARP for the existing structures, which are covered by routine LANL operations.

TA22-2-CA/O-I/A-HW (Etching and plating operations, photo lab, and other outfalls)

Background--In 1953, a new etching and plating operation began in building 52 (H Division 1953a). Chemicals reported to be used include sodium hydroxide, perchloroethylene, sodium thiosulfate, gold, hydrogen peroxide, sodium cyanide, nickel, copper, zinc, cadmium, and sulfuric, hydrochloric, fluoboric, nitric, chromic, hydrofluoric, and phosphoric acids (H Division 1953b, 1953c,1956; Schulte 1958). The plating facility stripped and replated part of the gold coating on the Ten Site reactor (Mitchell and McKown 1956). The plating facility operators were instructed not to flush cyanide solutions down the site drains (LASL n.d.a). The other solutions were apparently sent to drains connected to the outfall behind building 52, including rinse water with up to 3.2 ppm of cyanide (LASL n.d.b). During the CEARP 1986 field survey, it was observed that ferric chloride, sodium carbonate, thalium, and lead had also been used in the plating work during the 20-25 years of operation. The operators believed ferric chloride was probably the major contaminant in the discharge stream. Discolored material was observed all the way to the stream at the bottom of the canyon. This operation was apparently discontinued at the time of the move to the new building in 1984.

Before the group moved to TA-22-91, TA-22-1 was in active use for handling such explosives as pentaerythritol tetranitrate (PETN), cyclonite (RDX), tetryl, and PBX. At some time before 1960, the drain from room 108 apparently emptied onto the ground about 100 ft from the building (Van Vessem 1960b). The location of this drain and outfall has not yet been determined. More information on high-explosive outfalls is included in the section on sumps (TA-22-3).

Before its removal, building 6 had a boiler blowdown outfall. Building 5 has an outfall of noncontact cooling water.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with past outfall discharges will be determined during supplemental Phase I. Active outfalls are covered by routine LANL operations.

TA22-3-S/O-I/A-HW (Sumps, dry wells, and associated outfalls)

Background--Building 93 is currently used to compact the explosives used in the detonators. Wash water for any items contaminated with high explosive is routed to a baffle/catchment sump, and, as of December 1986, into a dry well--a ground-seepage well. It amounts to about 100 gal. a week, it was learned on the 1986 CEARP field survey.

Building 34 was constructed in the early 1950s. For many years it housed a chemistry laboratory that was later converted to a laser laboratory. This building also houses an active photographic laboratory that has been used for many years. No silver recovery unit is in the darkroom. The drains from these rooms connect through a settling basin to an outfall to the canyon north of the building. Little sludge was noted to be present in the settling basin.

During the 1986 field survey, building 34 was also noted to have explosives testing chambers with floor drains that exit through an explosives settling basin before they join the photographic/chemical drains and discharge to the canyon on the north. Although these drains are no longer being actively used, the chambers are still being used, and any liquid running into the drain might mobilize high explosive from prior experiments. During early site operations high-explosive solutions from building 1 were put into the drains for high explosive at building 34 (Van Vessem 1960a). Building 34 also has a sump for the old chemical laboratory section (See TA 22-2).

The industrial drains from building 91 used to discharge in series to two dry wells before the liquid flowed to the outfall to the southeast of the building. Each dry well is 25 ft deep, has an outside diameter of 6 ft, and is lined with stones. The industrial liquids from building 91 contained dilute amounts of organics, hydrochloric acid, copper, ferric chloride, sodium carbonate, and sodium hydroxide. The dry wells were later bypassed, and discharge is presently directed to an outfall. Plans are to take the liquid to TA-50 for treatment until an onsite treatment facility is installed.

Building TA-22-25 was used primarily for PETN recrystallization. The discharge included mixtures of PETN and acetone (Van Vessem 1960b). The building has a high-explosive baffle/catchment sump. Decant apparently went to a drainage area to the north. Signs reading "high explosive" were seen in the general outfall area during the 1987 CEARP field survey. The building has not been used for many years.

Building 1 was used for explosives for many years. A sump for high explosives was seen during the 1987 CEARP field survey; it had been filled with concrete as part of the decommissioning program. The decant apparently drained to the south to an area surrounded by signs warning of high explosives.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with the sumps, dry wells, and outfalls as a result of past discharge will be determined during supplemental Phase I. Active sumps, dry wells, and outfalls are covered by routine LANL operations.

TA22-4-ST/CA-I/A-HW/RW (Septic tanks and drain fields)

Background--By the mid-1950s, according to ENG-R141, septic tank 42 was no longer in use. Whether radionuclide or high-explosive contaminants are present in this tank is not known.

According to drawings ENG-R1227 and R1228, dated 1958, the septic systems from buildings 1, 4, 5, and 32 ran to septic tank 51, which drained to an extensive tile field. The sanitary waste from building 34 was routed to septic tank 50, which had a drain tile for overflow. In 1972, the tank was indicated to be free of contamination from high explosive, but 51 was indicated to be possibly contaminated with high explosive (Courtright 1972). In 1973, it was reported that industrial flows currently going to a septic tank would be separated from sewage flows and the surfacing of sewage would be discontinued (Atomic Energy Commission 1973:3).

No septic tanks other than 50 and 51 are reported to be currently used (Pan Am 1986). However, during the 1986 CEARP field survey, what appears to be a large drainage field to the southeast of building 1 was observed near the edge of the canyon. There was no discharge at the time of the survey.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with past discharges to septic tanks will be determined during supplemental Phase I. The active septic systems are covered by routine LANL operations.

TA22-5-CA-I-HW/RW (Solvents)

Background--In 1949, degreasing operations using tetrachloroethylene were in progress (Schulte 1949). Reports in the CEARP files show that a degreaser was used in the shop building for many years. The files also show that many other operations at TA-22 used solvents. Section 6.1.5 of an undated safety manual states that safety cans containing flammable and toxic waste solvents should be emptied daily, or when full, into barrels. When the barrel was full, it was to be transported to an area approximately half-way between TA-22 and TA-6, and the contents were to be poured on the ground.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Potential residential environmental contamination will be investigated during supplemental Phase 1.

TA22-6-L-I-HW/RW (Disposal pit)

Background--In 1946, Norris Bradbury indicated in a note to division and group leaders that a pit had been prepared for the disposal of classified objects and shapes. The pit was to remain open until June 1 (Bradbury 1946). No location was given, but in 1956, Harry Allen recalled a "hot burial ground" in the neighborhood of TD Site (LASL 1956).

According to the 1948 topographic map, a reasonable location for the burial pit might be somewhere on the road to the old log cabin. During the 1986 CEARP field survey, a small surface disposal area for what appeared to be road debris was seen in this area, but there was no indication of a pit.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, a field survey, including geophysical reconnaissance, will be undertaken to locate the pit and determine its contents.

TA22-7-UST-I-PP (Underground tank)

Background--A 6,000-gal. underground oil tank, TA-22-45, was used at TA-22 for the boiler. In the 1986 CEARP field survey, the boiler house was observed to have been removed. The assumption is that the tank was also removed, but no data are available on leaks.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The underground tank will be investigated during supplemental Phase I.

TA22-8-CA-A-HW (Waste storage)

Background--TA-22-96 is used for short-term storage of very small quantities of scrap high explosive. The material is removed at regular intervals and detonated.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. TA-22-96 storage activities are covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-22-1	TD-1	LOADING BUILDING		N22+50 W10+00
TA-22-2	TD-2	STORAGE BUILDING		N15+00 E2+50
TA-22-3	TD-3	STORAGE BUILDING		N17+50 E7+50
TA-22-4	TD-4		REMOVED 1984	
TA-22-5	TD-5	WAREHOUSE & PLASTIC SHOP		N22+50 W12+50
TA-22-6	TD-6		REMOVED 1984	
TA-22-7	TD-7	PROCESS BUILDING		N20+00 W10+00
TA-22-8	TD-8	PROCESS BUILDING		N20+00 W10+00
TA-22-9	TD-9	MAGAZINE		N20+00 W10+00
TA-22-10	TD-10	MAGAZINE		N22+50 W7+50
TA-22-11	TD-11	MAGAZINE		N22+50 W7+50
TA-22-12	TD-12	MAGAZINE		N22+50 W7+50
TA-22-13	TD-13		REMOVED 1952	
TA-22-14	TD-14	MAGAZINE		N22+50 W7+50
TA-22-15	TD-15	PROCESS BUILDING		N22+50 W7+50
TA-22-16	TD-16	MAGAZINE		N20+00 W7+50
TA-22-17	TD-17	MAGAZINE		N22+50 W5+00
TA-22-18	TD-18	MAGAZINE		N20+00 W7+50
TA-22-19	TD-19	PROCESS BUILDING		N22+50 W5+00
TA-22-20	TD-20	MAGAZINE		N20+00 W5+00
TA-22-21	TD-21	MAGAZINE		N22+50 W5+00
TA-22-22	TD-22	MAGAZINE		N20+00 W2+50
TA-22-23	TD-23	MAGAZINE		N20+00 W2+50
TA-22-24	TD-24	MAGAZINE		N20+00 W2+50
TA-22-25	TD-25	PROCESS BUILDING		N20+00 W2+50
TA-22-26	TD-26		REMOVED 1960	
TA-22-27	TD-27		REMOVED 1949	
TA-22-28	TD-28	VALVE HOUSE		N22+50 W12+50
TA-22-29	TD-29		REMOVED 1984	
TA-22-30	TD-30		CANCELLED	
TA-22-31	TD-31	SPRINKLER HOUSE		N22+50 W10+00
TA-22-32	TD-32	GUARD HOUSE		N22+50 W15+00
TA-22-33	TD-33	STEAM PIT	ABANDONED 1964	N22+50 W10+00
TA-22-34	TD-34	LABORATORY BUILDING		N22+50 W10+00
TA-22-35	TD-35	MAGAZINE		N22+50 W7+50
TA-22-36	TD-36	MAGAZINE		N20+00 0+00
TA-22-37	TD-37	MAGAZINE		N20+00 0+00
TA-22-38	TD-38	MAGAZINE		N20+00 0+00
TA-22-39	TD-39	MAGAZINE		N20+00 0+00
TA-22-40	TD-40	INERT PREPARATION BLDG		N17+50 E 2+50
TA-22-41	TD-41	LABORATORY BUILDING		N20+00 E 2+50
TA-22-42	TD-42	TANK, SEPTIC	ABANDONED 1952	N20+00 W10+00
TA-22-43	TD-43	TRANSFORMER STATION		N22+50 W10+00
TA-22-44	TD-44	WOOD FENCE	REMOVED 1949	
TA-22-45	TD-45		REMOVED 1984	
TA-22-46	TD-46		REMOVED 1949	
TA-22-47	TD-47	MANHOLE	STEAM	N20+00 W10+00
TA-22-48	TD-48	MANHOLE	SANITARY	N20+00 W10+00
TA-22-49	TD-49	BARRICADE		N22+50 W10+00
TA-22-50	TD-50	TANK	SEPTIC	N22+50 W7+50
TA-22-51	TD-51	TANK	SEPTIC	N20+00 W10+00
TA-22-52	TD-52	SHOPS BUILDING		N22+50 W15+00
TA-22-53	TD-53	MANHOLE	SANITARY	N22+50 W15+00
TA-22-54	TD-54	MANHOLE	SANITARY	N22+50 W12+50
TA-22-55	TD-55	MANHOLE	SANITARY	N22+50 W12+50
TA-22-56	TD-56	MANHOLE	ELECTRICAL	N22+50 W10+00
TA-22-57	TD-57	TRANSFORMER STATION	ABANDONED 1984	N22+50 W10+00
TA-22-58	TD-58		REMOVED 1984	
TA-22-59	TD-59	MANHOLE	WATER	N22+50 W10+00
TA-22-60	TD-60	MANHOLE	ELECTRICAL	N25+00 W15+00
TA-22-61	TD-61	MANHOLE	ELECTRICAL	N22+50 W12+50
TA-22-62	TD-62	MANHOLE	ELECTRICAL	N22+50 W15+00
TA-22-63	TD-63	MANHOLE	SANITARY	N22+50 W10+00
TA-22-64	TD-64		REMOVED 1984	
TA-22-65	TD-65	TRANSFORMER STATION		N22+50 W10+00
TA-22-66	TD-66	STORAGE BUILDING		N22+50 W17+50
TA-22-67	TD-67	STORAGE BUILDING		N22+50 W15+00
TA-22-68	TD-68	STORAGE BUILDING		N22+50 W17+50
TA-22-69	TD-69	STORAGE BUILDING		N22+50 W15+00
TA-22-70	TD-70		REMOVED 1952	
TA-22-71	TD-71	TRANSFORMER STATION		N22+50 E 2+50
TA-22-72	TD-72	EQUIPMENT BUILDING		N20+00 E 2+50
TA-22-73	TD-73		REMOVED	
TA-22-74	TD-74	TRANSFORMER STATION		N22+50 W 2+50
TA-22-75	TD-75	MANHOLE	H.E. SUMP	N20+00 E 2+50
TA-22-76	TD-76	MANHOLE	WATER	N20+00 E 2+50
TA-22-77	TD-77	CONTAM. WASH PAD		N20+00 W10+00
TA-22-78	TD-78	MANHOLE	STEAM PUMP PIT	N22:50 W12+50
TA-22-79	TD-79	TRANSFORMER STATION		N17+50 E 5+00
TA-22-80	TD-80	TRANSFORMER STATION		N20+00 E 5+00
TA-22-81	TD-81	MANHOLE	TELEPHONE	N22+50 W15+00
TA-22-82	TD-82	MANHOLE	TELEPHONE	N22+50 W15+00
TA-22-83	TD-83		UNASSIGNED	
TA-22-84	TD-84		REMOVED 1984	
TA-22-85	TD-85	MANHOLE	WATER	N17+50 E 8+00
TA-22-86	TD-86	SHIELDED ENCLOSURE		N22+50 W10+00
TA-22-87	TD-87	MANHOLE	SANITARY	N20+00 W10+00
TA-22-88	TD 88	MANHOLE	SANITARY	N20+00 W10+00
TA-22-89	TD-89		CANCELLED	
TA-22-90	TD-90	ADMINISTRATIVE BUILDING		N27+50 W15+00
TA-22-91	TD-91	DETONATOR SUPPORT BLDG		N25+00 W12+50
TA-22-92	TD-92		UNASSIGNED	
TA-22-93	TD-93	DETONATOR EXPLOSIVES BLDG		N25+00 W10+00
TA-22-94	TD-94	BUNKER		N25+00 W10+00
TA-22-95	TD-95	SOLVENT STORAGE SHED		N25+00 W12+50
TA-22-96	TD-96	MAGAZINE		N25+00 W10+00
TA-22-97	TD-97	COVERED WALKWAY		N25+00 W10+00
TA-22-98	TD-98	PASSAGEWAY		N27+50 W12+50
TA-22-99	TD-99	PASSAGEWAY		N25+00 W12+50
TA-22-100	TD-100	MANHOLE	SANITARY	N25+00 W15+00
TA-22-101	TD-101	MANHOLE	SANITARY	N25+00 W12+50
TA-22-102	TD-102	LIFT STATION & VALVE VAULT	SANITARY	N25+00 W12+50
TA-22-103	TD-103	MANHOLE	SANITARY	N25+00 W10+00
TA-22-104	TD-104	MANHOLE	ACID	N25+00 W10+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

	REV	DATE	REVISION	BY	CKD	APP
MF	16	11-1-84	REVISED TO STATUS OF 10-31-84			
MF	15	9-21-83	REVISED TITLE BLOCK AND DWG TO STATUS OF 7-28-83	VM		

UNIVERSITY OF CALIFORNIA

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-22 TD - SITE

SEC CLASSIFICATION — CLASS: U — REVIEWER — DATE: 11 2 83

SUBMITTED — RECOMMENDED — APPROVED

DRAWN — CHECKED

DATE: 9-21-83 | SHEET NO: 1 of 2 | DRAWING NO: ENG-R 5114

Figure TA-22-1: Structure Location Plan for TA-22 - TD Site
(1984 Drawing from the LANL Technical Area Structure Location Plans)

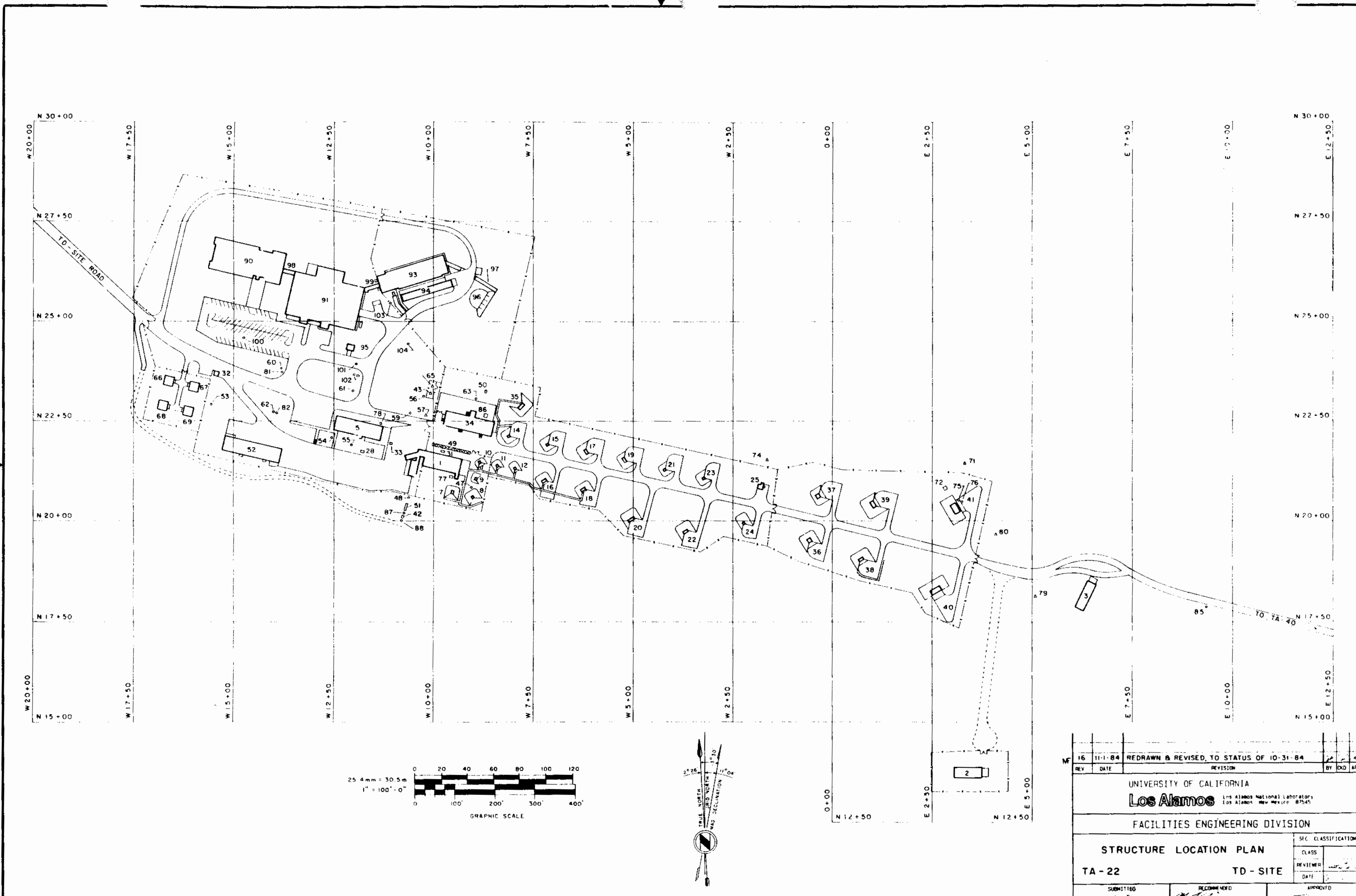

Figure TA-22-1: Structure Location Plan for TA-22 - TD Site
(1984 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-22-1	TD-1	LOADING BUILDING		N22+50 W10+00
TA-22-2	TD-2	STORAGE BUILDING		N15+00 E2+50
TA-22-3	TD-3	STORAGE BUILDING		N17+50 E7+50
TA-22-4	TD-4	PROCESS & OFFICE BUILDING		N22+50 W12+50
TA-22-5	TD-5	WAREHOUSE & PLASTIC SHOP		N22+50 W12+50
TA-22-6	TD-6	BOILER HOUSE		N22+50 W10+00
TA-22-7	TD-7	PROCESS BUILDING		N20+00 W10+00
TA-22-8	TD-8	PROCESS BUILDING		N20+00 W10+00
TA-22-9	TD-9	MAGAZINE		N20+00 W10+00
TA-22-10	TD-10	MAGAZINE		N22+50 W7+50
TA-22-11	TD-11	MAGAZINE		N22+50 W7+50
TA-22-12	TD-12	MAGAZINE		N22+50 W7+50
TA-22-13	TD-13		REMOVED 1952	
TA-22-14	TD-14	MAGAZINE		N22+50 W7+50
TA-22-15	TD-15	PROCESS BUILDING		N22+50 W7+50
TA-22-16	TD-16	MAGAZINE		N20+00 W7+50
TA-22-17	TD-17	MAGAZINE		N22+50 W5+00
TA-22-18	TD-18	MAGAZINE		N20+00 W7+50
TA-22-19	TD-19	PROCESS BUILDING		N22+50 W5+00
TA-22-20	TD-20	MAGAZINE		N20+00 W5+00
TA-22-21	TD-21	MAGAZINE		N22+50 W5+00
TA-22-22	TD-22	MAGAZINE		N20+00 W2+50
TA-22-23	TD-23	MAGAZINE		N20+00 W2+50
TA-22-24	TD-24	MAGAZINE		N20+00 W2+50
TA-22-25	TD-25	PROCESS BUILDING		N20+00 W2+50
TA-22-26	TD-26		REMOVED 1960	
TA-22-27	TD-27		REMOVED 1949	
TA-22-28	TD-28	VALVE HOUSE		N22+50 W12+50
TA-22-29	TD-29	PASSAGEWAY	BUILDING 1 TO 4	N22+50 W10+00
TA-22-30	TD-30		CANCELLED	
TA-22-31	TD-31	SPRINKLER HOUSE		N22+50 W10+00
TA-22-32	TD-32	GUARD HOUSE		N22+50 W15+00
TA-22-33	TD-33	STEAM PIT	ABANDONED MAY 1963	N22+50 W10+00
TA-22-34	TD-34	LABORATORY BUILDING		N22+50 W10+00
TA-22-35	TD-35	MAGAZINE		N22+50 W7+50
TA-22-36	TD-36	MAGAZINE		N20+00 0+00
TA-22-37	TD-37	MAGAZINE		N20+00 0+00
TA-22-38	TD-38	MAGAZINE		N20+00 0+00
TA-22-39	TD-39	MAGAZINE		N20+00 0+00
TA-22-40	TD-40	INERT PREPARATION BLDG.		N17+50 E2+50
TA-22-41	TD-41	LABORATORY BUILDING		N20+00 E2+50
TA-22-42	TD-42	TANK, SEPTIC	ABANDONED 1952	N20+00 W10+00
TA-22-43	TD-43	TRANSFORMER STATION		N22+50 W10+00
TA-22-44	TD-44	WOOD FENCE	REMOVED 1949	
TA-22-45	TD-45	TANK	OIL, UNDERGROUND	N22+50 W10+00
TA-22-46	TD-46		REMOVED 1949	
TA-22-47	TD-47	MANHOLE	STEAM	N20+00 W10+00
TA-22-48	TD-48	MANHOLE	SANITARY	N20+00 W10+00
TA-22-49	TD-49	BARRICADE		N22+50 W10+00
TA-22-50	TD-50	TANK	SEPTIC	N22+50 W7+50
TA-22-51	TD-51	TANK	SEPTIC	N20+00 W10+00
TA-22-52	TD-52	SHOPS BUILDING		N22+50 W15+00
TA-22-53	TD-53	MANHOLE	SANITARY	N22+50 W15+00
TA-22-54	TD-54	MANHOLE	SANITARY	N22+50 W12+50
TA-22-55	TD-55	MANHOLE	SANITARY	N22+50 W12+50
TA-22-56	TD-56	MANHOLE	ELECTRICAL	N22+50 W10+00
TA-22-57	TD-57	TRANSFORMER STATION		N22+50 W10+00
TA-22-58	TD-58	MANHOLE	ELECTRICAL	N22+50 W10+00
TA-22-59	TD-59	MANHOLE	WA ER	N22+50 W10+00
TA-22-60	TD-60	MANHOLE	ELECTRICAL	N25+00 W15+00
TA-22-61	TD-61	MANHOLE	ELECTRICAL	N22+50 W12+50
TA-22-62	TD-62	MANHOLE	ELECTRICAL	N22+50 W15+00
TA-22-63	TD-63	MANHOLE	SANITARY	N22+50 W10+00
TA-22-64	TD-64	MANHOLE	STEAM	N22+50 W10+00
TA-22-65	TD-65	TRANSFORMER STATION		N22+50 W10+00
TA-22-66	TD-66	STORAGE BUILDING		N22+50 W17+50
TA-22-67	TD-67	STORAGE BUILDING		N22+50 W15+00
TA-22-68	TD-68	STORAGE BUILDING		N22+50 W17+50
TA-22-69	TD-69	STORAGE BUILDING		N22+50 W15+00
TA-22-70	TD-70		REMOVED 1952	
TA-22-71	TD-71	TRANSFORMER STATION		N22+50 E2+50
TA-22-72	TD-72	EQUIPMENT BUILDING		N20+00 E2+50
TA-22-73	TD-73		REMOVED SEP 1969	
TA-22-74	TD-74	TRANSFORMER STATION		N22+50 W2+50
TA-22-75	TD-75	MANHOLE	H.E. SUMP	N20+00 E2+50
TA-22-76	TD-76	MANHOLE	WATER	N20+00 E2+50
TA-22-77	TD-77	CONTAM. WASH PAD		N20+00 W10+00
TA-22-78	TD-78	MANHOLE	STEAM PUMP PIT	N22:50 W12+50
TA-22-79	TD-79	TRANSFORMER STATION		N17+50 E5+00
TA-22-80	TD-80	TRANSFORMER STATION		N20+00 E5+00
TA-22-81	TD-81	MANHOLE	TELEPHONE	N22+50 W15+00
TA-22-82	TD-82	MANHOLE	TELEPHONE	N22+50 W15+00
TA-22-83	TD-83			
TA-22-84	TD-84	MANHOLE	WATER	N22+50 W10+00
TA-22-85	TD-85	MANHOLE	WATER	N17+50 E8+00
TA-22-86	TD-86	SHIELDED ENCLOSURE		N22+50 W10+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REVIEWER M. D. Kinke

CLASS U DATE 7/28/77

NO.	DATE	REVISIONS	BY
14	4-25-77	REVISED DWG NO (FORMERLY R2453)	MM
13	1-22-74	ADDED STRUCTURE NO TA-22-86	DAD
12	2-17-72	REVISED TO STATUS OF 2-17-72	DAD
11	11-3-69	REVISED TO STATUS OF 11-3-69	DAD
10	6-14-65	REVISED TO STATUS OF 6-4-65	RH
9	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R141)	DPH

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-22 TD-SITE

CHECKED: PROJ. ENG. | RECOMMENDED: GROUP LEADER | APPROVED: ENG DEPT OFFICE
DESIGNER | DATE 8-15-61 | DRAWING NO. ENG-R 5114
DRAWN HOHNER | SHEET NO 1
SCALE NONE

Figure TA-22-2: Structure Location Plan for TA-22 - TD Site
(1961 Drawing from LANL Technical Area Structure Location Plans)

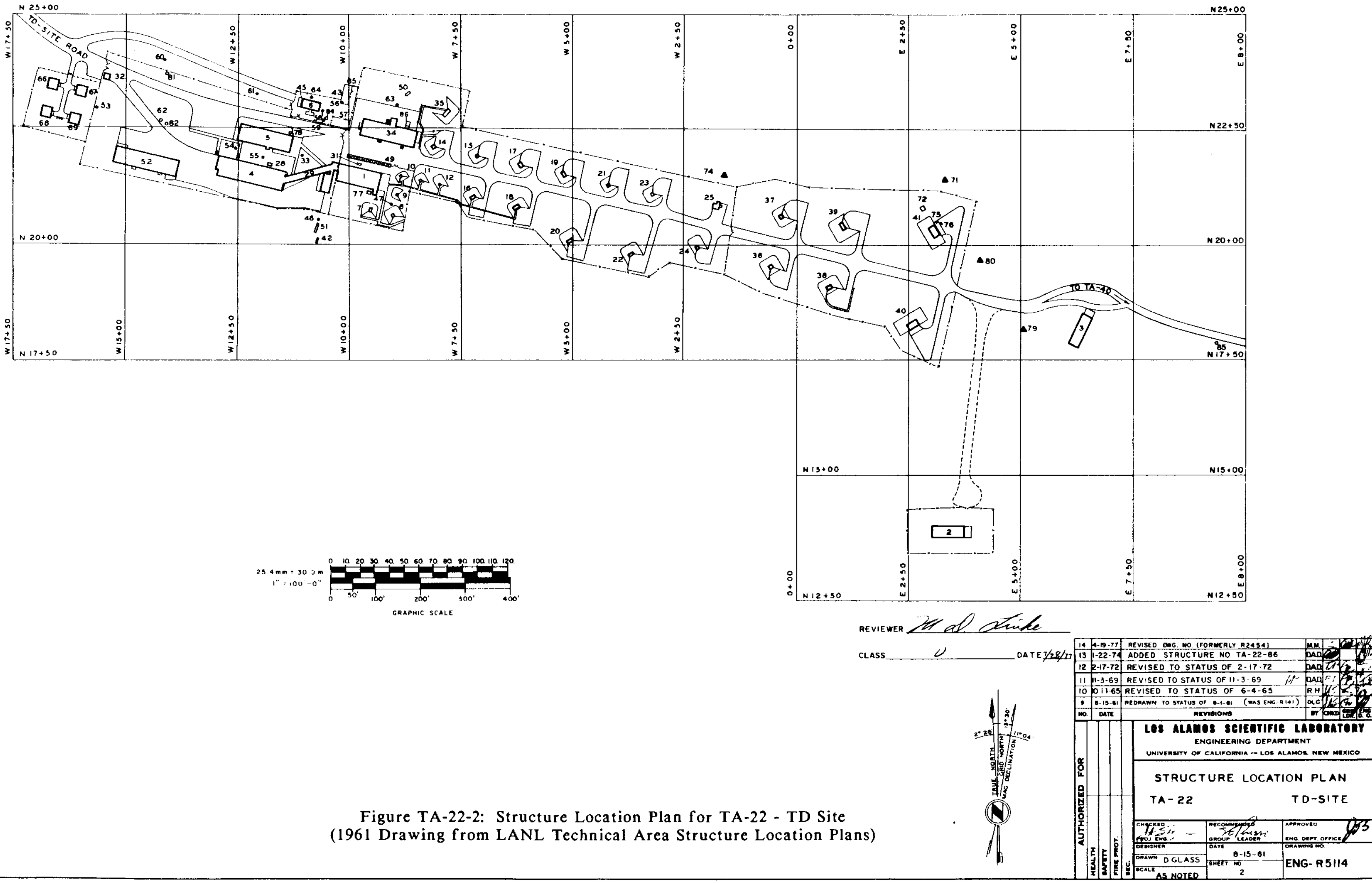

Figure TA-22-2: Structure Location Plan for TA-22 - TD Site
(1961 Drawing from LANL Technical Area Structure Location Plans)

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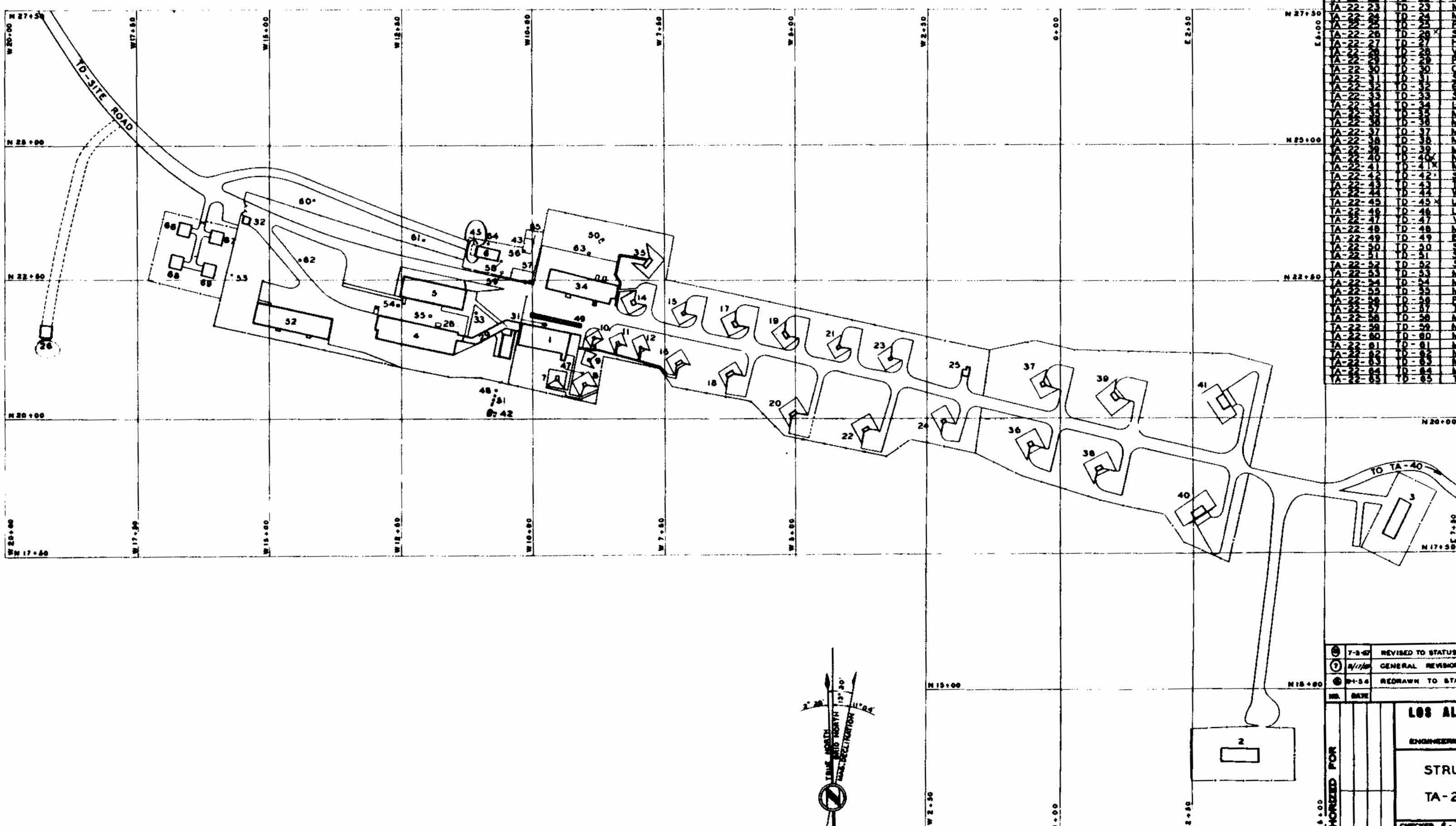
STRUCTURE NUMBER	DESIG-NATION	REMARKS
TA-22-66	TD-66	STORAGE BUILDING
TA-22-67	TD-67	STORAGE BUILDING
TA-22-68	TD-68	STORAGE BUILDING
TA-22-69	TD-69	STORAGE BUILDING
TA-22-70	TD-70	GUARD HOUSE (REMOVED)

STRUCTURE NUMBER	DESIG-NATION	REMARKS
TA-22-1	TD-1	LOADING BUILDING
TA-22-2	TD-2	MAGAZINE
TA-22-3	TD-3	MAGAZINE
TA-22-4	TD-4	PROCESS BUILDING
TA-22-5	TD-5	WAREHOUSE
TA-22-6	TD-6	BOILER HOUSE
TA-22-7	TD-7	MAGAZINE
TA-22-8	TD-8	MAGAZINE
TA-22-9	TD-9	MAGAZINE
TA-22-10	TD-10	MAGAZINE
TA-22-11	TD-11	MAGAZINE
TA-22-12	TD-12	MAGAZINE
TA-22-13	TD-13	MAGAZINE (REMOVED) 1952
TA-22-14	TD-14	MAGAZINE
TA-22-15	TD-15	MAGAZINE
TA-22-16	TD-16	MAGAZINE
TA-22-17	TD-17	MAGAZINE
TA-22-18	TD-18	MAGAZINE
TA-22-19	TD-19	MAGAZINE
TA-22-20	TD-20	MAGAZINE
TA-22-21	TD-21	MAGAZINE
TA-22-22	TD-22	MAGAZINE
TA-22-23	TD-23	MAGAZINE
TA-22-24	TD-24	MAGAZINE
TA-22-25	TD-25	PROCESS BUILDING
TA-22-26	TD-26	STORAGE BUILDING (ABANDONED)
TA-22-27	TD-27	HOSE STORAGE (REMOVED)
TA-22-28	TD-28	VALVE HOUSE
TA-22-29	TD-29	PASSAGEWAY (BUILDING 1 TO 4)
TA-22-30	TD-30	CAFETERIA BLDG. (WAS NEVER BUILT)
TA-22-31	TD-31	SPRINKLER HOUSE
TA-22-32	TD-32	GUARD HOUSE (STATION 510)
TA-22-33	TD-33	STEAM PIT
TA-22-34	TD-34	LABORATORY
TA-22-35	TD-35	MAGAZINE
TA-22-36	TD-36	MAGAZINE
TA-22-37	TD-37	MAGAZINE
TA-22-38	TD-38	MAGAZINE
TA-22-39	TD-39	MAGAZINE
TA-22-40	TD-40	MAGAZINE
TA-22-41	TD-41	MAGAZINE
TA-22-42	TD-42	SEPTIC TANK (ABANDONED)
TA-22-43	TD-43	TRANSFORMER STATION
TA-22-44	TD-44	WOOD FENCE (REMOVED) 1948
TA-22-45	TD-45	UNDERGROUND OIL TANK
TA-22-46	TD-46	LATRINE (REMOVED) 1948
TA-22-47	TD-47	VALVE BOX
TA-22-48	TD-48	MANHOLE (SANITARY)
TA-22-49	TD-49	BARRICADE
TA-22-50	TD-50	SEPTIC TANK (SANITARY)
TA-22-51	TD-51	SEPTIC TANK (SANITARY)
TA-22-52	TD-52	SHOPS BUILDING
TA-22-53	TD-53	MANHOLE (SANITARY)
TA-22-54	TD-54	MANHOLE (SANITARY)
TA-22-55	TD-55	MANHOLE (SANITARY)
TA-22-56	TD-56	PULLBOX (ELECTRICAL)
TA-22-57	TD-57	TRANSFORMER STATION
TA-22-58	TD-58	MANHOLE (ELECTRICAL)
TA-22-59	TD-59	MANHOLE (ELECTRICAL)
TA-22-60	TD-60	MANHOLE (ELECTRICAL)
TA-22-61	TD-61	MANHOLE (ELECTRICAL)
TA-22-62	TD-62	MANHOLE (ELECTRICAL)
TA-22-63	TD-63	MANHOLE (SANITARY)
TA-22-64	TD-64	MANHOLE (STEAM)
TA-22-65	TD-65	TRANSFORMER STATION



NO.	DATE	REVISIONS	BY	CHKD.
8	7-3-57	REVISED TO STATUS OF 7-1-57	MAB	NB
7	8/17/56	GENERAL REVISION TO STATUS OF JULY 1, 1956	HOB	JAS
6	9-1-54	REDRAWN TO STATUS OF 7-1-54	L.C.W.	JAS

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-22 TD-SITE

CHECKED / RECOMMENDED / APPROVED
DRAWN: L.C. WINKS — DATE: 9-1-54 — DRAWING NO.: ENG- R141
SCALE: 1" = 100' — SHEET: 1 of 1

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Figure TA-22-3: Structure Location Plan for TA-22 - TD Site
(1954 Drawing from LANL Technical Area Structure Location Plans)

TA-23 - NU SITE

CURRENT OPERATIONS

Very little is known about this small decommissioned technical area, which consisted of two laboratory buildings, a magazine, an office building, and a road-block. Maps and aerial photos show the site to have been within the confines of the present TA-9.

POTENTIAL CERCLA/RCRA SITES

NU Site was constructed for X Division in the spring of 1945 to relieve the crowded firing schedule at "Far Point" at Anchor Ranch East (LASL 1947). Undated engineering files say it consisted of NU-1 and -4, laboratories, NU-2, a magazine, NU-3, an office building, and a battleship-type concrete structure at the firing point. The 1948 topographic maps indicate that NU Site was located a short distance southeast of Anchor Ranch East on the R Site road. In the early 1950s, Anchor Ranch East was abandoned and a new TA-9 was constructed in the region where the original NU Site had been.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-23. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-23 is 2.7 (Appendix B).

FIGURES

Figure TA-23-1: Structure Location Plan for TA-23 - NU Site (1950)

REFERENCE

LASL. 1947. "A Technical Maintenance Group Report on General Background Data Concerning the Los Alamos Scientific Laboratory, Required for Planning Purposes," Los Alamos Scientific Laboratory report LAB-A-5, September 11, 1947, pp. 13-14.

TABLE TA-23 - POTENTIAL CERCLA/RCRA SITES

TA23-1-CA-I-HW/RW (Firing site)

Background--Interviews with employees who knew the site revealed that it had a deep firing pit where lens charges of up to 135 lbs of high explosives were regularly tested during World War II. Undated engineering records indicate that in 1952, structures NU-1, -2, -3, -4, and -5 were removed. What happened to the "battleship" and whether the firing area was ever cleaned up is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Additional information on the firing site will be gathered during supplemental Phase I.

TA23-2-CA/ST/S-I-HW/RW (Septic tanks, sumps, and drains)

Background--Because TA-23 was a firing site with two laboratory buildings, one would expect drains and sumps to serve these buildings, which may have been contaminated with high explosive. The fate of the sumps and drains is unknown.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, additional information will be gathered on septic tank and sump systems that might be present.

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-23-1	NU-1	LABORATORY BUILDING
TA-23-2	NU-2	MAGAZINE
TA-23-3	NU-3	OFFICE BUILDING
TA-23-4	NU-4	LABORATORY BUILDING "A"
TA-23-5	NU-5	ROAD BLOCK

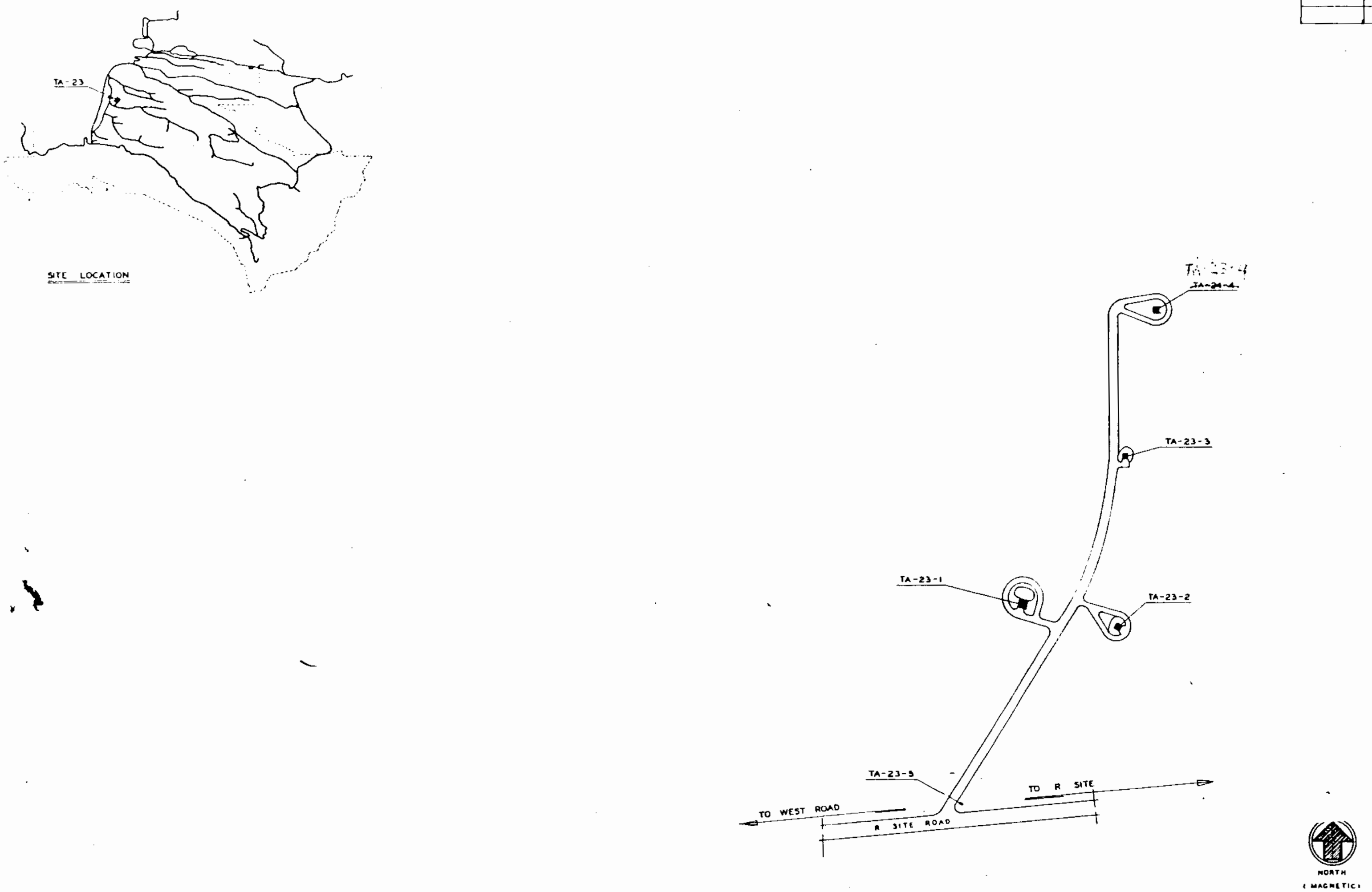

Figure TA-23-1: Structure Location Plan for TA-23 - NU Site
(1950 Drawing from the LANL Technical Area Structure Location Plans)

1-0105572

AUTHORIZED FOR	LOS ALAMOS SCIENTIFIC LABORATORY DEPARTMENT OF ENGINEERING—CONSTRUCTION & MAINTENANCE GROUP
HEALTH SAFETY FIRE PR. COMM. SEC.	STRUCTURE LOCATION PLAN TA-23 NU-SITE

REV.	SCALE	DRAWN BY: CRS	DATE 3-31-50	DWG NO
0	1" = 100'	CHKD. BY	DATE	ENG4-R142
		APPVD. BY	DATE	

TA-24 - T SITE

CURRENT OPERATIONS

TA-24, T Site, is no longer operational. Operations of T Site after it was included with S Site are discussed under TA-16.

POTENTIAL CERCLA/RCRA SITES

T Site was constructed in the fall of 1944 as a service area for x-ray examination of high-explosive charges. A year later, a large storage magazine was constructed. In 1946, a fire damaged the main laboratory building, and it was rebuilt in the spring of 1947 (LASL 1947:14).

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-24. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-24 is 3.0 (Appendix B).

FIGURES

Figure TA-24-1: Structure Location Plan for TA-24 - T Site (1950)

REFERENCES

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LASL. 1945. "X-Ray Inspection at S-34," Los Alamos Scientific Laboratory memorandum to Popham and Russell, August 27, 1945.

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Schulte, H. F. 1948. "T-Site," Los Alamos Scientific Laboratory memorandum to G. H. Tenney, June 17, 1948.

Tenney, Gerald H. 1944a. "Progress Report, T-Site," October 10, 1944.

Tenney, Gerald H. 1944b. "Progress Report, T-Site," September 10, 1944.

Tenney, Gerald H. 1944c. "Progress Report, T-Site," December 4, 1944.

Tenney, Gerald H. 1945a. "Progress Report, T-Site," April 4, 1945.

Tenney, Gerald H. 1945b. "Progress Report, T-Site," June 2, 1945.

Wingfield, E. E. 1960. "Demolition of Buildings by Burning," Los Alamos Scientific Laboratory memorandum, May 27, 1960.

TABLE TA-24 - POTENTIAL CERCLA/RCRA SITES

TA24-1-CA-I-HW/RW (Structures)

Background--A series of memos from 1944 and 1945 mention inspecting explosives with x rays (LASL 1945; Tenney 1944a,b,c, and 1945a). Radium was used as a source for some work, and depleted uranium was x-rayed (Tenney 1945b). In addition, a 1948 memo mentions studies on beryllium. Cleanup techniques included a rinse, and the wash water probably went to a sep-tic tank. The solvent used was reported to be amyl acetate, with the possibility that ethylene dichloride and dioxane were used thereafter (Schulte 1948).

In 1954, the old T Site magazine (then included in TA-16 as 16-497) was surveyed and found to have a spot-reading of 0.4 mR/h on contact on the doorstep, and 3 to > 20 mR/h on the concrete floor inside. The activity was caused by strontium-90, which had been deposited when a strontium-contaminated barium source broke in the magazine. Most of the activity was reduced to 0.05 mR/h or less; however, three spots remained (Buckland 1954).

In 1957, TA-16-495 (formerly T-9) was found to have one shelf contaminated with uranium that gave 500 counts/min gross alpha. TA-16-497 (the old magazine) was found to have three spots of up to 2 mR/h of strontium-90, with some strontium believed to be in a crack in the floor. TA-16-499 (formerly T-15) was found to have alpha contamination, whereas TA-16-500 (formerly T-20) was believed to have uranium contamination. Chips of what might have been high explosive were also found on the floor of the old magazine (Buckland 1957).

In 1959, TA-16-490 (believed to have been the old T Site laboratory) was found to be contaminated with high explosive; TA-16-491 (believed to have been the old T Site hutment) was also found to have high-explosive contamination; and TA-16-492 (a hutment) and TA-16-493 and -494 (magazines that were probably part of the original T Site) were found to be contaminated with high explosive. Structure TA-16-495 (the old T Site x-ray hutment) continued to have uranium contamination, and high-explosive contamination was reported also. Magazines TA-16-496 and -498 were found to have high-explosive contamination. Magazine TA-16-497 continued to have strontium contamination, and high explosive was found. The x-ray building, TA-16-499, also continued to have gross alpha contamination, and high explosive was identified. Building TA-16-500 (the x-ray building), as well as manhole TA-16-507, were also found to have high-explosive contamination (LASL 1959).

In 1960, the decision was made to remove these structures, and on February 5, 1960, the structures were burned, including those that were contaminated with radioactivity (Wingfield 1960). A radiation survey following the fire detected no radioactive contamination on any of the debris; however, the recommendation was made that the concrete from -497 and -500 be removed to a disposal area for contaminated material (Buckland 1966). The debris was disposed of at Mesita del Buey or the canyon north of the TA-16 burning ground.

In 1983, a summary of materials used in the former TA-16 buildings was made. In this summary, high explosive was listed for -493, -494, and -497, whereas uranium-238 was listed for -495, -496, -498, -499, -and -500 (Blackwell 1983).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will be conducted to determine the extent of residual environmental contamination.

TA24-2-S/UST-I-HW/RW (Septic tank and sump pit)

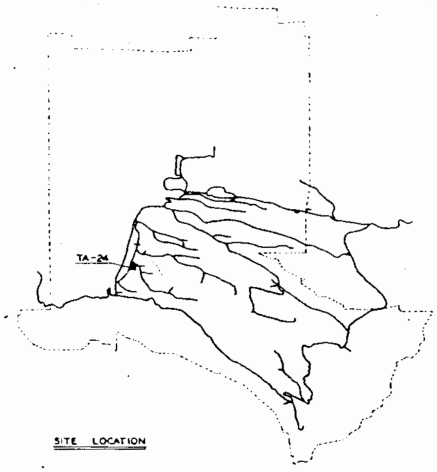
Background--In 1945, plans for an enlarged darkroom were mentioned (Tenney 1945a). A special darkroom is also indicated (Tenney 1945b).

The septic tank TA-16-504 that apparently served the area was removed in 1963. Whether spent photographic solutions, possible beryllium residue, and solvent solutions drained to an open ditch or to the septic tank is not known. Possible residual high explosive, radionuclide, or chemical contamination in any overflow from the tank is not known.

ENG-R132 also shows a chemical sump pit, TA-16-507, which may have been part of T Site. In 1959, the chemical sump pit was indicated to be contaminated with high explosive (LASL 1959). The 1983 report indicates that the pit received various chemicals and was removed in 1960.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations of the potentially contaminated areas will be conducted.



STRUCTURE NUMBER	DESIGNATION	REMARKS & FORMER DESIGNATIONS
TA-24-1	T-1	WAS T-1, T-2, T-3, T-5, T-11, T-12, T-16, T-17, T-21
TA-24-2	T-2	WAS T-4
TA-24-3	T-3	WAS T-6
TA-24-4	T-4	WAS T-7 ✓
TA-24-5	T-5	WAS T-8
TA-24-6	T-6	WAS T-9
TA-24-7	T-7	WAS T-10
TA-24-8	T-8	WAS T-13
TA-24-9	T-9	WAS T-14, TA-18, TA-19
TA-24-10	T-10	WAS T-15
TA-24-11	T-11	WAS T-20
TA-24-12	T-12	WAS T-22
TA-24-13	T-13	WAS T-23
TA-24-14	T-14	RADIATION BARRICADE BLDG T-1

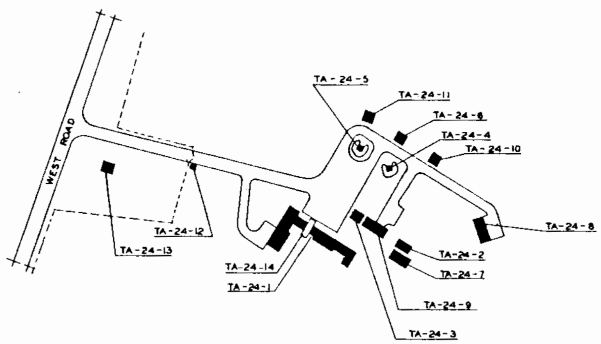


Figure TA-24-1: Structure Location Plan for TA-24 - T Site
(1950 Drawing from the LANL Technical Area Structure Location Plans)

AUTHORIZED FOR
HEALTH
SAFETY
FIRE PR.
CONTL.
SEC.

REV. 0

LOS ALAMOS SCIENTIFIC LABORATORY
DEPARTMENT OF ENGINEERING—CONSTRUCTION & MAINTENANCE GROUP

STRUCTURE LOCATION PLAN
TA-24 T-SITE

SCALE 1" = 100'
DRAWN BY: GRS DATE: 3-31-50
CHKD. BY: [illegible] DATE: 3/31/50
APPVD. BY: [illegible] DATE: [illegible]
DWG. NO. ENG4-R143

TA-25 - V SITE

CURRENT OPERATIONS

TA-25 (V Site) is no longer operational. In 1983, V-1, -2, -4, -5, -6, -7, and -8 were indicated not to be in active use (Stephens 1983). Operations at V Site after it was included with S Site are discussed under TA-16.

POTENTIAL CERCLA/RCRA SITES

This area, with its two main buildings, was constructed in 1944 for experimental work in connection with special assemblies. In 1945, the work was transferred to TD Site (TA-22) and the site underwent extensive alterations to fit it for S Site process work on explosive charges (LASL 1947:14).

Memos in 1944 mentioned assembly operations with inert concrete blocks (Ramsey 1944). The installation of a shake table at V Site was also mentioned. A 3-g test was said to have occurred at V Site as well (Dike 1945). By 1945, high explosives were being assembled at this site (Bradbury, Gilbert, and Marley 1945). In July 1945, V Site was taken over by S Site (Wilder 1945). The laboratory and office building, V-1 and -2, became TA-16-515; the laboratory building, V-4, became TA-16-516; the equipment building, V-5, became TA-16-517; the warehouse, V-6, became TA-16-518; and the museum buildings, V-7, and -8 became TA-16-519 and -520, according to engineering drawing ENG-R132.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-25. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA Site. The HRS/MHRS Migration Mode Score for TA-25 is 3.0 (Appendix B).

FIGURES

Figure TA-25-1: Structure Location Plan for TA-25 - V Site (1950)

REFERENCES

Blackwell, Charles D. 1983. "Structures Removed from TA-16," Los Alamos National Laboratory memorandum to A. John Ahlquist, November 17, 1983.

Bradbury, N., Gilbert, and W. G. Marley. 1945. "Safety Inspection at V-Site," Los Alamos Scientific Laboratory memorandum to Safety Committee, February 17, 1945.

Courtright, C. 1972. Note dated March 2, 1972, in the CEARP files at Los Alamos National Laboratory.

Dike, S. H. 1945. "Monthly Report of Group O-2 for December 1944," Los Alamos Scientific Laboratory memorandum to W. S. Parsons, January 16, 1945.

Kennedy, W. R. 1970. "Contaminated Survey: Buildings and Structures, TA-16," Los Alamos Scientific Laboratory memorandum to S. E. Russo, March 9, 1970.

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Ramsey, N. F. 1944. "Monthly Report of Group O-2 for the Month of October 1944," Los Alamos Scientific Laboratory memorandum to W. S. Parsons, November 30, 1944.

Stephens, Ward. 1983. "Disposal of Unused Process Buildings, TA-16," Los Alamos National Laboratory memorandum to William A. Bradley, April 14, 1983.

Wilder, Lt. Edward. 1945. "V-Site," Los Alamos Scientific Laboratory memorandum to Capt. William Schaffer, July 30, 1945.

TA25-1-CA-I-HW/RW (Pits and associated facilities)

Background--A pit, V-9, designated as TA-16-523, and an electrical pit, V-10, designated TA-16-524, were both removed in 1945. It was noted that the electrical pit was never used for and never contained hazardous materials, whereas pit V-9 was indicated to have contained high explosive and beryllium. Building V-3 was removed in 1945 and was noted to have housed beryllium operations (Blackwell 1983). Details of the removal of these materials are lacking, as is any documentation about the possibility that any residual contamination remains.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A supplemental Phase I survey of the pits and associated facilities will be made.

TA25-2-CA/ST-I-HW (Drains and septic tank)

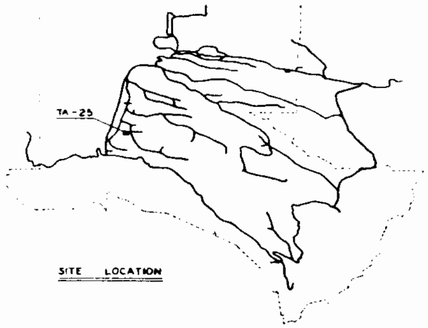
Background--In 1970, the floor drains from buildings TA-16-512 through 520, which include the old V Site buildings, were reported to empty through manholes, industrial waste structure numbers TA-16-793 through 799, into a relatively flat area southeast of the buildings. The drains for high-explosives waste leading southeast from the buildings were dug up during the cleanup of other nearby structures in the early 1960s. No detectable radiation contamination was found (Kennedy 1970).

Sanitary septic tank V-12 (later TA-16-527) served the site. Pump pit V-11 (later TA-16-526) was also used. Neither is still active (Stephens 1983). Possible high-explosive contamination was noted for TA-16-527 (Courtright 1972). It is not known if there is possible chemical or high-explosive contamination of the pump pit, V-11.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I reconnaissance sampling will be conducted to determine the presence of explosive and/or chemical contamination.

STRUCTURE NUMBER	DESIGNATION	REMARKS	
TA-25-1	V-1	LABORATORY & OFFICE BUILDING	
TA-25-2	V-2	LABORATORY BUILDING,	WAS BLDG 4
TA-25-3	V-3	EQUIPMENT BUILDING,	WAS BLDG 5
TA-25-4	V-4	WAREHOUSE,	WAS BLDG 6
TA-25-5	V-5	MUSEUM,	WAS BLDG 7
TA-25-6	V-6	MUSEUM,	WAS BLDG 8
TA-25-7	V-7	TANK STAND,	WAS BLDG "H"



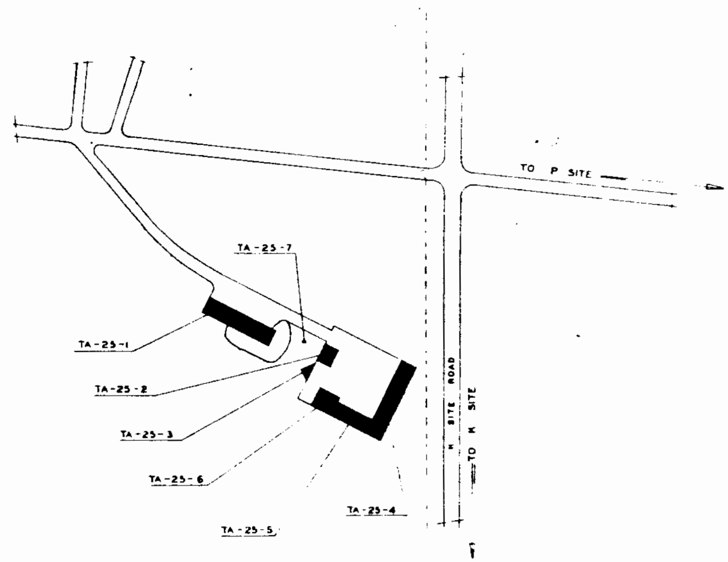


Figure TA-25-1: Structure Location Plan for TA-25 - V Site
(1950 Drawing from the LANL Technical Area Structure Location Plans)

AUTHORIZED FOR	LOS ALAMOS SCIENTIFIC LABORATORY DEPARTMENT OF ENGINEERING—CONSTRUCTION & MAINTENANCE GROUP		
HEALTH SAFETY FIRE PR. COMM. SEC.	STRUCTURE LOCATION PLAN TA - 25 V - SITE		
SCALE 1" = 100	DRAWN BY G.R.S. CHKD BY APPVD BY	DATE 1-3-50 DATE DATE	DWG NO ENG4-H144

REV 0

TA-26 - D SITE

CURRENT OPERATIONS

TA-26 is no longer in use. It was demolished in 1965 or 1966.

POTENTIAL CERCLA/RCRA SITES

D Site, constructed in the summer of 1946, consisted of a concrete storage vault and a small sentry building and guard tower (LASL 1947:14). The vault was equipped with floor drains, which emptied into a sump. Design instructions, however, stated, "The drain from the equipment room is to be entirely separate and will not require a sump" (Jette 1946). Engineering drawing ENG-R1242 indicates that a septic tank, TA-26-5, was also located at the site.

The guard building was removed in 1948 and the two guard towers were taken to Atomic Energy Commission salvage in 1955.

The building was demolished in 1965-1966. The shelving, drain lines, vault sump, and building duct work were taken to Material Disposal Area C. The septic tank may or may not have been removed. Low levels of activity remained on the concrete surfaces; they were broken up and disposed of over the north edge of Los Alamos Canyon on a shelf halfway down the wall of the canyon (Blackwell 1973).

A radiation survey in 1985 for the area around TA-26, not including the dirt-covered rubble on the hillside, did not detect radiation levels above background.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-26. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Mode Score for TA-26 is 0.0 (Appendix B).

FIGURES

REFERENCES

Blackwell, Charles. 1960. "Revision of Work Order Health Clearance List Dated March 1959," Los Alamos Scientific Laboratory memorandum, March 1960.

Blackwell C. D. 1973. "Removal of Structures at TA-26, D-Site Vault," Los Alamos Scientific Laboratory memorandum to Allen Valentine, December 12, 1973.

Buckland, Carl. 1965. "Radioactive Contamination Survey Results at D-Site Vault Area TA-26-1, -5, -6," Los Alamos Scientific Laboratory memorandum to S. E. Russo, April 20, 1965.

H Division. 1951. "H Division Progress Report," Los Alamos Scientific Laboratory August 20-September 20, 1951.

Jette E. R. 1946. "Proposed Concrete Storage Vault," Los Alamos Scientific Laboratory memorandum to R. C. Hill, July 10, 1946.

LASL. 1947. "A Technical Maintenance Group Report on General Background Data Concerning the Los Alamos Scientific Laboratory Required for Planning Purposes," Los Alamos Scientific Laboratory report LAB-A-5, September 11, 1947.

Maddy James R. 1957. "Use of East Gate Pass Office Building," Atomic Energy Commission memorandum to Thomas L. Shipman, Los Alamos Scientific Laboratory, March 29, 1957.

TABLE TA-26 - POTENTIAL CERCLA/RCRA SITES

TA26-1-L-I-RW (Canyon side)

Background--In 1951, tritium was indicated to be present in the TA-26 vault (H Division 1951:2). Another memo mentions "friable containers which now contain, or have contained, radioactive material" (Maddy 1957). In 1965, the vault was monitored for contamination; the five storage rooms showed alpha contamination, and the shelving in the south-center room had counts of up to 10,000 counts/min with an alpha survey meter of 68 square in. of detecting area. Even the concrete ramp registered a maximum of 1,200 counts/min; the grounds, however, appeared free of contamination. The alpha counts were believed to originate from uranium-233 and -235. No beta-gamma activity was detected (Buckland 1965).

Sometime in late 1965 or 1966, the vault was removed, although no reliable documentation exists about this action. It is believed that shelving, ducts, and drain lines and the sump were removed to Material Disposal Area C and that the concrete building was broken up (levels before breakup were thought to have been less than 1,000 dis/min), and that the pieces were disposed of over the canyon edge. Most of the rubble fell on a ledge halfway down. Soil was then placed over the rubble (Blackwell 1973).

The 1986 CEARP field survey found small pieces of debris at the site. Pieces of pipe and other material could be seen projecting from the fill soil on the ledge. A Phoswich survey indicated no surface contamination on the mesa top. The ledge onto which most of the rubble fell was not surveyed.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A supplemental Phase I reconnaissance survey of the canyon side will be conducted.

TA26-2-O/CA-I-RW (Outfalls)

Background--Engineering drawing ENG-R1242 indicates that the sump and sump line, which were apparently found to be contaminated when the site was removed, were connected with a pipe that ran to the edge of the canyon. Also shown on the drawing is a 4-in. pipe ending at the edge of the canyon--it probably went to the equipment room. The septic tank is also shown with a pipe connecting it to the rim of the canyon. Thus, there appear to have been three outfalls; the outfall from the sump, at least, was probably contaminated with uranium and possibly tritium.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--All three outfalls will be located during supplemental Phase I, and sampling will be made for gross alpha contamination in the area where they discharged.

TA26-3-ST-I-RW (Septic tank)

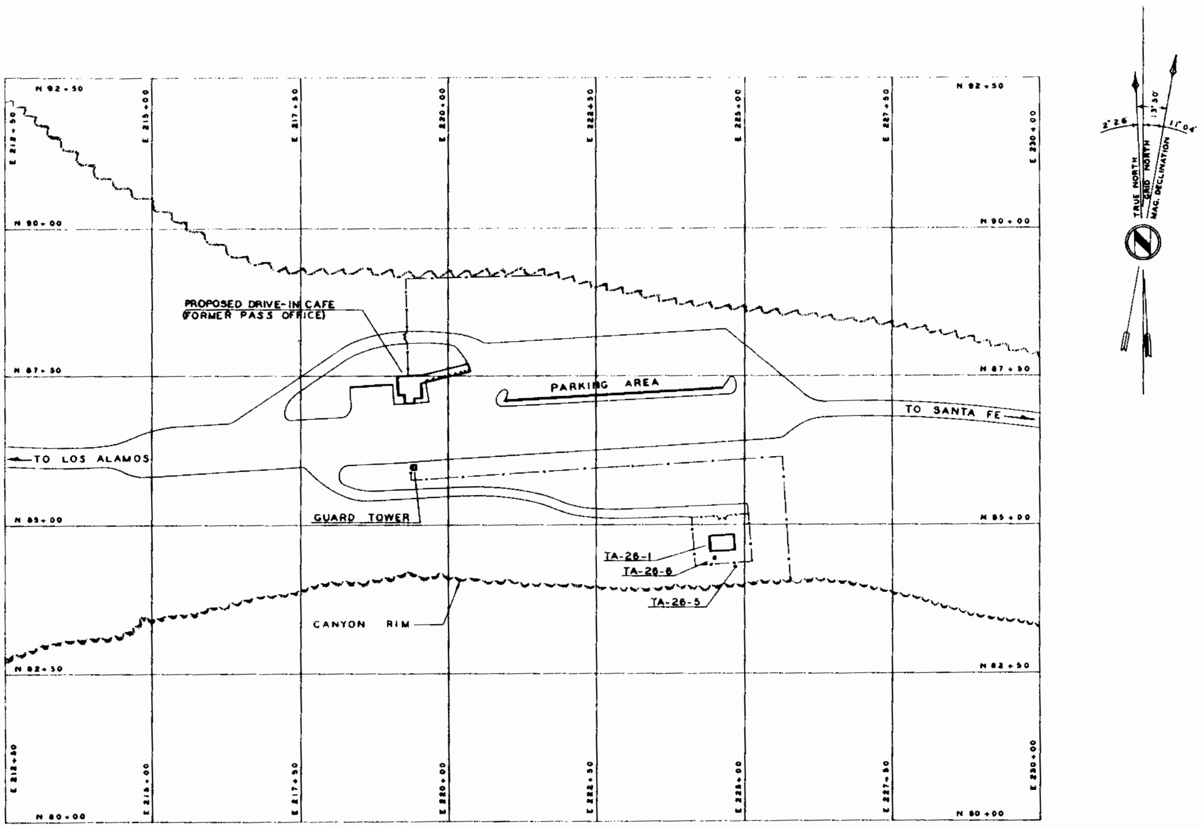
Background--The septic tank, TA-26-5, that was located to the south of the vault area may or may not have been removed (Blackwell 1973). A 1960 report said that this tank needed a health clearance (Blackwell 1960). Although contamination would be unlikely, it might be possible if mop water from the floor and other similar material had been poured down the sanitary drain. Whether the piping that served the septic tank and equipment room is still in place is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The septic tank and the piping will be investigated during supplemental Phase I for gross alpha contamination.

OFFICIAL USE ONLY

STRUCTURE NUMBER	DESIGNATION	REMARKS	
TA-26-1	D-1	VAULT	
TA-26-2	D-2	GUARD TOWER A	(REMOVED) 1955
TA-26-3	D-3	GUARD TOWER B	(REMOVED)
TA-26-4	D-4	GUARD BUILDING	(REMOVED) 1948
TA-26-5	D-5	SEPTIC TANK	(SANITARY)
TA-26-6	D-6	SETTLING SUMP	(ACID)



NO.	DATE	REVISIONS	BY	CHKD
8	7-20-57	REVISED TO STATUS OF 7-1-57	P.R.	
7		REDRAWN TO STATUS OF JULY 1, 1955	HOB	JAS

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-26 D-SITE

CHECKED: J. A. Sizer, DESIGNER; RECOMMENDED: GROUP LEADER; APPROVED: ENG. DEPT. OFFICE
DRAWN: N. BYERS; DATE: 10/31/55
SCALE: 1" = 100'; SHEET 1 OF 1
DRAWING NO. ENG- R 145

Figure TA-26-1: Structure Location Plan for TA-26 - D Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

TA-27 - GAMMA SITE

CURRENT OPERATIONS

TA-27, Gamma Site, is no longer being used.

POTENTIAL CERCLA/RCRA SITES

During the war years, a plutonium gun assembly program at Gamma Site was abandoned in favor of the uranium gun assembly. Some of the guns used in the tests for the plutonium assembly were deformed because of the intense pressure involved during experiments, and some were returned to the Naval Gun Factory (Hawkins 1983:95). Others may have been buried, together with their ammunition, at this site in Pajarito Canyon or somewhere else within the confines of "Project Y," as Los Alamos was known during the war. The burial was necessary to ensure the project's secrecy. Other guns, possibly contaminated with radioactivity, were buried with their ammunition in a trench in Pajarito Canyon in 1945.

A firing area that was part of TA-18 from 1944-45, when it was called "Far Point," was improved and included in Gamma Site. Larger shots were fired here than at other sites, and they contained uranium or thorium and beryllium. One calibration shot went low order in 1946 and scattered high-explosive Composition B for a considerable distance up and down the canyon. The area was subsequently closed and several surface sweeps were made in an attempt to clean the canyon up. Five firing pits existed at the site; they have been monitored over the years. The control building was moderately contaminated. Some of the area has been opened for use and some is still fenced off.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-27. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI, for potential CERCLA/RCRA sites. The HRS/MHRS Migration Mode Scores for TA-27 is 14.3 (Appendix B).

FIGURES

REFERENCES

Buckland, Carl. 1960. "Disposition of TA-27-1 and TA-27-2," Los Alamos Scientific Laboratory memorandum to Clarence W. Courtright.

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LASL. 1959. "Vacated Los Alamos Scientific Laboratory Structures," Los Alamos Scientific Laboratory document, October 1959.

TABLE TA-27 - POTENTIAL CERCLA/RCRA SITES

TA27-1-L-I-HW/RW (Burial pit with live ammunition)

Background--Around 1945 a work crew was detailed to dig a trench to dispose of some unknown type of guns. The person in charge of this detail recalled the trench being dug to the north side of Pajarito Road close to the base of the cliffs under some Indian caves in the westernmost corner of the canyon. The guns may have had slight radioactive contamination. It is possible at that time some live ammunition was buried as well (Employee Interviews 1985).

In 1964, a survey was conducted with a metal detector for a considerable distance on the floor of Pajarito Canyon with the express purpose of locating this gun burial site. Survey results were negative. Additionally geophysical investigations were initiated during August 1986 as part of CEARP. The physical constraints of the land may make it impossible ever to locate the trench. At the time the guns were buried, Pajarito Road was further to the southwest than at present, and it may be possible that the trench is under the fill of the highway.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will be conducted, as appropriate, based on preliminary reconnaissance information.

TA27-2-CA-I-HW/RW (Firing pits)

Background--Gamma Site was active from 1944 to late 1946/early 1947. This firing area was originally an extension of Pajarito Site (TA-18) and during that time (1944-1945) it was called Far Point. Shots fired at Gamma Site were larger than those at other smaller sites and they contained uranium or thorium and beryllium. One "calibration" shot was performed in 1946 (Employee Interviews 1985). This shot went low order, scattering the high-explosive Composition B (Comp B) for a considerable distance up and down the canyon. The area was subsequently isolated with protective fences and abandoned (LASL 1947). Surface sweeps of the area were performed numerous times by Laboratory personnel in the 1960s and 1970s to retrieve the scattered scrap pieces of high explosive, after which time most of the land was reopened for use. The road that accessed the site was rerouted through the middle of the firing pit area and upgraded. It appears the highway, Pajarito Road, was routed over one of the pits. Some of the area around the Gamma Site still remains fenced off. This is due to the association with the DOE's munitions impact area on the north side of Pajarito Road, which divides the site and the shrapnel zone to the south for firing sites at Kappa Site (TA-36).

As part of the Los Alamos Site Characterization Program (precursor to CEARP), limited environmental sampling was performed in the summer of 1985 at the five firing pits. Analytical results for uranium in soil show background levels at firing pits 1, 4, and 5. Firing pits 2 and 3 show levels 2 to 10 times background.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

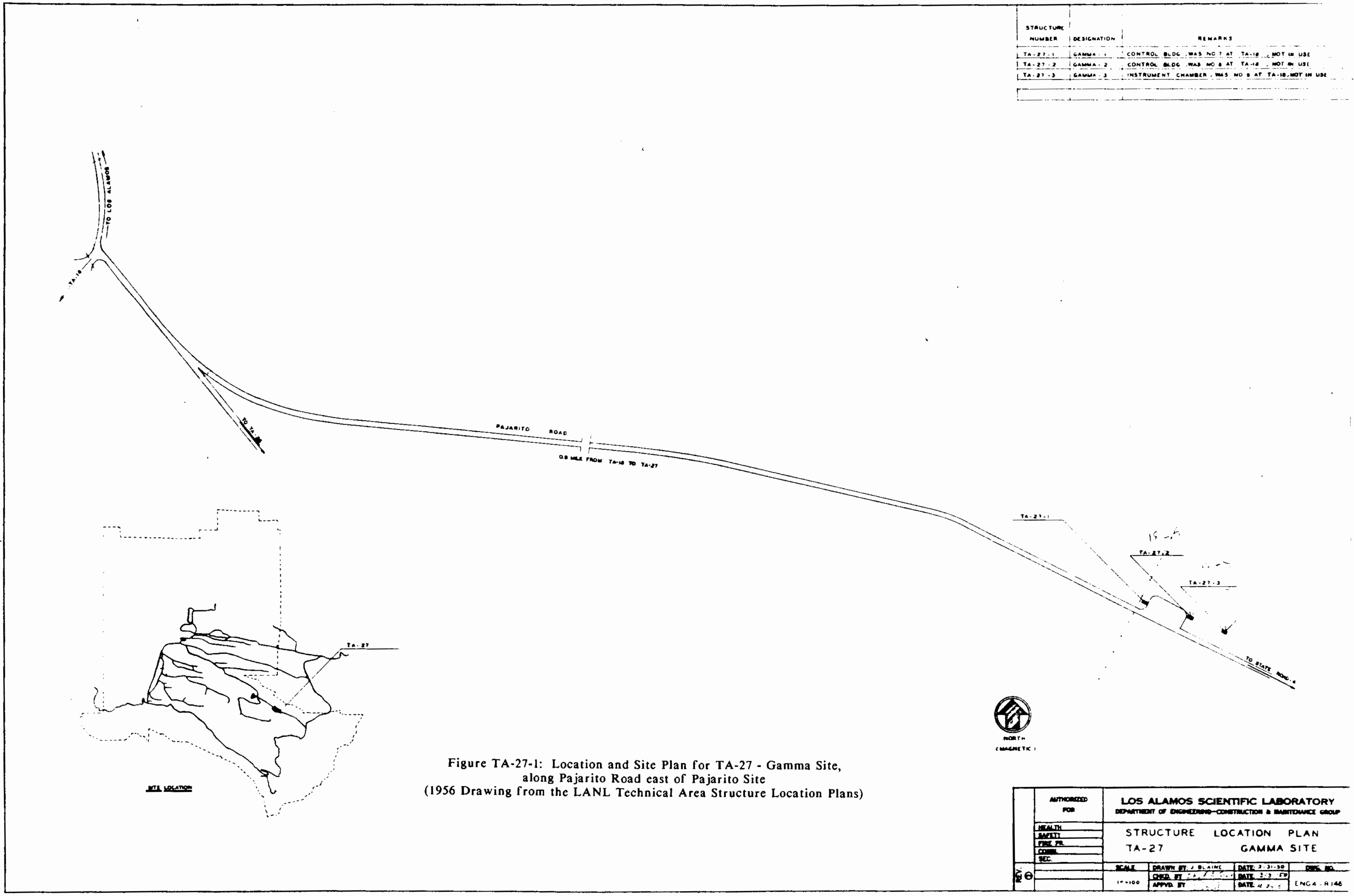
Planned Future Action--Phase II investigations will be conducted, as appropriate, based on preliminary reconnaissance information from the Los Alamos Site Characterization Program.

TA27-3-L-I-RW (Buildings)

Background--In conjunction with the firing pits were the control buildings at Gamma Site. Of all the structures at this site, TA-27-2, a control building, was the only one with any contamination (LASL 1959). This structure had 1500 counts/min and 2 mrad/h of thorium contamination remaining on the concrete surfaces (Buckland 1960). The disposition of the building referred to in the memo referenced is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A supplemental Phase I investigation will be conducted to determine the fate of the contaminated building structure.



STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-27-1	GAMMA-1	CONTROL BLDG. WAS NO 7 AT TA-18, NOT IN USE
TA-27-2	GAMMA-2	CONTROL BLDG. WAS NO 8 AT TA-18, NOT IN USE
TA-27-3	GAMMA-3	INSTRUMENT CHAMBER, WAS NO 9 AT TA-18, NOT IN USE

Figure TA-27-1: Location and Site Plan for TA-27 - Gamma Site,
along Pajarito Road east of Pajarito Site
(1956 Drawing from the LANL Technical Area Structure Location Plans)

TA-28 - MAGAZINE AREA A

CURRENT OPERATIONS

TA-28 is composed of five magazines approved for Classes 9 and 10 explosives, with load limits of 10,000 lb each. TA-28 is used to store high explosives, which are transported and stored in closed containers. At this time, the containers are not opened while at TA-28 except for periodic inspections.

POTENTIAL CERCLA/RCRA SITES

The following table presents what is known about potential CERCLA/RCRA sites at this location. During the 1987 CEARP field survey, no evidence of underground tanks or burial sites was found at TA-28. CEARP findings are negative for FFSDIF, PA, and PSI; therefore, an HRS Migration Mode Score is not calculated for TA-28. No further action is warranted for TA-28 under CEARP.

FIGURES

Figure TA-28-1: Structure Location Plan for TA-28 - Magazine Area A (1983)

REFERENCES

CEARP. n.d. Undated memorandum in the CEARP files at LANL.

Courtright, W. C. 1964. "Unidentified Cans Near TA-28-4," Los Alamos Scientific Laboratory memorandum to H-3 file, October 19, 1964.

LASL. 1947. "A Technical Maintenance Group Report on General Background Data Concerning the Los Alamos Scientific Laboratory Required for Planning Purposes," Los Alamos Scientific Laboratory report LAB-A-5, September 11, 1947.

TABLE TA-28 - POTENTIAL CERCLA/RCRA SITES

TA28-1-CA-A-HW (Magazines)

Background--This site consists of five magazines (bunkers), all constructed by 1947 (LASL 1947:14). In past years, they have been used to store explosives, with a load limit of 10,000 lb each, and propellant (CEARP n.d.). However, in the 1987 CEARP field survey it was learned that because of concern that high explosive was being stored close to a public highway, three of the bunkers are no longer being used, and two of the bunkers are being used to store small arms munitions. The bunkers are built so that the roof comes off to release overpressure, thus giving added safety to the public access area nearby. Because high explosive/propellant was stored here, the bunkers should be considered potentially contaminated with high explosive.

There is no indication of residual environmental contamination of concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted. The magazines are covered by routine LANL operations.

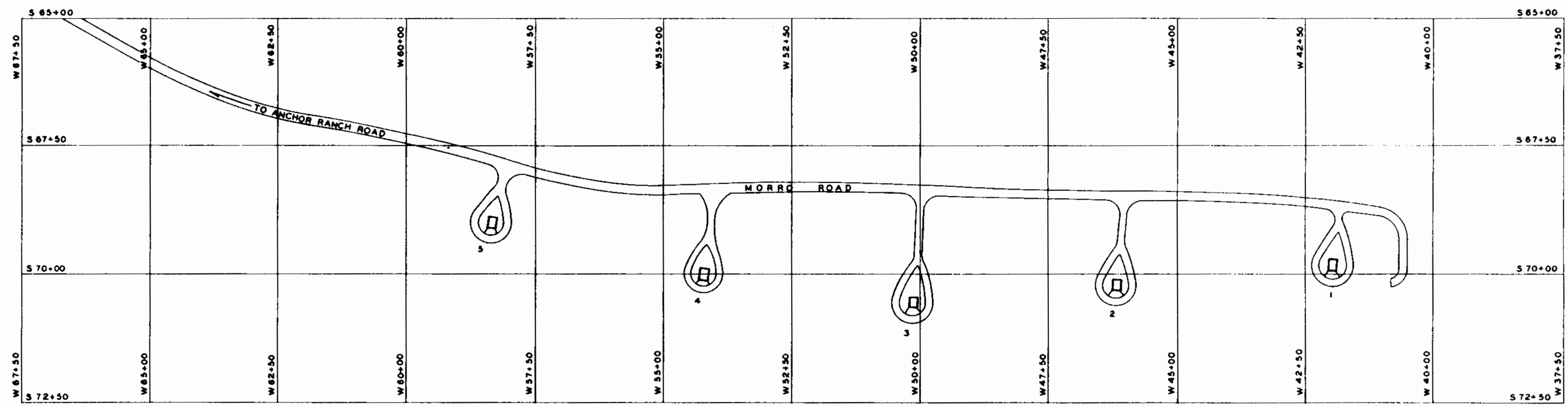
TA28-2-CA-I-HW (Old metal cans)

Background--In 1964, security personnel noted nine or ten 10-gal. metal cans, whose identification was faded, that had been deposited in the canyon. Some were rusted through. All were full and weighed about 75 lb each. Analysis of the contents indicated that the material was probably a sweeping compound, confirmed by the presence of some old floor-polishing brushes. The cans and other debris were retrieved and disposed of elsewhere (Courtright 1964).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-28-1	MAA -1	MAGAZINE	FORMERLY S-61	S70+00 W42+50
TA-28-2	MAA -2	MAGAZINE	FORMERLY S-62	S70+00 W45+00
TA-28-3	MAA -3	MAGAZINE	FORMERLY S-63	S70+00 W 50+00
TA-28-4	MAA -4	MAGAZINE	FORMERLY S-64	S70+00 W 55+00
TA-28-5	MAA -5	MAGAZINE	FORMERLY S-65	S70+00 W 57+50
TA-28-6	MAA -6	ROAD BLOCK	REMOVED 1950	



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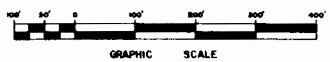


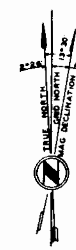


Figure TA-28-1: Structure Location Plan for TA-28 - Magazine Area-A
(1983 Drawing from the LANL Technical Area Structure Location Plans)

REV	DATE	REVISION	BY	CHD	APP
13	8-12-83	REVISED TITLE BLOCK & DWG TO STATUS OF 8-10-83	HS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

STRUCTURE LOCATION PLAN
TA-28 MAGAZINE AREA - A

SEC CLASSIFICATION — CLASS: U — REVIEWER — DATE

SUBMITTED — RECOMMENDED — APPROVED

DRAWN: SALGADO — CHECKED

DATE: 8-12-83 — SHEET NO. 1 of 1 — DRAWING NO. ENG-R5115

TA-29 - MAGAZINE AREA B

CURRENT OPERATIONS

TA-29 has been abandoned.

POTENTIAL CERCLA/RCRA SITES

TA-29 was a small magazine area composed of two magazines, a water tower, and a latrine. The magazines were used for storage of high explosives and miscellaneous items. Engineering records indicate the jurisdiction of the site was transferred to the US Atomic Energy Commission in 1951. In July 1957, the area was determined to be of no further value to the Laboratory, and requests to have the site cleared were made (Dunning 1957). The structures were removed in 1958 or 1959.

Before its use as a magazine area, the site was part of a Civilian Conservation Corps camp in the 1930s. The remains (slab, foundation, and probably septic tank) of what is believed to be a mess hall, as well as a garbage burning structure and several other types of building debris, are at the site. The New Mexico Highway Department also used the area for storage of gravel and other materials for road building.

The following table presents what is known about potential CERCLA/RCRA sites. Phase I investigations have been completed. HRS scoring for TA-29 is not appropriate. A CEARP Phase V investigation will be made to verify that potential CERCLA/RCRA sites do not exist and that no further action is warranted, including monitoring.

FIGURES

Figure TA-29-1: Structure Location Plan for TA-29 - Magazine Area B (1955)

REFERENCES

Dunning, R. E. 1957. "Return of Structures TA-29 and TA-0," Atomic Energy Commission Los Alamos Area Office memorandum, July 1, 1957.

Russo, S. E. 1957. "Return of Structures, TA-29 and TA-0," Los Alamos Scientific Laboratory memorandum to C. A. Reynolds, July 30, 1957.

TABLE TA-29 - POTENTIAL CERCLA/RCRA SITES

TA29-1-CA-I-HW (Magazine area)

Background--The Laboratory burned the magazines at TA-29 to the ground around 1957. High explosives are the only anticipated source of contamination in the area even though the magazines ". . . were used in the past for storage of explosive materials as well as miscellaneous storage" (Russo 1957). Because the magazines were indeed destroyed by burning, no hazards are anticipated. All other structures were removed or destroyed as well. No burial locations are suspected in this area.

CERCLA Finding--Due to status of activities (i.e., CEARP Phase V), a CERCLA finding under FFSDIF, PA, and PSI is not appropriate.

Planned Future Action--A CEARP Phase V verification study will be conducted.

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-0-11	ULR-11	GUARD HOUSE
TA-0-14	ULR-14	SEPTIC TANK
TA-0-15	ULR-15	DISTRIBUTION BOX
TA-0-19	ULR-19	GUARD HOUSE (ABANDONED)

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-29-1	MAB-1	MAGAZINE (FORMERLY A-5)
TA-29-2	MAB-2	MAGAZINE (FORMERLY A-6)
TA-29-3	MAB-3	WATER TOWER
TA-29-4	MAB-4	LATRINE

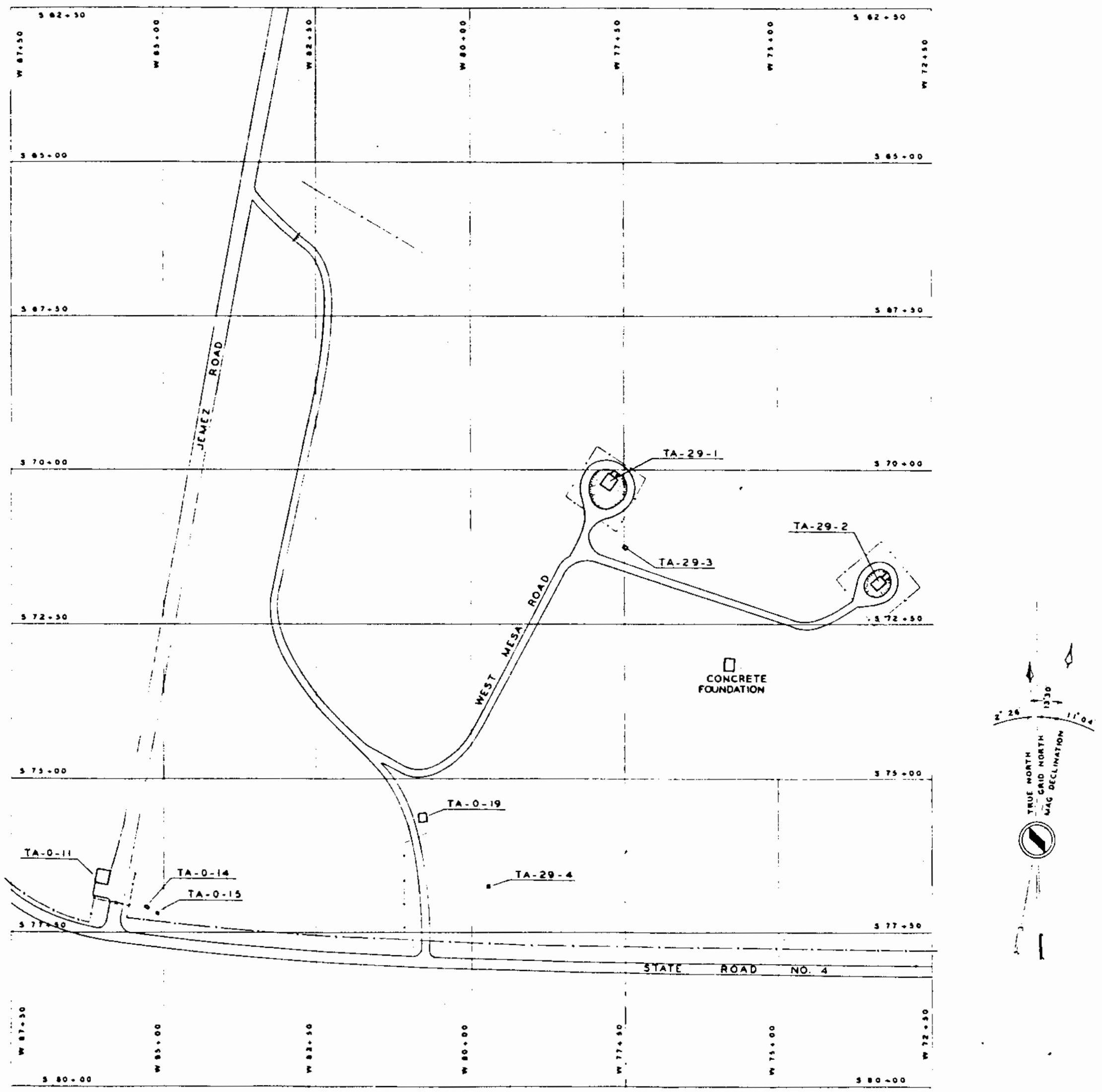


Figure TA-29-1: Structure Location Plan for TA-29 - Magazine Area-B
(1955 Drawing from the LANL Technical Area Structure Location Plans)

NO	DATE	REVISIONS	BY
7	10/5/55	REDRAWN TO STATUS OF JULY 1, 1955	NOB

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-29 MAGAZINE AREA-B

AUTHORIZED FOR: HEALTH SAFETY / FIRE PROT. / SEC.

CHECKED / DESIGNER — RECOMMENDED / GROUP LEADER — APPROVED / ENG. DEPT. OFFICE

DRAWN: N BYERS — DATE: 10/5/55 — DRAWING NO.: ENG-R148
SCALE: 1" = 100' — SHEET 1 OF 1

LAB. JOB NO.

TA-30 - ELECTRONICS TEST AREA

CURRENT OPERATIONS

TA-30 is no longer operational.

POTENTIAL CERCLA/RCRA SITES

TA-30 was a small site with a single hutment erected in 1945 on Anchor Ranch Road at the intersection with Pajarito Canyon Road. TA-30 was an electronics test area that was decommissioned in 1948 (LASL 1947:15). Engineering drawing A5-R35, dated 1947, shows a box drain at the side of the building. This may have been a storm drain. The building had an oil stove with an oil tank located outside. During the 1986 CEARP field survey, only a small amount of debris--piles of asphalt and soil--were observed in the general area.

No potential CERCLA/RCRA sites were identified at TA-30. No further action is planned under CEARP.

FIGURES

Figure TA-30-1: Structure Location Plan for TA-30 - Electronics Test Area (1947)

REFERENCES

LASL. 1947. "A Technical Maintenance Group Report on General Background Data Concerning the Los Alamos Scientific Laboratory for Planning Purposes," Los Alamos Scientific Laboratory report LAB-A-5, September 11, 1947.

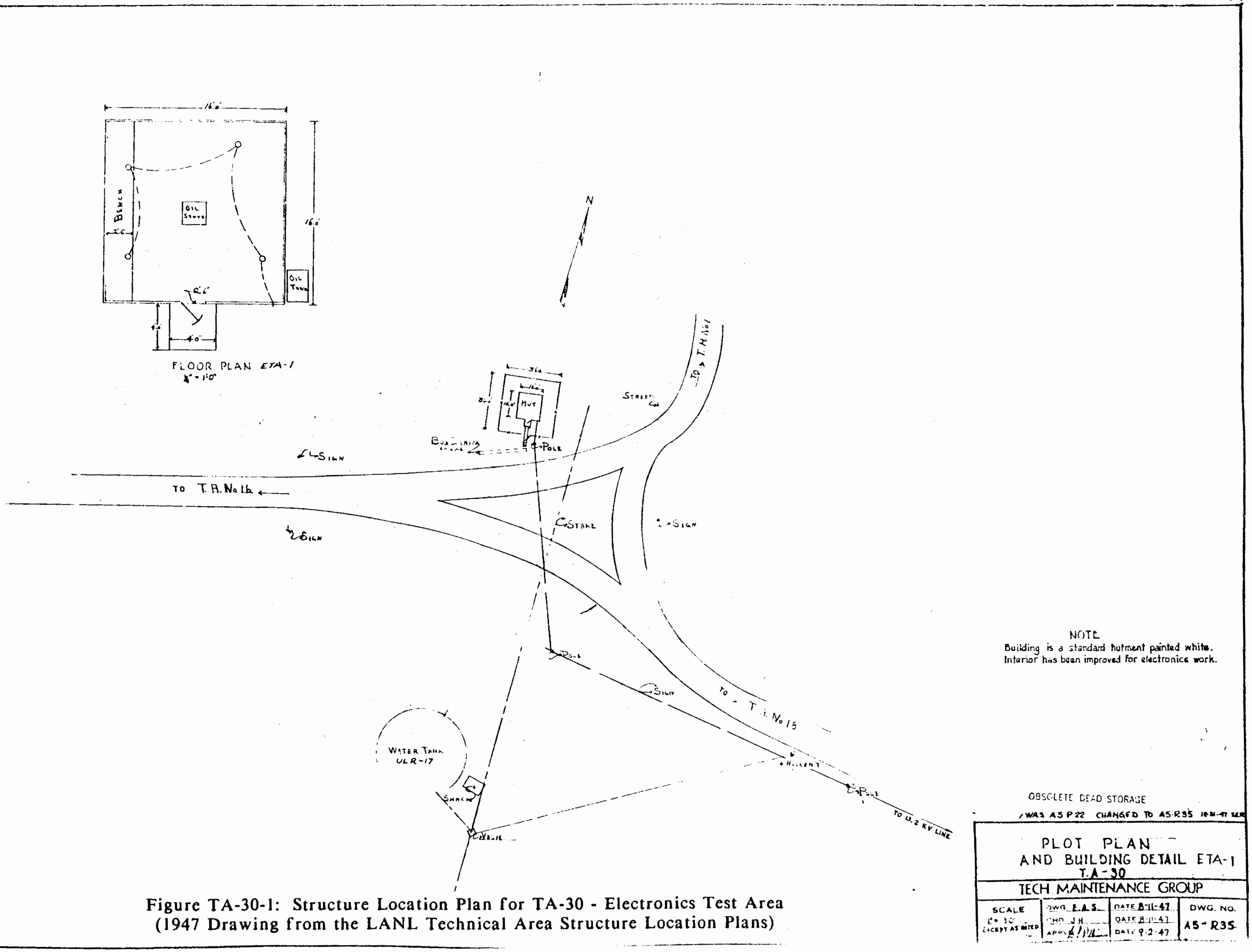


Figure TA-30-1: Structure Location Plan for TA-30 - Electronics Test Area
(1947 Drawing from the LANL Technical Area Structure Location Plans)

TA-31 - EAST RECEIVING YARD

CURRENT OPERATIONS

TA-31 was abandoned in 1954 and no longer functions as a Laboratory technical area. The land is now built up with private housing and is known as Eastern Area.

POTENTIAL CERCLA/RCRA SITES

Exactly when the first Laboratory facilities were placed at TA-31 is not known. It was abandoned, and the major structures were removed in 1954. The East Receiving Yard, as it was known, had six warehouses, a receiving dock, and a drum storage area. Several upgrades were made in 1948 and 1949: new pavement was added, and six hutments that made up TA-31-2 were removed to make room for a more permanent warehouse, TA-31-7, built at the same location in August 1949.

An abandoned septic tank, filled with soil on one side and water on the other, remains at the site on unoccupied land owned by the county of Los Alamos.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-31. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS Migration Mode Score for TA-31 is 5.4 (Appendix B).

FIGURES

Figure TA-31-1: Structure Location Plan for TA-31 - East Receiving Yard (1983)

REFERENCE

LASL. 1947. "A Technical Maintenance Group Report on General Background Data Concerning the Los Alamos Scientific Laboratory Required for Planning Purposes," Los Alamos Scientific Laboratory report LAB-A-5, September 11, 1947.

TABLE TA-31 -POTENTIAL CERCLA/RCRA SITES

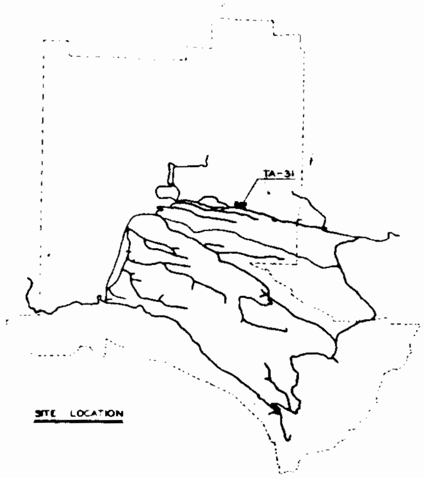
TA31-1-ST-I-HW/PP (Possible chemical and petroleum products)

Background--The East Receiving Yard was set up in the summer of 1945 for the Navajo Van Line. A roofed receiving dock was constructed just west of the airport, where Eastern Area housing exists today (LASL 1947:15). By 1954, when it was abandoned, this site had been enlarged to include TA-31-1, a receiving dock; TA-31-2, a warehouse; TA-31-3, -4, -5, and -7, warehouses; TA-31-6, office and warehouse; and TA-31-9, drum storage, as shown in engineering drawing ENG-R150. All of these buildings were removed. However, during the 1986 CEARP field survey, the septic tank that served the facility, TA-31-7, was seen on a small bench below the edge of the canyon to the north of the former facility. As far as anyone knows, this tank contains no radionuclides or toxic chemicals; however, it is not known whether oil or chemicals were spilled at the warehouse and whether they drained to the septic tank.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A supplemental Phase I reconnaissance investigation will be conducted to identify the contents of the septic tank. Appropriate action will be taken based on these findings.

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-31-1	N-8	RECEIVING DOCK
TA-31-2	N-9	WAREHOUSE . REMOVED 3-4-49
TA-31-3	N-10	WAREHOUSE
TA-31-4	N-11	WAREHOUSE
TA-31-5	N-12	WAREHOUSE
TA-31-6	N-14	OFFICE & WAREHOUSE
TA-31-7	N-20	WAREHOUSE



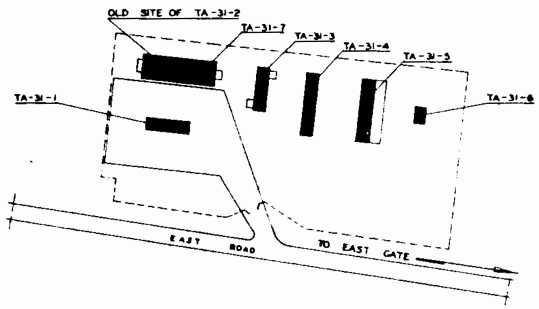


Figure TA-31-1: Structure Location Plan for TA-31 - East Receiving Yard
(1983 Drawing from the LANL Technical Area Structure Location Plans)

AUTHORIZED FOR

HEALTH
SAFETY
FIRE PR.
COMM.
SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
DEPARTMENT OF ENGINEERING—CONSTRUCTION & MAINTENANCE GROUP

STRUCTURE LOCATION PLAN
TA-31 EAST RECEIVING YARD

REV. 0

SCALE 1" = 100'
DRAWN BY G R S DATE 3-31-50
CHKD. BY DATE
APPVD. BY DATE
DWG. NO. ENG4-R15C

TA-32 - MEDICAL RESEARCH LABORATORY

CURRENT OPERATIONS

TA-32 no longer exists.

POTENTIAL CERCLA/RCRA SITES

Until they were moved to TA-43 in 1953, the medical research laboratory facilities were at TA-32 and consisted of three laboratories, an office building, and two other buildings. No documentation has been found on how these buildings were removed or whether any contamination might have been present. Two septic tanks served the facility; they are still in place at the edge of a canyon. The piping to the tanks may also still be in place. Possible contamination of both is not known. An incinerator that was operated at the facility was also at the edge of the canyon.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-32. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-32 is 5.2 (Appendix B).

FIGURES

Figure TA-32-1: Location and Site Plan for TA-32 - Medical Research Laboratory (1953)

REFERENCES

LASL. 1947. "A Technical Maintenance Group Report on Building Data Concerning the Organization, Space Occupancy, and Building Requirements of the Los Alamos Scientific Laboratory," Los Alamos Scientific Laboratory report LAB-A5-2, November 4, 1947.

TABLE TA-32 - POTENTIAL CERCLA/RCRA SITES

TA32-1-CA-I-HW/RW (Old laboratory area)

Background--TA-32 encompassed the medical research laboratory facilities before they were moved to TA-43 in 1953. Research on the biological effects of external irradiation exposure and of inhaling and ingesting radionuclides was one of the functions of the groups that occupied the area. Training was also carried out here (LASL 1947:8).

The site consisted of laboratory buildings TA-32-1, -2, and -5; office building TA-32-3; and two other buildings, TA-32-12 and -13. No documentation exists on how these buildings were removed or on any contamination that might have been found. The structures are listed and shown on engineering drawing ENG-R151, which indicates the site was abandoned in 1954. The area is now occupied by the Los Alamos County Department of Roads.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the extent of potential residual environmental contamination will be determined.

TA32-2-ST/O/CA-I-HW/RW (Septic tanks)

Background--The medical research facility was served by two septic tanks, TA-32-7 and -8, which were observed during the 1986 CEARP field survey to be still in place at the edge of the canyon. Whether the piping to these tanks was removed is not known, nor is the state of possible contamination.

Because they were at the edge of the canyon, the septic tanks probably had an outfall. If the tanks received low concentrations of radionuclides, the outfalls would have received them also.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

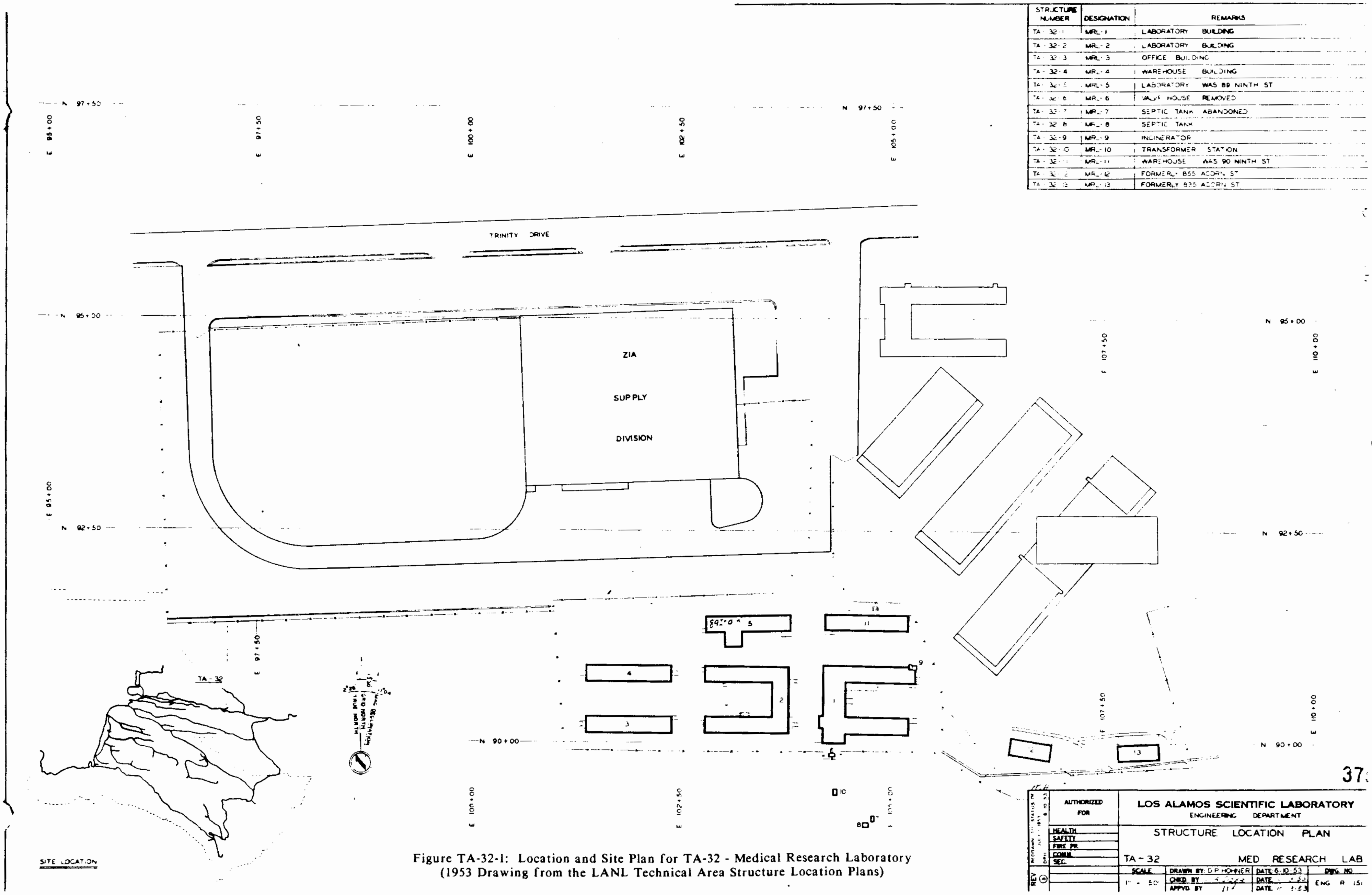
Planned Future Action--During supplemental Phase I, the extent of potential residual environmental contamination will be determined.

TA32-3-IN-I-HW/RW (Incinerator)

Background--At the medical research facility, an incinerator, TA-32-9, was located to the south of the site on the edge of the canyon.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the extent of potential residual environmental contamination will be determined.



STRUCTURE NUMBER	DESIGNATION	REMARKS
TA - 32 - 1	MRL - 1	LABORATORY BUILDING
TA - 32 - 2	MRL - 2	LABORATORY BUILDING
TA - 32 - 3	MRL - 3	OFFICE BUILDING
TA - 32 - 4	MRL - 4	WAREHOUSE BUILDING
TA - 32 - 5	MRL - 5	LABORATORY WAS 89 NINTH ST
TA - 32 - 6	MRL - 6	VALVE HOUSE REMOVED
TA - 32 - 7	MRL - 7	SEPTIC TANK ABANDONED
TA - 32 - 8	MRL - 8	SEPTIC TANK
TA - 32 - 9	MRL - 9	INCINERATOR
TA - 32 - 10	MRL - 10	TRANSFORMER STATION
TA - 32 - 11	MRL - 11	WAREHOUSE WAS 90 NINTH ST
TA - 32 - 12	MRL - 12	FORMERLY 855 ACORN ST
TA - 32 - 13	MRL - 13	FORMERLY 835 ACORN ST

Figure TA-32-1: Location and Site Plan for TA-32 - Medical Research Laboratory
(1953 Drawing from the LANL Technical Area Structure Location Plans)

TA-33 - HP SITE

CURRENT OPERATIONS

TA-33, Hot Point Site, consists of the gun firing area, the tower area, and Area 6. The abandoned gun and firing/tower areas are situated on two ends of the mesa: the gun area on the east point and the tower area on the south. Area 6, which consists mainly of office and laboratory buildings, is located to the south of State Road 4. Hot Point Site is occupied for the most part by groups from the Earth and Space Science (ESS) Division, and their main function is to support the Hot Dry Rock efforts at Fenton Hill (TA-57). This effort includes developing downhole diagnostic instrumentation, making rock sample analyses, doing reservoir analyses, and monitoring drilling contracts. Rock sample analysis involves small amounts of chemistry: cutting rock samples into thin sections and performing x-ray and computer-controlled microscopy analyses.

The other major effort occurs in TA-33-86, a high-pressure tritium handling facility that has been in operation since the 1950s. A new facility is being constructed at TA-16 and when it is put into operation (currently estimated to be fiscal year 1988), TA-33-86 is scheduled to be decontaminated and decommissioned.

POTENTIAL CERCLA/RCRA SITES

The first experiments were conducted in shafts at TA-33 during 1948. These shafts were later designated as Material Disposal Area D. Material Disposal Areas E and K also exist at TA-33.

Other activities involved firing high-explosives systems whose weights ranged from 275 to 5,000 lb. Only two or three tests involved the larger amount. Explosive systems testing ended in 1955 or 1956. Additionally, facilities included a number of gun firing areas for research and development of gun-type weapons. Elaborate "catcher boxes" were constructed in which to recover projectiles. Most of the projectiles were recovered, but at least two went into White Rock Canyon, and another broke up and scattered cobalt-60 needles about the area. Areas of residual contamination exist as a result of these activities.

Selected portions of TA-33 were cleaned up during 1984. This cleanup involved areas in which activity had ceased and debris littered the site, and where known radioactive contamination existed. Cleanup efforts were concentrated at the firing areas on both of the site's mesa points and the elevator building storage area (located in the center of the north mesa). Cleanup guidelines for the radionuclides expected to be encountered were those of the U.S. Department of Energy (USDOE) Formerly Utilized Sites Remedial Action Program (FUSRAP). Radioactively contaminated wastes generated by cleanup activity were taken to the Area G landfill at TA-54.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigation will be documented in the CEARP Phase IIA Monitoring Plan for TA-33. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-33 is 15.7 (Appendix B).

FIGURES

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TABLE TA-33 - POTENTIAL CERCLA/RCRA SITES

TA33-1-CA-A/I-HW/RW (Operational releases)

Background--Operational releases of hazardous substances have occurred at TA-33. The most common incidents were radioactive in nature. Most of the releases of tritium came from TA-33-86, the High Pressure Building. According to the Los Alamos records (e.g., Dummer 1979; Maltrud 1978, 1979a, and 1979b; Martin 1974), the most significant events occurred in the 1970s. Additionally, a 10,000-Ci tritium shot was detonated at TA-33 on October 8, 1954 (H Division 1954b). Depleted uranium entered the environment at TA-33 from an unfiltered stack at the cutoff building (TA-33-21) (Hyatt 1953). Another source of uranium contamination to the environment was the operation at the Saw Building (TA-33-40) (Lawrence 1951). A major release of plutonium and beryllium occurred during an experiment in April 1960 in the cutoff building (TA-33-21), resulting in heavy contamination (Buckland 1973b). An estimated 300 mg of plutonium powder was released into the room (Safety Office 1960). Final decontamination and decommissioning of the facility was achieved in June 1975 (Cox, Garde, and Valentine 1975). Polonium contamination events have occurred (H Division 1954a and 1954b). However, cleanup was conducted after the events, and polonium has a relatively short half-life and has decayed by now.

Nonradioactive releases have occurred at TA-33. Experiments involving centrifugation of cylinders containing beryllium oxide and beryllium spheres as well as the firing of those cylinders took place at TA-33 in the 1960s. Records contain evidence of three such tests failing (LASL 1965, 1966a, 1966b, and 1969). Surface cleanup of two of the gun areas was performed in September 1984. Releases of mercury and trichloroethylene have also occurred at TA-33 (Jordan 1954; H Division 1956).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination in the environment resulting from past operational releases and spills will be evaluated during supplemental Phase I. Active operations are covered by routine LANL operations.

TA33-2-O/S-A/I-RW/HW (Outfalls)

Background--The outfall-related information provided below was obtained from the 25-sheet set of utility location plans for the water, gas, and sewer systems of TA-33, HP Site, dated August 20, 1959 (engineering drawings ENG-R1274 through ENG-R1298).

Area 6 was where the bulk of the laboratory work was performed and accidents within buildings occurred. Area 6 has a moderate number of drainage or sewage pipes that daylight and could be potentially contaminated (Abrahams 1963). Three drainage fields existed here at one time and two remain.

TA-33-21 lines were of some concern during the decontamination and decommissioning of building 21. The lines were listed as industrial waste, sanitary sewer, and outfall. Floor drains daylighted west of the building at an outfall on the side of the canyon. The sewer line ran west to TA-33-74 (contaminated drain manhole) and proceeded through a sanitary septic tank (TA-33-32) before daylighting a short distance away from the tank. The industrial waste line ran from the hot change room and the process room out to a tile field and collection system, and eventually daylighted a short distance from the canyon rim. During the 1974 decontamination and decommissioning work, no contamination was found in either the sewage or outfall lines. The tile field that served the industrial waste line was radioactively contaminated but to a lesser extent than expected. Contamination was limited to the top half of the system's distribution line. Approximately 3 cubic yards of contaminated soil from this trench and all of the clay pipe were sent to the contaminated waste burial ground (TA-54) and buried as nonretrievable waste (Cox, Garde, and Valentine 1975).

Drainage lines from building 86 are assumed to be contaminated. To the east of this structure is an acid sewer line to an acid sewer sump (TA-33-134), a contaminated sewer line to another acid sewer sump (TA-33-133), and a drain to daylight.

Area 6 also has interconnecting series of lines that run to a common drainage field. These structures are TA-33-19 (laboratory and office building), TA-33-39 (machine building), TA-33-113 (hot machine shop), and TA-33-114 (laboratory office building). The tile field is located in the extreme northeast section of Area 6. This series of drainage and sewage lines from the buildings flows into one sanitary septic tank (TA-33-31) and through a sanitary sewer manhole (TA-33-78) on to the 90- by 80-ft tile field that runs from north-northwest to south-southeast. Documentation shows work and accidents in buildings 19, 39, and 113 with mercury, organics, lead, beryllium, and radionuclides. The extent of contamination is unknown. However, it is assumed that contamination within the system does exist and may consist of mercury, depleted and natural uranium, tritium, trichloroethylene, benzene, and beryllium.

Two independent drains run a few feet to the east of building 39, the machine shop, to daylight. This building was used for uranium storage and a lead furnace was housed here. There is a possibility that these drains contain uranium, lead, and organics.

The warehouse building (TA-33-20) has one drain that is shown on engineering drawings as daylighting approximately 20 ft to the east of the structure. An employee indicated that uranium and beryllium were stored in this building.

In the northwest corner of Area 6, the gun building (TA-33-16) has a single drain coming from it that daylights to the northwest of the building. The outfall area is potentially contaminated with radionuclides, lead, and barium.

At the tower area, drains and outfalls associated with the x-unit chamber (TA-33-26) and the surrounding area are potentially contaminated (Ahlquist 1983). The top surface of TA-33-26 was used as an implosion shot pad. However, there is no reference to shots going low-order and, therefore, contamination due to high explosives is not expected in this area. TA-33-26 has a floor drain coming from it which runs a short distance southeast to a trench cut into the rock to direct drainage to the Chaquehui Canyon edge to the south. Also emptying into the cut is a large runoff pipe downslope from the implosion pad and shot area. Contamination is known to exist in this area. Soil samples taken as part of the Los Alamos Site Characterization Program in the summer of 1985 in this firing area contained uranium. This drain line, runoff pipe, trench, and canyon side to which the trench discharges are all highly likely to be contaminated with uranium.

The tower area's two drain lines and one sanitary sewer line that exit from control building HP-24 run southwest and daylight at the canyon edge. These lines and outfall areas could potentially be contaminated with uranium.

The gun firing area has few drainage systems or outfalls. A perforated corrugated metal drain pipe that exits the x-unit vault (TA-33-87) runs a substantial distance south-southeast to the rim of the mesa, at which point it discharges into White Rock Canyon. This drain and the outfall area could be contaminated with radioactive materials. Additionally, the three lines coming from structure TA-33-87 could be contaminated. Two lines are drains that parallel each other and run east before merging and eventually daylighting a short distance away near a gun mount. The third line is a sanitary sewer line that exits the building to the northeast and enters sanitary septic tank TA-33-96. This line continues from the septic tank as a drain line into a tile field/sand filter. The flow from this field follows the lay of the land toward the underground chamber number 2, which is part of Material Disposal Area D (see Material Disposal Area D).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Residual environmental contamination in the outfall areas associated with past discharges will be investigated during supplemental Phase I. The active outfalls are covered by routine LANL operations.

TA33-3-L-I-HW/RW (Disposal areas)

Background-Material Disposal Areas D, E, and K are present at TA-33 (see the Material Disposal Areas section of this report).

Canyon-side disposal at the TA-33 firing site locations occurred in the past. Debris was usually cleared off firing pits or pads by small bulldozers or moved to the canyon side. Debris included soil, firing wires, connectors, shrapnel, wood, foam rubber, glass, and pieces of conduit. Three canyon disposal areas exist at TA-33, one at the southern firing site and two at the eastern firing site. One gun firing disposal area is located to the south on a gently sloping side of White Rock Canyon. The debris volume is not large but it is scattered. It is possible that material in this area is contaminated with uranium and beryllium. The second debris pile is on a cliff shelf of White Rock Canyon to the southwest of TA-33-89. It is not known if this material is contaminated. The disposal area at the tower area, south of TA-33-26, is across the road and to the west of Area E. There is a ditch that services the x-unit chamber drain and a runoff pipe that passes immediately to the east of this debris pile. A large area around the disposal area is disturbed. The debris may be contaminated with beryllium.

A large surface disposal area existed at one time in Area 6 (Buckland 1973a; Cowder and Umbarger 1974; Ahlquist 1983; Buckland 1973a; and Herceg 1973). The debris from this area was excavated and transported to TA-54 during the fall and winter of 1974 by Laboratory personnel. After the entire disposal area was cleaned up, a radiation survey was run at the area. No readings above background were recorded (Smith 1974).

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--Phase II investigations of the disposal areas will be conducted, including verification that the Area 6 disposal area was adequately cleaned up.

TA33-4-CA-I-HW/RW (Firing sites)

Background--TA-33 was initially developed for chamber testing. Chambers similar to those at Trinity were constructed at the site. TA-33-4 (1) and TA-33-6 (2) were built together on the site's east mesa. TA-33-59 (3) followed shortly thereafter, TA-33-70 (4) and TA-33-71 (5) joined chamber 3 on the south mesa. Of the five built, three were used and subsequently destroyed. Two of the chambers, TA-33-4 and TA-33-6, are Material Disposal Area D and one chamber, TA-33-59, is part of Material Disposal Area E (see Material Disposal Areas D and E). In the early 1950s, shot experimentation at TA-33 changed from underground to above-ground testing using firing pads and gun assemblies instead of chambers.

Full-scale and half-scale pad shot facilities for initiator development were set up at TA-33. These shots, being uncontained, spread contamination at the firing areas (W Division 1962; H Division 1954b). Besides high explosives, hazardous materials that are potential contaminants include beryllium, beryllium oxide, polonium, uranium, and tritium. The half-scale site was on the southern mesa and the full-scale on the eastern. Shot sizes at TA-33 ranged from 275 to 5000 lb of high explosives. There were very few shots of the largest size (Drake 1977). There is no documentation within CEARP files of any shot going low order. Two more firing pads were constructed on the east mesa. Contamination at these two pads may include beryllium and uranium.

During the summer of 1984, selected areas at each firing site were cleaned up of radioactive contamination. Materials known to be contaminated were taken to TA-54 for disposal. Contamination was observed at TA-33-97 and the surrounding area. The post-cleanup radiation survey showed no residual contamination (Buhl n.d.). The cleanup did not, however, include sampling or evaluation of nonradioactive contaminants.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--CEARP Phase II investigations will be conducted to determine the extent of hazardous substances in the environment resulting from firing site activities.

TA33-5-CA-I-HW/RW (Burning pit)

Background--Little is known about the TA-33 burning pit, including its location. A report states that a burn was controlled and the substance burned was powder (Campbell 1953). Powder used at TA-33 in the 1950s included black powder and propellant powders (Safety Office 1950). Propellants used at TA-33 included LA-14B and LA-24B (Bannerman 1969). The potential toxicity of the propellants is discussed in Campbell (1969).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The burning pit will be further investigated during supplemental Phase I.

TA33-6-CA-I-HW/RW (Gun firing areas)

Background--Most of the work performed at TA-33 has involved gun assembly design and testing for weapons projects. This program started in the early 1950s and continued until the mid-1960s. All three testing areas (i.e., gun firing area, tower area, and Area 6) at TA-33 were used for this work, but the most extensive activities took place in the east mesa area. Guns whose sizes ranged from 4- to 8- in. bore fired projectiles into berms ("catcher boxes") full of soil, wood chips, and vermiculite. Projectiles were retrieved and studied. These assemblies incorporated combinations of various metals with radionuclides and high explosives.

Occasionally during testing, projectiles would stray from the target or break open, thereby spreading contamination. Typical incidents involved cracks in the assembly (Blackwell 1951). In general, grease was applied to broken assemblies to stop or retard radionuclide leakage. Broken or "dissected" assemblies were put in Area E (see Material Disposal Area E). Potential contaminants included polonium, tritium, and uranium.

The firing area berms did not always contain the projectiles. For example, one escaping shot spread uranium and cobalt-60 needles into the canyon below the east mesa firing area. A few fragments, including one small piece of depleted uranium, were found in the vicinity of the recovery berm (Russ 1962). The cobalt-60 needles were not found (W Division 1962). Although most of the problems arose with projectiles, sometimes the guns themselves would contract contamination from the shots (Buckland 1952). There are reports of the guns themselves being destroyed because of test malfunctions (H Division 1958). Soil in areas that became contaminated from misfires or projectile breakup was either disposed of in the canyon or sprayed with oil to keep the wind from transporting it.

Documented releases of beryllium, beryllium oxide, tritium, cobalt, polonium, and uranium at this site are a result of gun testing. Other environmental contaminants may include high explosives, nickel, tungsten, and tungsten carbide.

In the summer of 1984, limited cleanup of the gun firing areas at TA-33 occurred.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--During CEARP Phase II, the three inactive gun firing sites will be characterized for potential residual contamination.

TA33-7-ST-A/I-HW/RW (Septic systems)

Background--Procedures for liquid waste handling as of 1971 consisted of either pouring a substance down a drain (especially in TA-33-86) or disposing of it as solid waste. Hazardous substances including solvents, dilute acids, and radioactive materials were routinely poured down a special contaminated drain (Coffin 1971).

Septic tank 31 served as a collection point for five buildings (19, 20, 39, 113, and 114) in Area 6. One central line left the tank, flowed through a sanitary sewer manhole (TA-33-78), and reached a tile field. TA-33-80 and -81 are flow-through points upstream of TA-33-31. Potential contaminants in the system include hazardous and radioactive substances such as mercury, beryllium, lead, organics (trichloroethylene, benzene), tritium, and depleted and natural uranium. A 1981 survey for tritium within this specific septic tank was negative (Buchholtz 1981).

TA-33-32 (sanitary septic tank) and TA-33-74 (contaminated drain manhole) received effluent from building 21. The septic tank may have received some plutonium and beryllium through an emergency release (Abrahams 1963). Uranium may have also entered the system (Hyatt 1953).

Flow from TA-33-24, a control building, went through the septic tank TA-33-33 before outfalling to the north side of Chaquehui Canyon. A drain line around the bermed control building collected runoff, which may have been contaminated with uranium known to exist in the surrounding area. The septic tank no longer discharges to the canyon. The tank is serviced as part of Pan Am World Services routine operations.

TA-33-93 (sanitary septic tank), TA-33-133 (acid sewer sump), and TA-33-134 (acid sewer sump) service the high-pressure building and are part of Material Disposal Area K (see Material Disposal Area K).

TA-33-96 (sanitary septic tank), which services a control building (TA-33-87) in the firing area, is not expected to contain contamination.

TA-33-121 (sanitary septic tank) at one time served a "portable" laboratory building (TA-33-1) and a drainage ditch. Contamination may be possible. The drainage line that collects runoff from the north side of the road also connects to this tank. A pipe runs from the tank and daylights a short distance away in a small side cut of Chaquehui Canyon.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--A CEARP Phase II study will be conducted to determine the presence of hazardous substances associated with inactive septic systems. The active septic systems are covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-33-1	HP-1	PORTABLE LABORATORY		S250+00 E225+00
TA-33-2	HP-2	PORTABLE WAREHOUSE		S250+00 E225+00
TA-33-3	HP-3	PORTABLE ELEVATOR BLDG.		S270+00 E265+00
TA-33-4	HP-4		DESTROYED 1948	
TA-33-5	HP-5		REMOVED 1954	
TA-33-6	HP-6		DESTROYED 1948	
TA-33-7	HP-7		REMOVED 1954	
TA-33-8	HP-8		REMOVED 1954	
TA-33-9	HP-9		REMOVED 1954	
TA-33-10	HP-10		REMOVED 1974	
TA-33-11	HP-11		REMOVED 1952	
TA-33-12	HP-12		REMOVED 1950	
TA-33-13	HP-13		REMOVED 1950	
TA-33-14	HP-14		REMOVED 1951	
TA-33-15	HP-15		REMOVED 1967	
TA-33-16	HP-16	GUN BUILDING NO. 8		S250+00 E225+00
TA-33-17	HP-17		REMOVED 1951	
TA-33-18	HP-18		REMOVED 1951	
TA-33-19	HP-19	LABORATORY & OFFICE BLDG.		S250+00 E230+00
TA-33-20	HP-20	WAREHOUSE		S250+00 E230+00
TA-33-21	HP-21		DEMOLISHED 1975	
TA-33-22	HP-22	MAGAZINE		S260+00 E235+00
TA-33-23	HP-23	TRIM BUILDING		S260+00 E235+00
TA-33-24	HP-24	CONTROL BUILDING		S290+00 E245+00
TA-33-25	HP-25	GUN BUILDING		S290+00 E240+00
TA-33-26	HP-26	X-UNIT CHAMBER		S290+00 E245+00
TA-33-27	HP-27	GUARD HOUSE		S245+00 E230+00
TA-33-28	HP-28	TANK, WATER		S245+00 E230+00
TA-33-29	HP-29		DESTROYED 1950	
TA-33-30	HP-30		REMOVED 1954	
TA-33-31	HP-31	TANK, SEPTIC		S250+00 E235+00
TA-33-32	HP-32		REMOVED 1975	
TA-33-33	HP-33	TANK, SEPTIC		S290+00 E240+00
TA-33-34	HP-34	ROAD BLOCK		S260+00 E235+00
TA-33-35	HP-35	ROAD BLOCK		S290+00 E240+00
TA-33-36	HP-36	MAGAZINE		S250+00 E240+00
TA-33-37	HP-37	MAGAZINE		S250+00 E240+00
TA-33-38	HP-38		REMOVED 1952	
TA-33-39	HP-39	MACHINE SHOP		S250+00 E235+00
TA-33-40	HP-40	SAW BUILDING		S250+00 E235+00
TA-33-41	HP-41		REMOVED 1963	
TA-33-42	HP-42		REMOVED 1953	
TA-33-43	HP-43	BARRICADE		S265+00 E245+00
TA-33-44	HP-44		REMOVED 1951	
TA-33-45	HP-45		REMOVED 1953	
TA-33-46	HP-46	ROAD BLOCK		S260+00 E235+00
TA-33-47	HP-47	ROAD BLOCK		S250+00 E245+00
TA-33-48	HP-48		REMOVED 1953	
TA-33-49	HP-49		REMOVED 1951	
TA-33-50	HP-50		REMOVED 1951	
TA-33-51	HP-51		DESTROYED 1979	
TA-33-52	HP-52		DESTROYED 1979	
TA-33-53	HP-53	TRANSFORMER STATION		S250+00 E235+00
TA-33-54	HP-54		REMOVED 1952	
TA-33-55	HP-55		REMOVED 1975	
TA-33-56	HP-56	TRANSFORMER STATION		S250+00 E225+00
TA-33-57	HP-57	TRANSFORMER STATION		S255+00 E230+00
TA-33-58	HP-58	TRANSFORMER STATION		S290+00 E240+00
TA-33-59	HP-59	TRANSFORMER STATION	ABANDONED 1954	S295+00 E250+00
TA-33-60	HP-60		REMOVED 1952	
TA-33-61	HP-61	BARRICADE	ABANDONED 1962	S250+00 E220+00
TA-33-62	HP-62	BARRICADE	ABANDONED 1962	S250+00 E225+00
TA-33-63	HP-63	BARRICADE		S290+00 E240+00
TA-33-64	HP-64	GUN MOUNT	ABANDONED 1962	S250+00 E225+00
TA-33-65	HP-65	GUN MOUNT	ABANDONED 1962	S250+00 E225+00
TA-33-66	HP-66		REMOVED 1980	
TA-33-67	HP-67	MANHOLE, WATER PRV		S265+00 E240+00
TA-33-68	HP-68	SIREN		S250+00 E230+00
TA-33-69	HP-69		REMOVED 1966	
TA-33-70	HP-70	U.G. CHAMBER NO. 4		S295+00 E250+00
TA-33-71	HP-71	U.G. CHAMBER NO. 5		S290+00 E250+00
TA-33-72	HP-72	TUNNEL BARRICADE	ABANDONED 1962	S250+00 E225+00
TA-33-73	HP-73	MANHOLE, SANITARY	ABANDONED 1951	S250+00 E235+00
TA-33-74	HP-74		REMOVED 1975	
TA-33-75	HP-75	MANHOLE, CONTROL		S290+00 E245+00
TA-33-76	HP-76	MANHOLE, CONTROL		S290+00 E245+00
TA-33-77	HP-77	MANHOLE, SANITARY		S250+00 E230+00
TA-33-78	HP-78	MANHOLE, SANITARY		S250+00 E235+00
TA-33-79	HP-79		REMOVED 1952	
TA-33-80	HP-80	MANHOLE, SANITARY		S250+00 E230+00
TA-33-81	HP-81	MANHOLE, SANITARY		S250+00 E230+00
TA-33-82	HP-82		REMOVED 1951	
TA-33-83	HP-83		REMOVED 1975	
TA-33-84	HP-84	HOSE HOUSE		S250+00 E230+00
TA-33-85	HP-85	GUN MOUNT		S285+00 E245+00
TA-33-86	HP-86	LABORATORY BUILDING		S255+00 E235+00
TA-33-87	HP-87	CONTROL BUILDING		S285+00 E305+00
TA-33-88	HP-88	CABLE BUILDING		S285+00 E310+00
TA-33-89	HP-89	X-UNIT VAULT		S290+00 E305+00
TA-33-90	HP-90	GUARD HOUSE		S255+00 E235+00
TA-33-91	HP-91	HOSE HOUSE		S255+00 E235+00
TA-33-92	HP-92	SUBSTATION		S255+00 E235+00
TA-33-93	HP-93	TANK, SEPTIC		S255+00 E235+00
TA-33-94	HP-94	TANK, WATER U.G.		S285+00 E300+00
TA-33-95	HP-95	TRANSFORMER VAULT		S285+00 E305+00
TA-33-96	HP-96	TANK, SEPTIC		S285+00 E305+00
TA-33-97	HP-97	FIRING PAD		S285+00 E310+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-33-98	HP-98	FIRING PAD		S285+00 E310+00
TA-33-99	HP-99	MANHOLE, ELECTRICAL		S280+00 E295+00
TA-33-100	HP-100	MANHOLE, ELECTRICAL		S280+00 E300+00
TA-33-101	HP-101	MANHOLE, ELECTRICAL		S285+00 E305+00
TA-33-102	HP-102	MANHOLE, CONTROL		S285+00 E305+00
TA-33-103	HP-103	MANHOLE, CONTROL		S285+00 E305+00
TA-33-104	HP-104	MANHOLE, CONTROL		S285+00 E305+00
TA-33-105	HP-105	MANHOLE, CONTROL		S285+00 E310+00
TA-33-106	HP-106	MANHOLE, CONTROL		S285+00 E310+00
TA-33-107	HP-107	MANHOLE, CONTROL		S285+00 E310+00
TA-33-108	HP-108	ROAD BLOCK		S260+00 E260+00
TA-33-109	HP-109		REMOVED 1967	
TA-33-110	HP-110	INCINERATOR		S250+00 E235+00
TA-33-111	HP-111		REMOVED 1963	
TA-33-112	HP-112	WIGWAG		S250+00 E245+00
TA-33-113	HP-113	HOT MACHINE SHOP		S250+00 E235+00
TA-33-114	HP-114	LABORATORY & OFFICE BLDG.		S250+00 E230+00
TA-33-115	HP-115	ROAD BLOCK	RELOCATED TO TA-39-61	
TA-33-116	HP-116	GUN MOUNT		S285+00 E305+00
TA-33-117	HP-117	GUN MOUNT		S285+00 E310+00
TA-33-118	HP-118	RECOVERY BOX		S285+00 E310+00
TA-33-119	HP-119		REMOVED 1980	
TA-33-120	HP-120	SIREN		S250+00 E245+00
TA-33-121	HP-121	TANK, SEPTIC		S250+00 E225+00
TA-33-122	HP-122		CANCELLED	
TA-33-123	HP-123		CANCELLED	
TA-33-124	HP-124	SUBSTATION		S250+00 E230+00
TA-33-125	HP-125		REMOVED 1963	
TA-33-126	HP-126		REMOVED 1963	
TA-33-127	HP-127	GUN BUILDING		S285+00 E310+00
TA-33-128	HP-128	STAIRWAY		S250+00 E230+00
TA-33-129	HP-129	TEST CELL		S250+00 E235+00
TA-33-130	HP-130	GUN MOUNT		S285+00 E310+00
TA-33-131	HP-131	RECOVERY BOX		S285+00 E310+00
TA-33-132	HP-132	OBSERVATION BARRICADE		S285+00 E310+00
TA-33-133	HP-133	SUMP, ACID SEWER		S255+00 E235+00
TA-33-134	HP-134	SUMP, ACID SEWER		S255+00 E235+00
TA-33-135	HP-135	GUN MOUNT		S285+00 E305+00
TA-33-136	HP-136	RECOVERY BOX		S285+00 E310+00
TA-33-137	HP-137		REMOVED 1983	
TA-33-138	HP-138	TRANSFORMER STATION		S255+00 E230+00
TA-33-139	HP-139	TRANSFORMER STATION		S260+00 E235+00
TA-33-140	HP-140	TRANSFORMER STATION		S265+00 E240+00
TA-33-141	HP-141	TRANSFORMER STATION		S285+00 E245+00
TA-33-142	HP-142	TRANSFORMER STATION		S250+00 E240+00
TA-33-143	HP-143	TRANSFORMER STATION		S255+00 E245+00
TA-33-144	HP-144	TRANSFORMER STATION		S260+00 E260+00
TA-33-145	HP-145	TRANSFORMER STATION		S280+00 E295+00
TA-33-146	HP-146	GUN MOUNT		S295+00 E245+00
TA-33-147	HP-147		CANCELLED	
TA-33-148	HP-148		CANCELLED	
TA-33-149	HP-149		CANCELLED	
TA-33-150	HP-150		CANCELLED	
TA-33-151	HP-151	BUNKER		S285+00 E310+00
TA-33-152	HP-152			
TA-33-153	HP-153			
TA-33-154	HP-154			
TA-33-155	HP-155		CANCELLED	
TA-33-156	HP-156		REMOVED 1976	
TA-33-157	HP-157		REMOVED 1976	
TA-33-158	HP-158		CANCELLED	
TA-33-163	HP-163	TRAILER, OFFICE	FORMERLY TA-0-537	
TA-33-164	HP-164	TRAILER, OFFICE	FORMERLY TA-0-538	
TA-33-165	HP-165	TRAILER, OFFICE	FORMERLY TA-0-655	
TA-33-166	HP-166	TRAILER, INSTRUMENT	FORMERLY TA-0-688	
TA-33-167	HP-167	TRAILER, LAB	FORMERLY TA-0-689	
TA-33-168	HP-168	TRANSPORTABLE OFFICE BLDG	FORMERLY TA-0-1033	
TA-33-169	HP-169	TRANSPORTABLE OFFICE BLDG	FORMERLY TA-0-1181	
TA-33-170	HP-170	TRANSPORTABLE OFFICE BLDG	FORMERLY TA-0-1208	

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV.	DATE	REVISION	BY	CKD	APP
19	8-17-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-12-83	HS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-33 HP-SITE

SEC CLASSIFICATION — CLASS: U — REVIEWER — DATE

SUBMITTED — RECOMMENDED — APPROVED

DRAWN: HERB SALGADO — CHECKED — DATE: 8-17-83 — SHEET NO. 1 of 2 — DRAWING NO. ENG-R5116

Figure TA-33-1: Structure Location Plan for TA-33 - HP Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

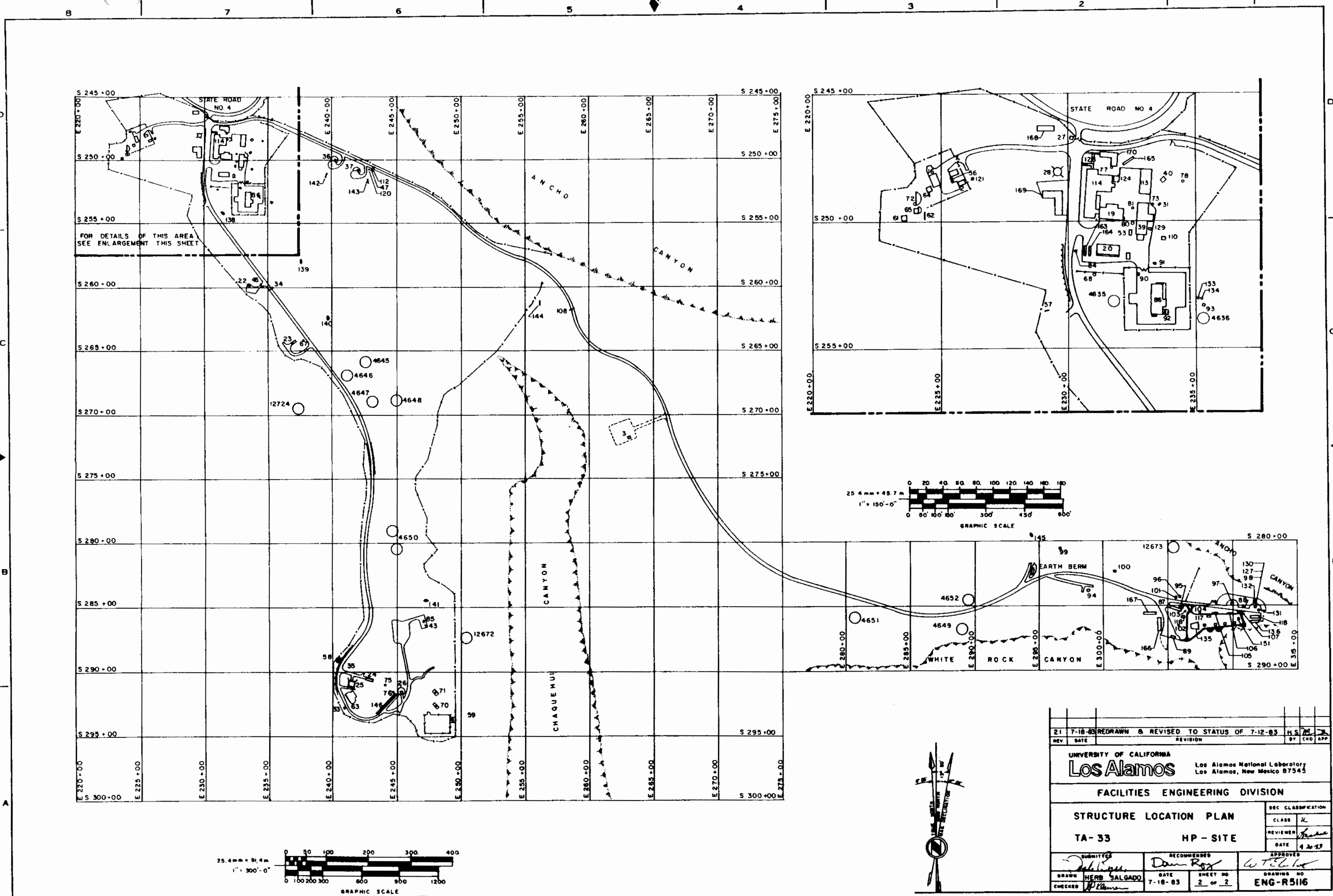


Figure TA-33-1: Structure Location Plan for TA-33 - HP Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-33-1	HP-1	PORTABLE LABORATORY		S250+00E225+00
TA-33-2	HP-2	PORTABLE WAREHOUSE		S250+00E225+00
TA-33-3	HP-3	PORTABLE ELEVATOR BLDG.		S270+00E265+00
TA-33-4	HP-4		DESTROYED 1948	
TA-33-5	HP-5		REMOVED 1954	
TA-33-6	HP-6		DESTROYED 1948	
TA-33-7	HP-7		REMOVED 1954	
TA-33-8	HP-8		REMOVED 1954	
TA-33-9	HP-9		REMOVED 1954	
TA-33-10	HP-10	MAGAZINE	REMOVED 1974	S250+00E245+00
TA-33-11	HP-11		REMOVED 1952	
TA-33-12	HP-12		REMOVED 1950	
TA-33-13	HP-13		REMOVED 1950	
TA-33-14	HP-14		REMOVED 1951	
TA-33-15	HP-15		REMOVED 1967	
TA-33-16	HP-16	GUN BUILDING NO. 6		S250+00E225+00
TA-33-17	HP-17		REMOVED 1951	
TA-33-18	HP-18		REMOVED 1951	
TA-33-19	HP-19	LABORATORY & OFFICE BLDG.		S250+00E230+00
TA-33-20	HP-20	WAREHOUSE		S250+00E230+00
TA-33-21	HP-21	CUTOFF BUILDING	DEMOLISHED 1975	S255+00E230+00
TA-33-22	HP-22	MAGAZINE		S260+00E235+00
TA-33-23	HP-23	TRIM BUILDING		S260+00E235+00
TA-33-24	HP-24	CONTROL BUILDING		S290+00E245+00
TA-33-25	HP-25	GUN BUILDING		S290+00E240+00
TA-33-26	HP-26	X-UNIT CHAMBER		S290+00E245+00
TA-33-27	HP-27	GUARD HOUSE		S245+00E230+00
TA-33-28	HP-28	TANK	WATER	S245+00E230+00
TA-33-29	HP-29		DESTROYED 1950	
TA-33-30	HP-30		REMOVED 1954	
TA-33-31	HP-31	TANK	SEPTIC	S250+00E235+00
TA-33-32	HP-32	TANK, SEPTIC	REMOVED 1975	
TA-33-33	HP-33	TANK	SEPTIC	S290+00E240+00
TA-33-34	HP-34	ROAD BLOCK		S260+00E235+00
TA-33-35	HP-35	ROAD BLOCK		S290+00E240+00
TA-33-36	HP-36	MAGAZINE		S250+00E240+00
TA-33-37	HP-37	MAGAZINE		S250+00E240+00
TA-33-38	HP-38		REMOVED 1952	
TA-33-39	HP-39	MACHINE SHOP		S250+00E235+00
TA-33-40	HP-40	SAW BUILDING		S250+00E235+00
TA-33-41	HP-41		REMOVED 1963	
TA-33-42	HP-42		REMOVED 1953	
TA-33-43	HP-43	BARRICADE		S285+00 E245+00
TA-33-44	HP-44		REMOVED 1951	
TA-33-45	HP-45		REMOVED 1953	
TA-33-46	HP-46	ROAD BLOCK		S260+00E235+00
TA-33-47	HP-47	ROAD BLOCK		S250+00E245+00
TA-33-48	HP-48		REMOVED 1953	
TA-33-49	HP-49		REMOVED 1951	
TA-33-50	HP-50		REMOVED 1951	
TA-33-51	HP-51	ROAD BLOCK		S250+00E240+00
TA-33-52	HP-52	ROAD BLOCK		S250+00E240+00
TA-33-53	HP-53	TRANSFORMER STATION		S250+00E235+00
TA-33-54	HP-54		REMOVED 1952	
TA-33-55	HP-55	COMPRESSOR BUILDING	REMOVED 1975	
TA-33-56	HP-56	TRANSFORMER STATION		S250+00E225+00
TA-33-57	HP-57	TRANSFORMER STATION		S255+00E230+00
TA-33-58	HP-58	TRANSFORMER STATION		S290+00E240+00
TA-33-59	HP-59	TRANSFORMER STATION	ABANDONED 1954	S295+00E250+00
TA-33-60	HP-60		REMOVED 1952	
TA-33-61	HP-61	BARRICADE	ABANDONED 1962	S250+00E220+00
TA-33-62	HP-62	BARRICADE		S250+00E225+00
TA-33-63	HP-63	BARRICADE		S290+00E240+00
TA-33-64	HP-64	GUN MOUNT		S250+00E225+00
TA-33-65	HP-65	GUN MOUNT		S250+00E225+00
TA-33-66	HP-66		REMOVED 1960	
TA-33-67	HP-67	MANHOLE	WATER PRV	S285+00E240+00
TA-33-68	HP-68	SIREN		S250+00E230+00
TA-33-69	HP-69		REMOVED 1966	S250+00E225+00
TA-33-70	HP-70	U.G. CHAMBER NO. 4		S295+00E250+00
TA-33-71	HP-71	U.G. CHAMBER NO. 5		S290+00E250+00
TA-33-72	HP-72	TUNNEL BARRICADE		S250+00E225+00
TA-33-73	HP-73	MANHOLE	ABANDONED 1951	S250+00E235+00
TA-33-74	HP-74	MANHOLE, ACID	REMOVED 1975	S255+00E230+00
TA-33-75	HP-75	MANHOLE	CONTROL	S290+00E245+00
TA-33-76	HP-76	MANHOLE	CONTROL	S290+00E245+00
TA-33-77	HP-77	MANHOLE	SANITARY	S250+00E230+00
TA-33-78	HP-78	MANHOLE	SANITARY	S250+00E235+00
TA-33-79	HP-79		REMOVED 1952	
TA-33-80	HP-80	MANHOLE	SANITARY	S250+00E230+00
TA-33-81	HP-81	MANHOLE	SANITARY	S250+00E230+00
TA-33-82	HP-82		REMOVED 1951	
TA-33-83	HP-83	VACUUM PUMP BASE	REMOVED 1975	S255+00E230+00
TA-33-84	HP-84	HOSE HOUSE		S250+00E230+00
TA-33-85	HP-85	GUN MOUNT		S285+00E245+00
TA-33-86	HP-86	LABORATORY BUILDING		S255+00E235+00
TA-33-87	HP-87	CONTROL BUILDING		S285+00E305+00
TA-33-88	HP-88	CABLE BUILDING		S285+00E310+00
TA-33-89	HP-89	X-UNIT VAULT		S290+00E305+00
TA-33-90	HP-90	GUARD HOUSE		S255+00E235+00
TA-33-91	HP-91	HOSE HOUSE		S255+00E235+00
TA-33-92	HP-92	SUBSTATION		S255+00E235+00
TA-33-93	HP-93	TANK	SEPTIC	S255+00E235+00
TA-33-94	HP-94	TANK	WATER, UNDERGROUND	S285+00E300+00
TA-33-95	HP-95	TRANSFORMER VAULT		S285+00E305+00
TA-33-96	HP-96	TANK	SEPTIC	S285+00E305+00
TA-33-97	HP-97	FIRING PAD		S285+00E310+00
TA-33-98	HP-98	FIRING PAD		S285+00E310+00
TA-33-99	HP-99	MANHOLE	ELECTRICAL	S280+00E295+00
TA-33-100	HP-100	MANHOLE	ELECTRICAL	S280+00E300+00
TA-33-101	HP-101	MANHOLE	ELECTRICAL	S285+00E305+00
TA-33-102	HP-102	MANHOLE	CONTROL	S285+00E305+00
TA-33-103	HP-103	MANHOLE	CONTROL	S285+00E305+00
TA-33-104	HP-104	MANHOLE	CONTROL	S285+00E305+00
TA-33-105	HP-105	MANHOLE	CONTROL	S285+00E310+00
TA-33-106	HP-106	MANHOLE	CONTROL	S285+00E310+00
TA-33-107	HP-107	MANHOLE	CONTROL	S285+00E310+00
TA-33-108	HP-108	ROAD BLOCK		S260+00E260+00
TA-33-109	HP-109		REMOVED 1967	
TA-33-110	HP-110	INCINERATOR		S250+00E235+00
TA-33-111	HP-111		REMOVED 1963	
TA-33-112	HP-112	WIGWAG		S250+00E245+00
TA-33-113	HP-113	HOT MACHINE SHOP		S250+00E235+00
TA-33-114	HP-114	LABORATORY & OFFICE BLDG.		S250+00E230+00
TA-33-115	HP-115	ROAD BLOCK	RELOCATED TO TA-39-61	
TA-33-116	HP-116	GUN MOUNT		S285+00E305+00
TA-33-117	HP-117	GUN MOUNT		S285+00E310+00
TA-33-118	HP-118	RECOVERY BOX		S285+00E310+00
TA-33-119	HP-119	SIREN		S285+00E295+00
TA-33-120	HP-120	SIREN		S250+00E245+00
TA-33-121	HP-121	TANK	SEPTIC	S250+00E225+00
TA-33-122	HP-122		CANCELLED	
TA-33-123	HP-123		CANCELLED	
TA-33-124	HP-124	SUBSTATION		S250+00E230+00
TA-33-125	HP-125		REMOVED 1963	
TA-33-126	HP-126		REMOVED 1963	
TA-33-127	HP-127	GUN BUILDING		S285+00E310+00
TA-33-128	HP-128	STAIRWAY		S250+00E230+00
TA-33-129	HP-129	TEST CELL		S250+00E235+00
TA-33-130	HP-130	GUN MOUNT		S285+00E310+00
TA-33-131	HP-131	RECOVERY BOX		S285+00E310+00
TA-33-132	HP-132	OBSERVATION BARRICADE		S285+00E310+00
TA-33-133	HP-133	SUMP	ACID SEWER	S255+00E235+00
TA-33-134	HP-134	SUMP	ACID SEWER	S255+00E235+00
TA-33-135	HP-135	GUN MOUNT		S285+00E305+00
TA-33-136	HP-136	RECOVERY BOX		S285+00E310+00
TA-33-137	HP-137		REMOVED 1963	
TA-33-138	HP-138	TRANSFORMER STATION		S255+00E230+00
TA-33-139	HP-139	TRANSFORMER STATION		S260+00E235+00
TA-33-140	HP-140	TRANSFORMER STATION		S265+00E240+00
TA-33-141	HP-141	TRANSFORMER STATION		S285+00E245+00
TA-33-142	HP-142	TRANSFORMER STATION		S250+00E240+00
TA-33-143	HP-143	TRANSFORMER STATION		S255+00E245+00
TA-33-144	HP-144	TRANSFORMER STATION		S260+00E260+00
TA-33-145	HP-145	TRANSFORMER STATION		S280+00E295+00
TA-33-146	HP-146	GUN MOUNT		S295+00E245+00
TA-33-147	HP-147		CANCELLED	S285+00E305+00
TA-33-148	HP-148		CANCELLED	
TA-33-149	HP-149		CANCELLED	
TA-33-150	HP-150		CANCELLED	
TA-33-151	HP-151	BUNKER		S285+00E310+00
TA-33-152	HP-152			
TA-33-153	HP-153			
TA-33-154	HP-154			
TA-33-155	HP-155		CANCELLED	
TA-33-156	HP-156	CAPACITOR STATION		S245+00E235+00
TA-33-157	HP-157	TRANSFORMER STATION		S250+00E235+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-537	ULR-537	TRAILER, OFFICE		S250+00 E230+00
TA-0-538	ULR-538	TRAILER, OFFICE		S250+00 E230+00
TA-0-655	ULR-655	TRAILER, OFFICE		S250+00 E230+00

REV. W.H. M. D. Kecken
DATE 7/29/77

NO.	DATE	REVISIONS	BY	CHKD	GRP. LDR.	ENG. D.O.
18	4-19-77	REVISED DWG NO (FORMERLY R2457)	M.M.			
17	11-4-75	REVISED TO STATUS OF 11-4-75	B.H.			
16	2-18-75	REVISED TO STATUS OF 2-18-75	B.H.			
15	10-4-74	REVISED TO STATUS OF 10-4-74	B.H.			
14	1-29-74	REVISED TO STATUS OF 1-29-74	DAD			
13	11-5-71	REVISED TO STATUS OF 11-5-71	DAD			
12	11-5-69	REVISED TO STATUS OF 11-5-69	DAD			
11	9-25-68	REVISED TO STATUS OF 9-17-68	D.A.D.			
10	10-25-65	REVISED TO STATUS OF 9-9-65	E.R.W.			
9	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R152)	F.A.			

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-33 HP-SITE

CHECKED: PROJ. ENG. | RECOMMENDED: GROUP LEADER | APPROVED: ENG. DEPT. OFFICE
DESIGNER | DATE 8-15-61 | DRAWING NO. ENG-P 5116
DRAWN ARZOLA | SHEET NO. 1
SCALE NONE

Figure TA-33-2: Structure Location Plan for TA-33 - HP Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)

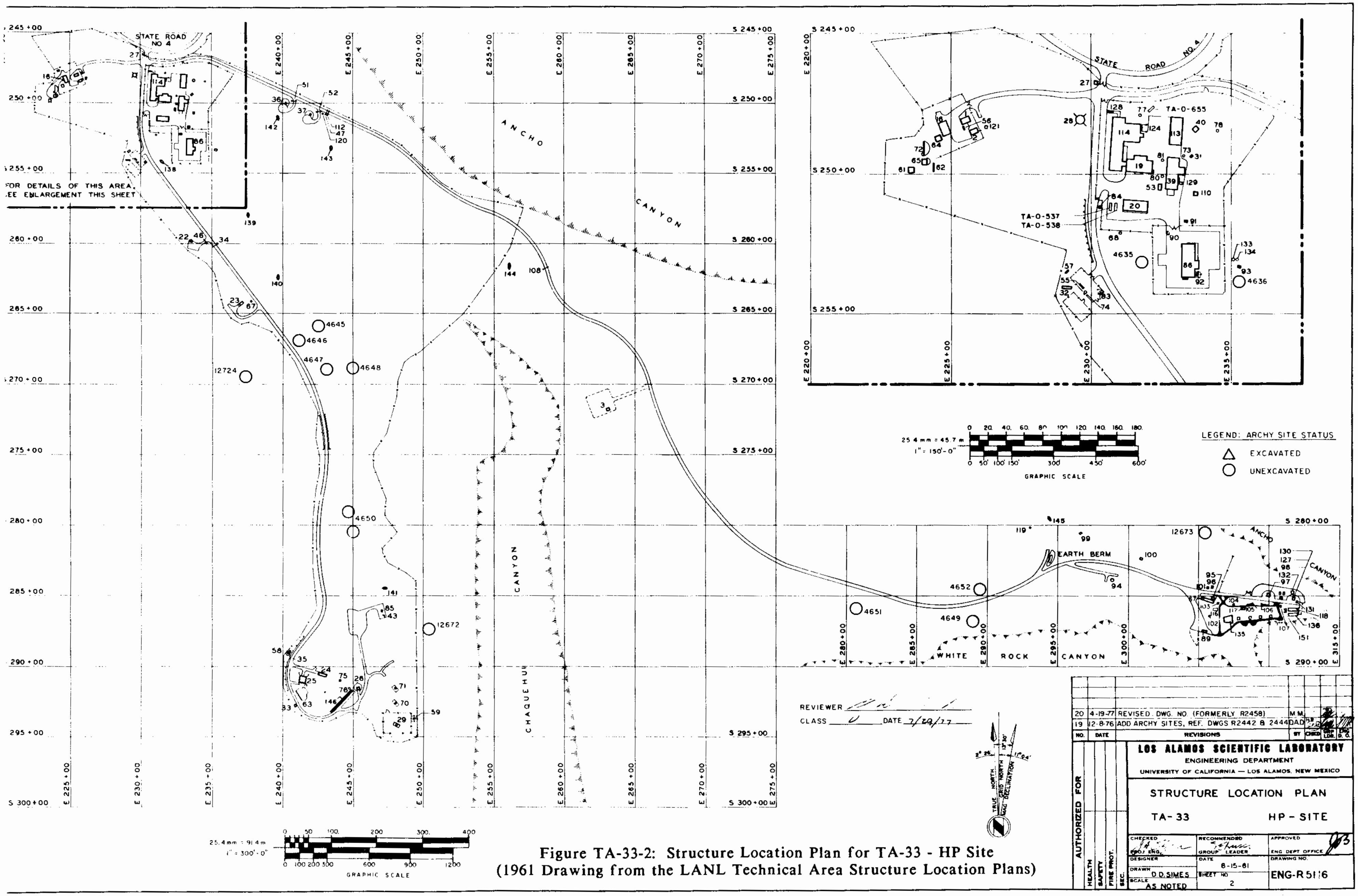
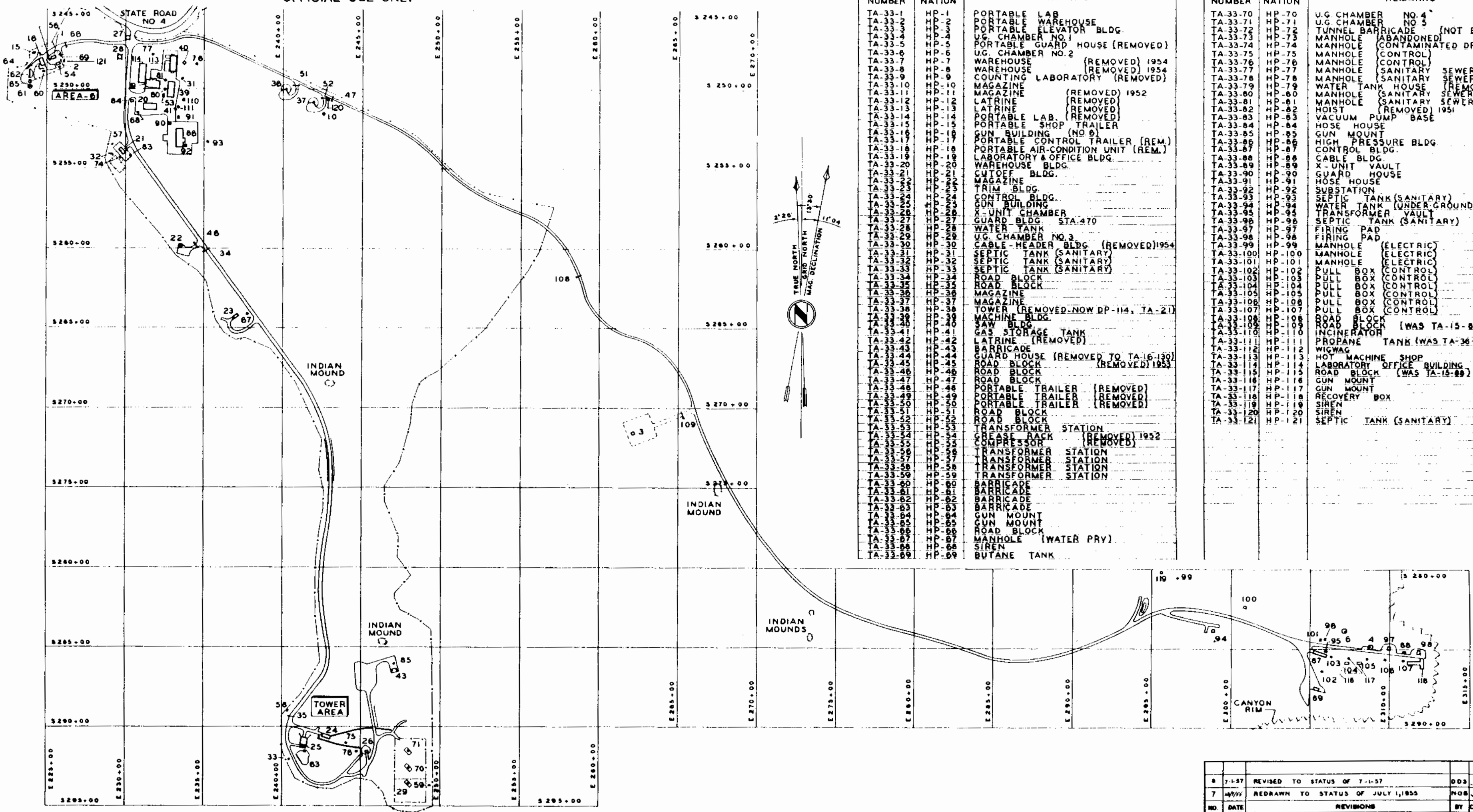


Figure TA-33-2: Structure Location Plan for TA-33 - HP Site (1961 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY



STRUCTURE NUMBER	DESIG-NATION	REMARKS
TA-33-1	HP-1	PORTABLE LAB
TA-33-2	HP-2	PORTABLE WAREHOUSE
TA-33-3	HP-3	PORTABLE ELEVATOR BLDG.
TA-33-4	HP-4	U.G. CHAMBER NO. 1
TA-33-5	HP-5	PORTABLE GUARD HOUSE (REMOVED)
TA-33-6	HP-6	U.G. CHAMBER NO. 2
TA-33-7	HP-7	WAREHOUSE (REMOVED) 1954
TA-33-8	HP-8	WAREHOUSE (REMOVED) 1954
TA-33-9	HP-9	COUNTING LABORATORY (REMOVED)
TA-33-10	HP-10	MAGAZINE
TA-33-11	HP-11	MAGAZINE (REMOVED) 1952
TA-33-12	HP-12	LATRINE (REMOVED)
TA-33-13	HP-13	LATRINE (REMOVED)
TA-33-14	HP-14	PORTABLE LAB. (REMOVED)
TA-33-15	HP-15	PORTABLE SHOP TRAILER
TA-33-16	HP-16	GUN BUILDING (NO 6)
TA-33-17	HP-17	PORTABLE CONTROL TRAILER (REM.)
TA-33-18	HP-18	PORTABLE AIR-CONDITION UNIT (REM.)
TA-33-19	HP-19	LABORATORY & OFFICE BLDG.
TA-33-20	HP-20	WAREHOUSE BLDG.
TA-33-21	HP-21	CUTOFF BLDG.
TA-33-22	HP-22	MAGAZINE
TA-33-23	HP-23	TRIM BLDG.
TA-33-24	HP-24	CONTROL BLDG.
TA-33-25	HP-25	GUN BUILDING
TA-33-26	HP-26	X-UNIT CHAMBER
TA-33-27	HP-27	GUARD BLDG. STA.470
TA-33-28	HP-28	WATER TANK
TA-33-29	HP-29	U.G. CHAMBER NO. 3
TA-33-30	HP-30	CABLE-HEADER BLDG. (REMOVED) 1954
TA-33-31	HP-31	SEPTIC TANK (SANITARY)
TA-33-32	HP-32	SEPTIC TANK (SANITARY)
TA-33-33	HP-33	SEPTIC TANK (SANITARY)
TA-33-34	HP-34	ROAD BLOCK
TA-33-35	HP-35	ROAD BLOCK
TA-33-36	HP-36	MAGAZINE
TA-33-37	HP-37	MAGAZINE
TA-33-38	HP-38	TOWER (REMOVED-NOW DP-114, TA-21)
TA-33-39	HP-39	MACHINE BLDG.
TA-33-40	HP-40	SAW BLDG.
TA-33-41	HP-41	GAS STORAGE TANK
TA-33-42	HP-42	LATRINE (REMOVED)
TA-33-43	HP-43	BARRICADE
TA-33-44	HP-44	GUARD HOUSE (REMOVED TO TA-16-130)
TA-33-45	HP-45	ROAD BLOCK (REMOVED) 1953
TA-33-46	HP-46	ROAD BLOCK
TA-33-47	HP-47	ROAD BLOCK
TA-33-48	HP-48	PORTABLE TRAILER (REMOVED)
TA-33-49	HP-49	PORTABLE TRAILER (REMOVED)
TA-33-50	HP-50	PORTABLE TRAILER (REMOVED)
TA-33-51	HP-51	ROAD BLOCK
TA-33-52	HP-52	ROAD BLOCK
TA-33-53	HP-53	TRANSFORMER STATION
TA-33-54	HP-54	GREASE RACK (REMOVED) 1952
TA-33-55	HP-55	COMPRESSOR (REMOVED)
TA-33-56	HP-56	TRANSFORMER STATION
TA-33-57	HP-57	TRANSFORMER STATION
TA-33-58	HP-58	TRANSFORMER STATION
TA-33-59	HP-59	TRANSFORMER STATION
TA-33-60	HP-60	BARRICADE
TA-33-61	HP-61	BARRICADE
TA-33-62	HP-62	BARRICADE
TA-33-63	HP-63	BARRICADE
TA-33-64	HP-64	GUN MOUNT
TA-33-65	HP-65	GUN MOUNT
TA-33-66	HP-66	ROAD BLOCK
TA-33-67	HP-67	MANHOLE (WATER PRY)
TA-33-68	HP-68	SIREN
TA-33-69	HP-69	BUTANE TANK

STRUCTURE NUMBER	DESIG-NATION	REMARKS
TA-33-70	HP-70	U.G. CHAMBER NO. 4
TA-33-71	HP-71	U.G. CHAMBER NO. 5
TA-33-72	HP-72	TUNNEL BARRICADE (NOT BUILT)
TA-33-73	HP-73	MANHOLE (ABANDONED)
TA-33-74	HP-74	MANHOLE (CONTAMINATED DRAIN)
TA-33-75	HP-75	MANHOLE (CONTROL)
TA-33-76	HP-76	MANHOLE (CONTROL)
TA-33-77	HP-77	MANHOLE (SANITARY SEWER)
TA-33-78	HP-78	MANHOLE (SANITARY SEWER)
TA-33-79	HP-79	WATER TANK HOUSE (REMOVED)
TA-33-80	HP-80	MANHOLE (SANITARY SEWER)
TA-33-81	HP-81	MANHOLE (SANITARY SEWER)
TA-33-82	HP-82	HOIST (REMOVED) 1951
TA-33-83	HP-83	VACUUM PUMP BASE
TA-33-84	HP-84	HOSE HOUSE
TA-33-85	HP-85	GUN MOUNT
TA-33-86	HP-86	HIGH PRESSURE BLDG.
TA-33-87	HP-87	CONTROL BLDG.
TA-33-88	HP-88	CABLE BLDG.
TA-33-89	HP-89	X-UNIT VAULT
TA-33-90	HP-90	GUARD HOUSE
TA-33-91	HP-91	HOSE HOUSE
TA-33-92	HP-92	SUBSTATION
TA-33-93	HP-93	SEPTIC TANK (SANITARY)
TA-33-94	HP-94	WATER TANK (UNDER-GROUND)
TA-33-95	HP-95	TRANSFORMER VAULT
TA-33-96	HP-96	SEPTIC TANK (SANITARY)
TA-33-97	HP-97	FIRING PAD
TA-33-98	HP-98	FIRING PAD
TA-33-99	HP-99	MANHOLE (ELECTRIC)
TA-33-100	HP-100	MANHOLE (ELECTRIC)
TA-33-101	HP-101	MANHOLE (ELECTRIC)
TA-33-102	HP-102	PULL BOX (CONTROL)
TA-33-103	HP-103	PULL BOX (CONTROL)
TA-33-104	HP-104	PULL BOX (CONTROL)
TA-33-105	HP-105	PULL BOX (CONTROL)
TA-33-106	HP-106	PULL BOX (CONTROL)
TA-33-107	HP-107	PULL BOX (CONTROL)
TA-33-108	HP-108	ROAD BLOCK
TA-33-109	HP-109	ROAD BLOCK (WAS TA-15-87)
TA-33-110	HP-110	INCINERATOR
TA-33-111	HP-111	PROPANE TANK (WAS TA-36-16)
TA-33-112	HP-112	WIGWAG
TA-33-113	HP-113	HOT MACHINE SHOP
TA-33-114	HP-114	LABORATORY OFFICE BUILDING
TA-33-115	HP-115	ROAD BLOCK (WAS TA-15-88)
TA-33-116	HP-116	GUN MOUNT
TA-33-117	HP-117	GUN MOUNT
TA-33-118	HP-118	RECOVERY BOX
TA-33-119	HP-119	SIREN
TA-33-120	HP-120	SIREN
TA-33-121	HP-121	SEPTIC TANK (SANITARY)

NO.	DATE	REVISIONS	BY	CHKD
8	7-1-57	REVISED TO STATUS OF 7-1-57	DDS	JAS
7	12/7/55	REDRAWN TO STATUS OF JULY 1, 1955	NOB	JAS

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN

TA-33 — HP SITE

CHECKED: J. A. Siler (DESIGNER) — RECOMMENDED: (GROUP LEADER) — APPROVED: (ENG. DEPT. OFFICE)

DRAWN: N. BYERS — DATE: 12/7/55 — DRAWING NO.: ENG-R 152
SCALE: 1" = 300' — SHEET 1 OF 1

Figure TA-33-3: Structure Location Plan for TA-33 - HP Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

TA-34 - NEW LABORATORY WAREHOUSE AREA

CURRENT OPERATIONS

Plans for TA-34 were cancelled and the area number has never been used.

POTENTIAL CERCLA/RCRA SITES

Potential CERCLA/RCRA sites do not exist and no further action is warranted.

TA-35 - TEN SITE

CURRENT OPERATIONS

There are several divisions at TA-35: Physics (P) Division, Chemistry (CLS) Division, Materials Science and Technology (MST) Division, Nuclear Technology and Engineering (N) Division, and Applied Theoretical Physics (X) Division. The major thrust of the research and development from P, CLS, MST, and X Divisions has been with lasers and with inertial confinement fusion, which uses lasers. This work involves theory, materials development, and the physics and chemistry required to develop, make, and operate large unique lasers and laser targets.

POTENTIAL CERCLA/RCRA SITES

Complete documentation is lacking for the early years of TA-35, but it appears that initial construction occurred in the late 1940s. TA-35 was initially a source-manufacturing facility and chemical laboratory for radioactive materials. Known sources from this period include alpha sources, radioactive lanthanum (with strontium-90 as a contaminant), and neptunium-237. In addition to these sources, other materials used or manufactured here beginning in the early 1950s include germanium hydride, beryllium salts, and plutonium exalate aerosols. Tritium operations were carried on here from 1953 to 1974. A major decontamination and decommissioning project was initiated in 1979.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-35. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-35 is 16.8 (Appendix B).

FIGURES

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TABLE TA-35 - POTENTIAL CERCLA/RCRA SITES

TA35-1-CA-A/I-HW/RW (Facilities including reactors)

Background--During the 1940s, facilities at TA-35 became radioactively contaminated with hazardous substances as a result of materials used, and many of the facilities were decontaminated and decommissioned (H Division 1951:4; H Division 1953a:18; H Division 1953b:15; H Division 1953c:16; LASL 1977:37; Harper and Garde 1981b; H Division 1953d:5; LASL 1977 and 1978; Harper and Garde 1981c). Activities during the 1950s and 1960s at TA-35 are described in the following references (Christenson 1956; H Division 1956e:3; H Division 1957:5; H Division 1958b; Meyer 1959; Buckland 1960; Garcia 1968; LASL n.d.:4; and Schrieber 1970).

In 1953, plans were made to begin a reactor program in an unused cell in building 2 (Buckland 1953). The reactor--believed to be LAPRE--went critical in 1956 (H Division 1956a). This reactor was said to have been located in the basement of building 2, according to a person who worked at the site. The fuel storage vessels were two cylinders located outside to the southeast of building 2 (Employee Interviews 1987). The reactor was operated for only a short period of time. After LAPRE I, LAPRE II was constructed in a steel-lined pit outside, to the south of building 2. LAPRE II was reported to have been defueled in 1959, and all associated equipment except the vessel and fuel storage reservoir was removed. Both vessels were covered with soil and asphalt in 1968, and the area is now known as Material Disposal Area X, located near building 2 (Garcia 1968; LASL 1977) (see Material Disposal Areas for more information). The reactor vessel may not have been flushed after draining, so that fuel residuals may remain (Employee Interviews 1987). It also appears that LAPRE II may have contaminated the surrounding soils (H Division 1956c).

LAMPRE was built in the early 1960s in the southeast part of building 2 in the area formerly occupied by LAPRE I. It appears that decommissioning of LAMPRE was initiated in the 1970s (Peterson 1970; Ehrenkranz 1970; Reider 1971; Reider 1972). At least some of the sodium coolant was placed in 120-ft-long, 4-in.-o.d. stainless steel tubes, which had been cased in steel and buried. The tubes are estimated to contain 500-650 lb of sodium with traces of fission products and plutonium-239 that has resulted in fuel element rupture. The tubes were entombed in concrete in 1977. This area is known as Material Disposal Area W (Meyer 1972) (see Material Disposal Areas).

Further decommissioning was begun in 1979. The steel reactor vessel was placed in a cask and then stored in a shaft at TA-54 in such a manner that it could be retrieved. Other pieces of equipment were also removed, and all areas except for the reactor cell were released for unrestricted use. The cell is contaminated with a maximum of 70 mR/h (Harper and Garde 1981a; LASL 1977).

Documentation on what happened to fuel from the LAPRE and LAMRE reactors has not been obtained. Uranium and plutonium fuels were probably reprocessed (Christenson 1956).

Work on radioactive materials at TA-35 began to be phased out in the 1970s (LASL 1972:30; LASL 1973b:18).

The 1985 Waste Management Site Plan for LANL indicates that several TA-35 facilities have residual radioactive contamination. Additionally, surface soils to the east of where building 10 was located had above background levels of cesium-137, strontium-90, plutonium-238, plutonium-239, and uranium (Mayfield 1983).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination from past operations will be determined during supplemental Phase I. Active facilities at TA-35 are covered by routine LANL operations.

TA35-2-CA-I/A-HW/RW (Oil spills)

Background--Groups using lasers occupied TA-35 in the 1970s, so that large amounts of oil had to be stored and moved for the Marx generators. In February 1985, 11 soil samples were taken in areas around TA-35 where oil had spilled. One sample from a leaking barrel by the northeast wing of TA-35-2 was found to have 50.4 micrograms/g of PCBs. During the 1986 CEARP field survey, numerous areas were noted where oil spills had occurred.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--Oil management, including spills, is covered by routine LANL operations.

TA35-3-S/UST/CA-A/I-HW/RW (Sumps, waste lines, and tanks)

The management of liquid radioactive waste streams is discussed in the following documents (Anonymous 1951; H Division 1955b:35; H Division 1956f:3; H Division 1957:8; and Miller 1963:3). The location of liquid waste stream structures is identified in engineering drawings ENG-5348 and ENG-R378. The waste lines, sumps, and other waste management structures became contaminated with radionuclides and chemicals. The removal of waste management structures is discussed in Elder et. al (1986) and engineering record ENG-R5117. Residual subsurface contamination remains in structures not removed and in soil and tuff not excavated.

CERCLA Finding--Due to the status of activities (i.e., CEARP Phase V), a CERCLA finding under FFSDIF, PA, and PSI is not appropriate.

Planned Future Action--The adequacy of decontamination and decommissioning activities will be verified during CEARP Phase V. Active waste management facilities are covered by routine LANL operations.

TA35-4-O/CA-I-HW/RW (Inactive outfalls)

Background--Accurate figures are difficult to obtain concerning what the TA-35 waste treatment plant discharged to the canyon. In 1951, limits for discharge were 15-20 counts/min/L for plutonium and 50-100 counts/min/L for gross alpha (Anonymous 1951). In 1954, an estimate of about 2.2 Ci was made for radionuclides discharged into the canyon from 1951-1954; however, the type of radionuclides was not specified (Aeby 1954). The July 12, 1982, DOE Onsite Discharge Information System lists 0.123 Ci of strontium-90 and 9.039 Ci of unidentified beta-gamma (decayed through December 1981) as having been discharged from TA-35 between 1956 and mid-1963. However, the CEARP files have documentation for numerous spills and accidental discharges from the waste treatment plant because of operational problems, as well as a few reactor discharges. The spills and accidental discharges do not appear to be included in DOE Onsite Discharge Information System.

Elevated radioactivity readings have been reported in the canyon system (e.g., Mortandad Canyon and South Canyon) as a result of discharges from TA-35 (Aeby 1952; H Division 1953d:3; H Division 1954:2; H Division 1956b:19; H Division 1956d:18; H Division 1958a:30; Hutchinson 1962; Purtymun 1971:7; Voelz 1980). Discharges of hazardous nonradioactive substances to the canyon system may also have occurred (H Division 1955a:25).

CERCLA Finding--Positive for FFSDIF, PA, and PSI

Planned Future Action--The extent of residual contamination associated with past outfall discharges will be determined during Phase II.

TA35-5-O-A-HW (Active outfalls)

Background--During the 1986 CEARP field survey, the Antares complex and carbon dioxide laser complex were both observed to have a wet cooling tower. Two discharge points, which may originate from their blowdown, were observed on the south side of TA-35. Treated water from the oil handling system was observed to be discharged to the storm sewer near building 86. Cooling water discharges on the north side of the site to the canyon from building 85, the KrF (krypton fluorine) laser building. A discharge on the north side of building 213 probably includes the blowdown from the wet cooling tower associated with that building.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--The active outfalls are covered by routine LANL operations.

TA35-6-ST-I/A-HW/RW (Sanitary septic tanks)

Background--Septic tanks 14 and 76 were noted to be abandoned in 1975 on engineering drawing ENG-R5117. Possible contamination of these tanks is not known. Tanks 44 and 65 are reported to be pumped weekly. The leach field for tank 65 is reported to be saturated (Pan Am 1986).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with the abandoned septic tanks will be determined during supplemental Phase I of CEARP. The active septic systems are covered by routine LANL operations.

TA35-7-UST/SST-A/I-PP (Oil and fuel storage and waste oil)

Background--Diesel fuel tank TA-35-18 and fuel oil tanks TA-35-19 and -20 are reported to have been abandoned in 1973, according to engineering drawing ENG-R5117. Oil holding tank TA-35-154 and underground oil storage tanks TA-35-159 and -197 are listed in ENG-R5117. Underground tanks -197 and -159 and above-ground tank -154 were observed during the field survey. An underground storage tank facility was also observed in front of building 188 during the survey. This is believed to be a double tank for dielectric oil.

Underground tank -158, which was used to hold radioactive mixed wastes, was removed during 1985. Inactive underground tanks -19 and -20 were observed during the survey, but tank -18 was missed; it may be in place.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with inactive storage tanks will be determined during supplemental Phase I of CEARP. The active tanks are covered by routine LANL operations.

TA35-8-CA/SI-A-PP (Lagoons)

Background--The chemical laser facility requires oil for the Marx generators. On the west side of the building, TA-35-85, is the oil handling equipment servicing the Marx tanks and switch sections of the laser. The handling area has had many spills on the asphalt pad. Drains located on the pad go to a waste oil pond constructed in late 1985 east of the building. The pond is pumped out periodically and the liquid taken to TA-35-86 to be treated.

Waste oil from Antares, which is no longer operational, was handled like that at the chemical laser facility and drained to an outside lagoon located on the lip of the canyon south of building 25. Although the pond is reported to be pumped out periodically, it appears that discharges to the canyon have occurred.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--The active lagoons are covered by routine LANL operations.

TA35-9-SI/O-I-PP (Decommissioned waste oil lagoon)

Background--During the 1986 CEARP field survey, it was observed that before the new 1985 lagoon was built, the chemical laser facility had used another lagoon, which had to be removed for new construction. Before its removal, it had overflowed into the canyon.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with lagoons will be determined during supplemental Phase I.

TA35-10-SI-A-HW (Sanitary lagoons)

Background--In 1973, the laser fusion laboratory was added to TA-35. New buildings, including 85, 86, 87, and 88, were constructed. The design data indicate that all sink, laboratory, and shower wastes were to go to the sanitary sewer (LASL 1973a). All drains at TA-35, except for those containing plutonium, presently connect to the sanitary sewer going to the lagoon system.

Probably sometime around 1975, a sewage lagoon system was constructed in the bottom of Mortandad Canyon. These lagoons receive small amounts of solvents and chemicals and perhaps radionuclides as well as sanitary waste from TA-48, -55, -50, and -35 near Mortandad Canyon. The outflow from the lagoon system to Mortandad Canyon goes through a set of filter beds and is then discharged.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--The active lagoons are covered by routine LANL operations.

TA35-11-CA-A-HW/PP (Unmarked containers and drums)

Background--During the 1986 CEARP field survey, unmarked drums and other containers were observed at TA-35. Whether any contain hazardous waste is not known. Likewise, capacitors, some unmarked, were seen outside. Also observed were unmarked, out-of-service transformers.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--The active storage areas are covered by routine LANL operations.

TA35-12-OL-I-SW (Open landfill)

Background--An open landfill was observed during the 1986 CEARP field survey on the north side of TA-35 near the edge of the canyon. Debris included concrete, conduits, asphalt, pipe, reinforcing rod, and dirt.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with the open landfill will be determined during supplemental Phase I.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-35-1	TSL-1	GUARD HOUSE		N37+50 E115+00
TA-35-2	TSL-2	LABORATORY & OFFICE BUILDING		N35+00 E115+00
TA-35-3	TSL-3	PHASE SEPARATOR PIT	UNDERGROUND	N35+00 E117+50
TA-35-4	TSL-4	HOLDING TANK, ACID	UNDERGROUND	N35+00 E117+50
TA-35-5	TSL-5	HOLDING TANK, ACID	UNDERGROUND	N35+00 E117+50
TA-35-6	TSL-6	HOLDING TANK, ACID	UNDERGROUND	N35+00 E117+50
TA-35-7	TSL-7	AIR FILTER BUILDING		N35+00 E117+50
TA-35-8	TSL-8	PUMP PIT	REMOVED 1984	
TA-35-9	TSL-9	PIPE TRENCH	REMOVED 1984	
TA-35-10	TSL-10	CONCRETE TANK BUILDING	REMOVED 1984	
TA-35-11	TSL-11	MANHOLE, (CMP DRAIN)	REMOVED 1986	
TA-35-12	TSL-12	MANHOLE, WATER	REMOVED 1984	
TA-35-13	TSL-13	MANHOLE, SEWER		N35+00 E115+00
TA-35-14	TSL-14	SEPTIC TANK	ABANDONED 1975	N35+00 E115+00
TA-35-15	TSL-15	DOSING CHAMBER, SANITARY	ABANDONED 1975	N32+50 E115+00
TA-35-16	TSL-16	DISTRIBUTION BOX, SANITARY	REMOVED 1973	
TA-35-17	TSL-17	MANHOLE, PRV BOX, WATER		N35+00 E112+50
TA-35-18	TSL-18	DIESEL FUEL TANK	ABANDONED 1973	N35+00 E115+00
TA-35-19	TSL-19	FUEL OIL TANK	ABANDONED 1973	N32+50 E117+50
TA-35-20	TSL-20	FUEL OIL TANK	ABANDONED 1973	N32+50 E117+50
TA-35-21	TSL-21	MANHOLE, GAS DRIP POT		N35+00 E112+50
TA-35-22	TSL-22	SLUDGE TANK	REMOVED 1984	
TA-35-23	TSL-23	DISCHARGER	REMOVED 1957	
TA-35-24	TSL-24		CANCELLED	
TA-35-25	TSL-25	SODIUM BUILDING		N35+00 E115+00
TA-35-26	TSL-26	POWER REACTOR TEST BLDG.	INCORPORATED WITH TSL-2	N37+50 E115+00
TA-35-27	TSL-27	NUCLEAR SAFEGUARDS RESEARCH LB	WAS CORE TEST FACILITY	N35+00 E120+00
TA-35-28	TSL-28	PUMP PIT	REMOVED 1965	
TA-35-29	TSL-29	GAS LASER BUILDING		N35+00 E117+50
TA-35-30	TSL-30	OFFICE BUILDING	RELOCATED TO TA-3-255	
TA-35-31	TSL-31	RETENTION TANK	REMOVED 1984	
TA-35-32	TSL-32	TRANSFORMER, SUBSTATION		N35+00 E117+50
TA-35-33	TSL-33	COOLING TOWER		N35+00 E120+00
TA-35-34	TSL-34	SODIUM TESTING BUILDING		N32+50 E115+00
TA-35-35	TSL-35	CONTROL TUNNEL	UNDERGROUND	N35+00 E117+50
TA-35-36	TSL-36	STORAGE TANK	REMOVED 1980	
TA-35-37	TSL-37	FLOCCULATOR TANK	REMOVED 1980	
TA-35-38	TSL-38	REGENERANT TANK	REMOVED 1980	
TA-35-39	TSL-39	ION TANK	REMOVED 1980	
TA-35-40	TSL-40	ION TANK	REMOVED 1980	
TA-35-41	TSL-41	CAUSTIC TREATER BUILDING	REMOVED 1984	
TA-35-42	TSL-42	MANHOLE, ELECTRICAL		N35+00 E117+50
TA-35-43	TSL-43	SODIUM DISPOSAL TANKS		N30+00 E115+00
TA-35-44	TSL-44	SEPTIC TANK		N37+50 E115+00
TA-35-45	TSL-45	DISTRIBUTION BOX, SANITARY		N37+50 E115+00
TA-35-46	TSL-46	REACTOR COMPONENTS DEV BLDG		N35+00 E112+50
TA-35-47	TSL-47	MANHOLE, ELECTRICAL	ABANDONED 1975	N32+50 E117+50
TA-35-48	TSL-48	EXHAUST STACK		N35+00 E117+50
TA-35-49	TSL-49	STORAGE BUILDING	RELOCATED TO TA 3-378	
TA-35-50	TSL-50		CANCELLED	
TA-35-51	TSL-51	ENG FIELD OFFICE	RELOCATED TO TA-0-189	
TA-35-52	TSL-52	CONTROL PANEL	REMOVED 1984	
TA-35-53	TSL-53	SUBSTATION, ELECTRICAL		N35+00 E120+00
TA-35-54	TSL-54	MANHOLE, ELECTRICAL		N35+00 E120+00
TA-35-55	TSL-55	RETAINING WALL		N35+00 E117+50
TA-35-56	TSL-56	MANIFOLD	REMOVED 1974	
TA-35-57	TSL-57	MANIFOLD	REMOVED 1974	
TA-35-58	TSL-58	MANIFOLD	REMOVED 1974	
TA-35-59	TSL-59	MANIFOLD	REMOVED 1974	
TA-35-60	TSL-60	MANHOLE, SANITARY SEWER		N37+50 E120+00
TA-35-61	TSL-61	MANHOLE, ACID SEWER VALVE		N37+50 E120+00
TA-35-62	TSL-62	MANHOLE, ELECTRICAL		N37+50 E117+50
TA-35-63	TSL-63	MANHOLE, SANITARY SEWER		N37+50 E120+00
TA-35-64	TSL-64	MANHOLE, SANITARY SEWER		N35+00 E122+50
TA-35-65	TSL-65	SEPTIC TANK, SANITARY SEWER		N35+00 E122+50
TA-35-66	TSL-66	SWITCHGEAR STATION		N37+50 E115+00
TA-35-67	TSL-67	WAREHOUSE		N32+50 E112+50
TA-35-68	TSL-68	OFFICE BUILDING		N35+00 E112+50
TA-35-69	TSL-69	OFFICE TRAILER	RELOCATED TO TA-0-300	
TA-35-70	TSL-70	OFFICE TRAILER	RELOCATED TO TA-0-310	
TA-35-71	TSL-71	OFFICE TRAILER	RELOCATED TO TA-0-299	
TA-35-72	TSL-72	OFFICE TRAILER	RELOCATED TO TA-0-298	
TA-35-73	TSL-73	OFFICE TRAILER	RELOCATED TO TA-0-297	
TA-35-74	TSL-74	OFFICE TRAILER	RELOCATED TO TA-0-455	
TA-35-75	TSL-75	OFFICE TRAILER	RELOCATED TO TA-0-296	
TA-35-76	TSL-76	TANK, SEPTIC	ABANDONED 1975	N32+50 E112+50
TA-35-77	TSL-77	DISTRIBUTION BOX	ABANDONED 1975	N32+50 E112+50
TA-35-78	TSL-78	SURGE TANKS	REMOVED 1976	
TA-35-79	TSL-79	OFFICE TRAILER	RELOCATED TO TA-0-385	
TA-35-80	TSL-80	OFFICE TRAILER	RELOCATED TO TA-0-384	
TA-35-81	TSL-81	RETAINING WALL		N37+50 E115+00
TA-35-82	TSL-82	MANHOLE, ELEC. PRIMARY		N35+00 E117+50
TA-35-83	TSL-83	TRANSFORMER STATION		N35+00 E112+50
TA-35-84	TSL-84		CANCELLED	
TA-35-85	TSL-85	CHEMICAL LASER FACILITY		N37+50 E107+50
TA-35-86	TSL-86	CO2 LASER BUILDING		N35+00 E107+50
TA-35-87	TSL-87	LAB OFFICE BUILDING		N35+00 E110+00
TA-35-88	TSL-88	PUMP HOUSE		N35+00 E110+00
TA-35-89	TSL-89		CANCELLED	
TA-35-90	TSL-90	TRANSFORMER STATION		N35+00 E115+00
TA-35-91	TSL-91		CANCELLED	
TA-35-92	TSL-92		CANCELLED	
TA-35-93	TSL-93		CANCELLED	
TA-35-94	TSL-94		CANCELLED	
TA-35-95	TSL-95		CANCELLED	
TA-35-96	TSL-96	STORAGE TANK	REMOVED 1976	
TA-35-97	TSL-97	STORAGE TANK	REMOVED 1976	

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-35-98	TSL-98		CANCELLED	
TA-35-99	TSL-99	TRANSFORMER STATION	NOT SHOWN-POLE MOUNTED	
TA-35-100	TSL-100	SUBSTATION, ELECTRICAL		N35+00 E105+00
TA-35-101	TSL-101	SUBSTATION, ELECTRICAL		N35+00 E110+00
TA-35-103	TSL-103	MANHOLE, STEAM		N35+00 E115+00
TA-35-104	TSL-104		CANCELLED	
TA-35-105	TSL-105		CANCELLED	
TA-35-106	TSL-106		CANCELLED	
TA-35-107	TSL-107		CANCELLED	
TA-35-108	TSL-108	MANHOLE, TELEPHONE		N32+50 E105+00
TA-35-109	TSL-109	MANHOLE, TELEPHONE		N40+00 E107+50
TA-35-110	TSL-110	TRANSPORTABLE OFFICE BLDG.		N32+00 E115+00
TA-35-111	TSL-111		CANCELLED	
TA-35-112	TSL-112		CANCELLED	
TA-35-113	TSL-113	TRANSFORMER STATION		N32+50 E115+00
TA-35-114	TSL-114	TRANSPORTABLE OFFICE BLDG		N32+50 E117+50
TA-35-115	TSL-115	SOLVENT STORAGE SHED		N37+50 E117+50
TA-35-116	TSL-116	CONCRETE PAD		N32+50 E112+50
TA-35-117	TSL-117	MANIFOLD		N35+00 E120+00
TA-35-118	TSL-118	MANHOLE, ELECTRICAL	REMOVED 1978	
TA-35-119	TSL-119	MANHOLE, ELECTRICAL		N35+00 E105+00
TA-35-120	TSL-120	MANHOLE, ELECTRICAL		N35+00 E105+00
TA-35-121	TSL-121	MANHOLE, ELECTRICAL		N37+50 E107+50
TA-35-122	TSL-122	MANHOLE, ELECTRICAL		N37+50 E110+00
TA-35-123	TSL-123	MANHOLE, ELECTRICAL		N35+00 E110+00
TA-35-124	TSL-124	TARGET BUILDING		N35+00 E100+00
TA-35-125	TSL-125	LASER BUILDING		N32+50 E100+00
TA-35-126	TSL-126	TRUCK ACCESS TUNNEL		N35+00 E102+50
TA-35-127	TSL-127	OFFICE BUILDING		N35+00 E102+50
TA-35-128	TSL-128	WAREHOUSE		N32+50 E105+00
TA-35-129	TSL-129	WATER STORAGE TANK		N35+00 E110+00
TA-35-130	TSL-130	RETAINING WALL		N35+00 E107+50
TA-35-131	TSL-131	MANHOLE, SANITARY SEWER		N37+50 E107+50
TA-35-132	TSL-132	MANHOLE, SANITARY SEWER		N35+00 E107+50
TA-35-133	TSL-133	MANHOLE, SANITARY SEWER		N32+50 E107+50
TA-35-134	TSL-134	MANHOLE, SANITARY SEWER		N32+50 E110+00
TA-35-135	TSL-135	MANHOLE, SANITARY SEWER		N32+50 E110+00
TA-35-136	TSL-136	MANHOLE, SANITARY SEWER		N32+50 E112+50
TA-35-137	TSL-137	MANHOLE, SANITARY SEWER		N32+50 E115+00
TA-35-138	TSL-138	MANHOLE, SANITARY SEWER		N32+50 E117+50
TA-35-139	TSL-139	MANHOLE, SANITARY SEWER		N32+50 E122+50
TA-35-140	TSL-140	MANHOLE, SANITARY SEWER		N32+50 E125+00
TA-35-141	TSL-141	MANHOLE SANITARY SEWER		N32+50 E125+00
TA-35-142	TSL-142	MANHOLE, SANITARY SEWER		N32+50 E125+00
TA-35-143	TSL-143	MANHOLE, SANITARY SEWER		N32+50 E127+50
TA-35-144	TSL-144	SEWAGE LAGOON		N32+50 E130+00
TA-35-145	TSL-145	SEWAGE LAGOON		N32+50 E127+50
TA-35-146	TSL-146	SEWAGE LAGOON		N32+50 E130+00
TA-35-147	TSL-147	MANHOLE, TELEPHONE		N35+00 E102+50
TA-35-148	TSL-148	MANHOLE, TELEPHONE		N37+50 E107+50
TA-35-149	TSL-149	SEIGE TANK		N35+00 E107+50
TA-35-150	TSL-150	SEIGE TANK		N35+00 E107+50
TA-35-151	TSL-151	SEIGE TANK		N32+50 E107+50
TA-35-152	TSL-152	SEIGE TANK		N32+50 E107+50
TA-35-153	TSL-153	SEIGE TANK		N35+00 E105+00
TA-35-154	TSL-154	OIL HOLDING TANK		N32+50 E105+00
TA-35-155	TSL-155	REFRIGERATOR COOLANT PAD		N35+00 E107+50
TA-35-156	TSL-156	REFRIGERATOR COOLANT PAD		N35+00 E107+50
TA-35-157	TSL-157	REFRIGERATOR COOLANT PAD		N37+50 E110+00
TA-35-158	TSL-158	ACID SEWER STORAGE TANK	REMOVED 1985	
TA-35-159	TSL-159	OIL STORAGE TANK	UNDERGROUND	N37+50 E107+50
TA-35-160	TSL-160	MANHOLE, ELECTRICAL		N35+00 E105+00
TA-35-161	TSL-161	MANHOLE, ELECTRICAL		N35+00 E110+00
TA-35-162	TSL-162	MANHOLE, ELECTRICAL		N37+50 E107+50
TA-35-163	TSL-163	MANHOLE, SANITARY SEWER		N32+50 E117+50
TA-35-164	TSL-164	MANHOLE, SANITARY SEWER		N35+00 E102+50
TA-35-165	TSL-165	MANHOLE, SANITARY SEWER		N37+50 E105+00
TA-35-166	TSL-166		CANCELLED	
TA-35-167	TSL-167		CANCELLED	
TA-35-168	TSL-168		CANCELLED	
TA-35-169	TSL-169		CANCELLED	
TA-35-170	TSL-170	LIQUID NITROGEN TANK		N32+50 E100+00
TA-35-171	TSL-171		CANCELLED	
TA-35-172	TSL-172	MANHOLE, TELEPHONE		N35+00 E97+50
TA-35-173	TSL-173		CANCELLED	
TA-35-174	TSL-174		CANCELLED	
TA-35-175	TSL-175		CANCELLED	
TA-35-176	TSL-176		CANCELLED	
TA-35-177	TSL-177		CANCELLED	
TA-35-178	TSL-178		CANCELLED	
TA-35-179	TSL-179		CANCELLED	
			CANCELLED	
			CANCELLED	
TA-35-184	TSL-184	FLIGHT MEASUREMENT LINE		N35+00 E100+00
TA-35-185	TSL-185	TIME OF FLIGHT SHED		N32+50 E97+50
TA-35-186	TSL-186	MODULAR OFFICE BUILDING		N35+00 E112+50
TA-35-187	TSL-187	TRANSFORMER STATION		N35+00 E112+50
TA-35-188	TSL-188	HIGH VOLT DEVELOPMENT LAB		N37+50 E107+50
TA-35-189	TSL-189	OPTICS EVALUATION LAB		N37+50 E105+00
TA-35-190	TSL-190	MANHOLE, SANITARY SEWER		N35+00 E102+50
TA-35-191	TSL-191	MANHOLE, SANITARY SEWER		N35+00 E105+00
TA-35-192	TSL-192	MANHOLE, SANITARY SEWER		N32+50 E105+00
TA-35-193	TSL-193	TRAILER STATION		N32+50 E100+00
TA-35-194	TSL-194	TRAILER STATION		N32+50 E100+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-35-195	TSL-195	TRAILER STATION		N32+50 E100+00
TA-35-196	TSL-196	TRAILER STATION		N32+50 E100+00
TA-35-197	TSL-197	TANK, OIL U.G		N32+50 E100+00
TA-35-198	TSL-198	TRAILER STATION		N35+00 E102+50
TA-35-199	TSL-199	MANHOLE, ELECTRICAL		N35+00 E97+50
TA-35-200	TSL-200	MANHOLE, ELECTRICAL		N35+00 E100+00
TA-35-201	TSL-201	MANHOLE, ELECTRICAL		N35+00 E102+50
TA-35-202	TSL-202	MANHOLE, TELEPHONE		N37+50 E102+50
TA-35-203	TSL-203	MANHOLE, ELECTRICAL		N35+00 E105+00
TA-35-204	TSL-204	SWITCH GEAR STATION		N35+00 E102+50
TA-35-205	TSL-205	SUBSTATION		N32+50 E102+50
TA-35-206	TSL-206	MANHOLE, ELECTRICAL		N32+50 E102+50
TA-35-207	TSL-207	EXPERIMENTAL SUPPORT LAB		N32+50 E107+50
TA-35-208	TSL-208		CANCELLED	N35+00 E97+50
TA-35-209	TSL-209	TRANSFORMER STATION		N35+00 E97+50
TA-35-210	TSL-210	TRANSFORMER STATION		N40+00 E110+00
TA-35-211	TSL-211	TRANSFORMER STATION		N37+50 E107+50
TA-35-212	TSL-212	STORAGE SHED		N30+00 E115+00
TA-35-213	TSL-213	TARGET FABRICATION BLDG.		N37+50 E95+00
TA-35-214	TSL-214		CANCELLED	
TA-35-216	TSL-216	MANHOLE, ELECTRICAL		N37+50 E102+50
TA-35-218	TSL-218	GUARD STATION		N35+00 E92+50
TA-35-220	TSL-220	GAS METERING STATION		N35+00 E97+50
TA-35-222	TSL-222	SUBSTATION, ELECTRICAL		N37+50 E107+50
TA-35-223	TSL-223	TRAILER, OFFICE	FORMERLY TA-0-306	N35+00 E112+50
TA-35-224	TSL-224	TRAILER, OFFICE	FORMERLY TA-0-309	N35+00 E112+50
TA-35-225	TSL-225	TRAILER, OFFICE	FORMERLY TA-0-445	N37+50 E102+50
TA-35-226	TSL-226	TRAILER, OFFICE	FORMERLY TA-0-514	N35+00 E112+50
TA-35-227	TSL-227	TRAILER, OFFICE	FORMERLY TA-0-515	N35+00 E112+50
TA-35-228	TSL-228	TRAILER, OFFICE	FORMERLY TA-0-517	N35+00 E112+50
TA-35-229	TSL-229	TRAILER, OFFICE	FORMERLY TA-0-518	N35+00 E112+50
TA-35-230	TSL-230		CANCELLED	
TA-35-231	TSL-231		RELOCATED TO TA-3-1538	
TA-35-232	TSL-232	TRAILER, OFFICE	FORMERLY TA-0-530	N35+00 E112+50
TA-35-233	TSL-233	TRAILER, OFFICE	FORMERLY TA-0-532	N35+00 E115+00
TA-35-234	TSL-234	TRAILER, OFFICE	FORMERLY TA-0-533	N35+00 E115+00
TA-35-235	TSL-235	TRAILER, OFFICE	FORMERLY TA-0-536	N40+00 E110+00
TA-35-236	TSL-236	TRAILER, OFFICE	FORMERLY TA-0-660	N32+50 E115+00
TA-35-237	TSL-237	TRAILER, OFFICE	FORMERLY TA-0-662	N32+50 E117+50
TA-35-238	TSL-238	TRAILER, DIAGNOSTIC	FORMERLY TA-0-668	N35+00 E117+50
TA-35-239	TSL-239	TRAILER, OFFICE	FORMERLY TA-0-669	N32+50 E115+00
TA-35-240	TSL-240	TRAILER, LABORATORY	FORMERLY TA-0-676	N35+00 E112+50
TA-35-241	TSL-241		CANCELLED	
TA-35-242	TSL-242	TRAILER, OFFICE	FORMERLY TA-0-696	N35+00 E112+50
TA-35-243	TSL-243	TRAILER, OFFICE	FORMERLY TA-0-699	N35+00 E117+50
TA-35-244	TSL-244	TRAILER, OFFICE	FORMERLY TA-0-700	N35+00 E117+50
TA-35-245	TSL-245	TRAILER, OFFICE	FORMERLY TA-0-701	N35+00 E117+50
TA-35-246	TSL-246	TRAILER, OFFICE	RELOCATED TO TA-55-108	
TA-35-247	TSL-247	TRAILER, OFFICE	RELOCATED TO TA-55-109	
TA-35-248	TSL-248	TRAILER, OFFICE	FORMERLY TA-0-717	N37+50 E102+50
TA-35-249	TSL-249	TRAILER, OFFICE	FORMERLY TA-0-718	N37+50 E110+00
TA-35-250	TSL-250	TRAILER, OFFICE	FORMERLY TA-0-722	N35+00 E110+00
TA-35-251	TSL-251	TRAILER, OFFICE	FORMERLY TA-0-724	N37+50 E102+50
TA-35-252	TSL-252	TRAILER, OFFICE	FORMERLY TA-0-741	N35+00 E97+50
TA-35-253	TSL-253	TRANSPORTABLE OFFICE BLDG.	FORMERLY TA-0-1035	N37+50 E112+50
TA-35-254	TSL-254	TRANSPORTABLE OFFICE BLDG.	FORMERLY TA-0-1042	N37+50 E110+00
TA-35-255	TSL-255	TRANSPORTABLE OFFICE BLDG.	FORMERLY TA-0-1046	N37+50 E102+50
TA-35-256	TSL-256	TRANSPORTABLE OFFICE BLDG.	FORMERLY TA-0-1047	N32+50 E107+50
TA-35-257	TSL-257	GUARD STATION		N37+50 E112+50
TA-35-258	TSL-258	TRAILER, OFFICE		N35+00 E102+50
TA-35-259	TSL-259	TRAILER, OFFICE	FORMERLY TA-0-748	N35+00 E97+50
TA-35-260	TSL-260	STORAGE SHED		N35+00 E92+50
TA-35-261	TSL-261	TRAILER, OFFICE		N37+50 E117+50
TA-35-262	TSL-262	TRAILER, OFFICE		N37+50 E117+50
TA-35-263	TSL-263	TRAILER, OFFICE		N37+50 E117+50
TA-35-264	TSL-264	TRAILER, OFFICE		N35+00 E112+50
TA-35-265	TSL-265	TRAILER POWER PEDESTAL		
TA-35-266	TSL-266	CONCRETE PAD		

REV	DATE	REVISION	BY	CKD	APP
22	7-25-86	REVISED AND ADDED NEW INDEX SHEET	ALC		
21	7-14-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-14-83	HS		

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FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-35 TEN-SITE

SEC CLASSIFICATION — CLASS: U; REVIEWER; DATE: 10-19-83

SUBMITTED — RECOMMENDED — APPROVED

DRAWN — CHECKED

DATE: 7-14-83 | SHEET NO 1 of 3 | DRAWING NO ENG-R5117

Figure TA-35-1: Structure Location Plan for TA-35 - Ten Site
(1986 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-35-267	TSL-267		CANCELLED	
TA-35-268	TSL-268	TRANSPORTABLE OFFICE BLDG		N37+50 E100+00
TA-35-269	TSL-269	TRANSPORTABLE OFFICE BLDG		N37+50 E100+00
TA-35-270	TSL-270	TRANSPORTABLE OFFICE BLDG		N37+50 E100+00
TA-35-271	TSL-271		CANCELLED	
TA-35-272	TSL-272		CANCELLED	
TA-35-273	TSL-273		CANCELLED	
TA-35-274	TSL-274			
TA-35-275	TSL-275		CANCELLED	
TA-35-276	TSL-276		CANCELLED	
TA-35-277	TSL-277		CANCELLED	
TA-35-278	TSL-278	SIEGE TANKS		N32+50 E105+00
TA-35-279	TSL-279	SIEGE TANKS		N32+50 E105+00
TA-35-280	TSL-280			
TA-35-281	TSL-281			
TA-35-282	TSL-282			
TA-35-283	TSL-283	STORAGE SHED		N37+50 E 95+00
TA-35-284	TSL-284			
TA-35-285	TSL-285	RETAINING WALL		N37+50 E105+00
TA-35-286	TSL-286	LASER GAS TANK		N37+50 E107+50
TA-35-287	TSL-287	MANHOLE, SANITARY	FORMERLY TA-50-43	N35+00 E 92+50
TA-35-288	TSL-288	MANHOLE, SANITARY	FORMERLY TA-50-43	N35+00 E 95+00
TA-35-289	TSL-289	MANHOLE, SANITARY	FORMERLY TA-50-43	N35+00 E 97+00
TA-35-290	TSL-290	MANHOLE, SANITARY	FORMERLY TA-50-45	N35+00 E100+00
TA-35-291	TSL-291	AIR COMPRESSOR BLDG.		N32+00 E100+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV	DATE	REVISION	BY	CKD	APP
22	7-25-86	REVISED AND ADDED NEW INDEX SHEET	ALC		

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INDEX. SHEET
STRUCTURE LOCATION PLAN
TA-35 TEN-SITE

SEC. CLASSIFICATION
CLASS U
REVIEWER
DATE 28 Jul 86

SUBMITTED Robert W. Turner
RECOMMENDED
APPROVED R.H. Reeb
DRAWN ANNABEL CLIFFORD
CHECKED
DATE 7-25-86
SHEET NO. 2 OF 3
DRAWING NO. ENG-R5117

Figure TA-35-1: Structure Location Plan for TA-35 - Ten Site
(1986 Drawing from the LANL Technical Area Structure Location Plans)

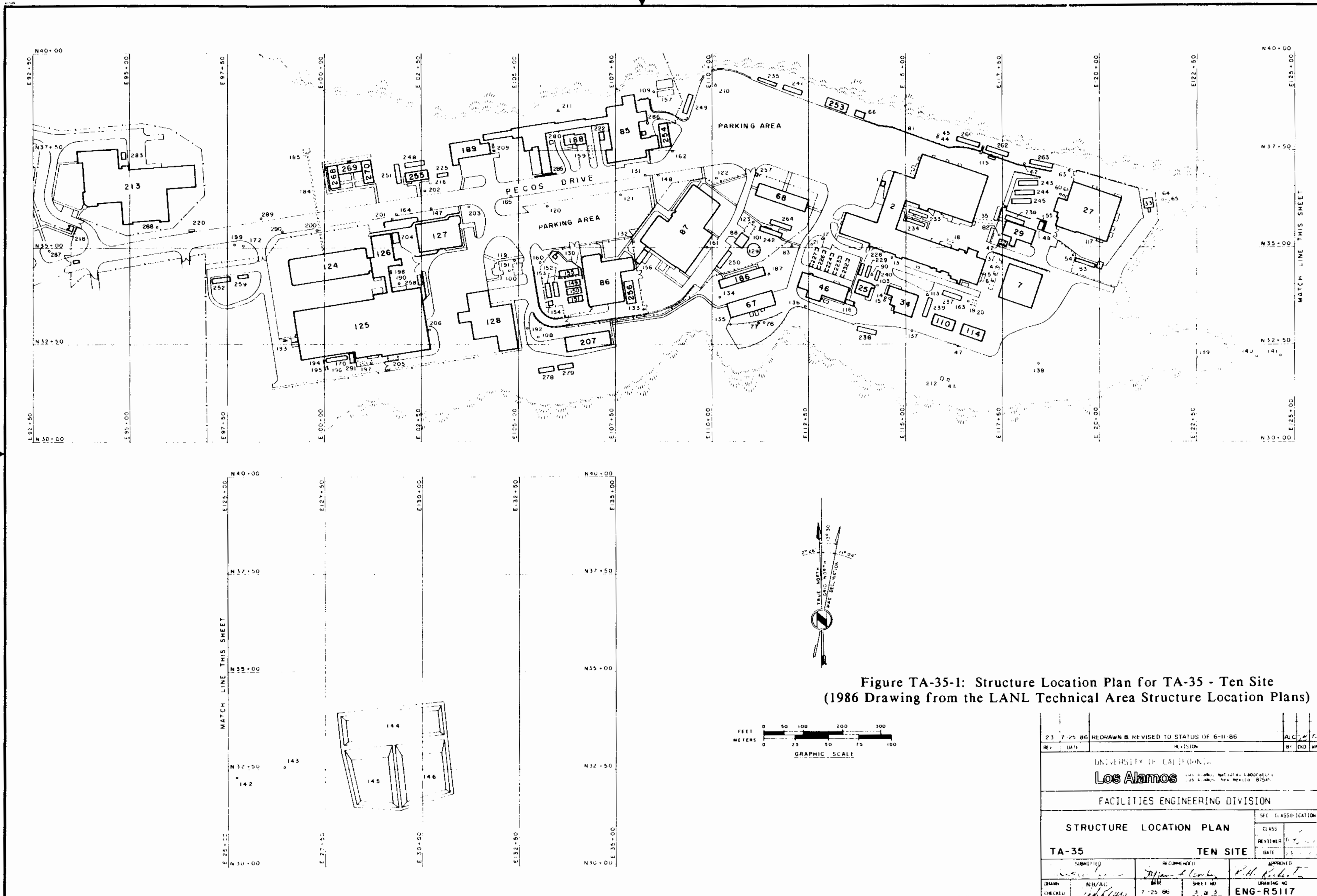


Figure TA-35-1: Structure Location Plan for TA-35 - Ten Site (1986 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-35-1	TSL-1	GUARD HOUSE		N37+50 E115+00
TA-35-2	TSL-2	LABORATORY & OFFICE BUILDING		N35+00 E115+00
TA-35-3	TSL-3	PHASE SEPARATOR PIT	UNDERGROUND	N35+00 E117+50
TA-35-4	TSL-4	HOLDING TANK, ACID	UNDERGROUND	N35+00 E117+50
TA-35-5	TSL-5	HOLDING TANK, ACID	UNDERGROUND	N35+00 E117+50
TA-35-6	TSL-6	HOLDING TANK, ACID	UNDERGROUND	N35+00 E117+50
TA-35-7	TSL-7	AIR FILTER BUILDING		N35+00 E117+50
TA-35-8	TSL-8	PUMP PIT		N32+50 E120+00
TA-35-9	TSL-9	PIPE TRENCH		N32+50 E120+00
TA-35-10	TSL-10	CONCRETE TANK BUILDING		N32+50 E120+00
TA-35-11	TSL-11	MANHOLE, (CMP DRAIN)		N35+00 E117+50
TA-35-12	TSL-12	MANHOLE, WATER		N35+00 E117+50
TA-35-13	TSL-13	MANHOLE, SEWER		N35+00 E115+00
TA-35-14	TSL-14	SEPTIC TANK	ABANDONED 1975	N35+00 E115+00
TA-35-15	TSL-15	DOSING CHAMBER, SANITARY	ABANDONED 1975	N32+50 E115+00
TA-35-16	TSL-16	DISTRIBUTION BOX, SANITARY	REMOVED 1973	
TA-35-17	TSL-17	MANHOLE, PRV BOX, WATER		N35+00 E112+50
TA-35-18	TSL-18	DIESEL FUEL TANK	ABANDONED 1973	N35+00 E115+00
TA-35-19	TSL-19	FUEL OIL TANK	ABANDONED 1973	N32+50 E117+50
TA-35-20	TSL-20	FUEL OIL TANK	ABANDONED 1973	N32+50 E117+50
TA-35-21	TSL-21	MANHOLE, GAS DRIP POT		N35+00 E112+50
TA-35-22	TSL-22	SLUDGE TANK		N32+50 E117+50
TA-35-23	TSL-23	DISCHARGER	REMOVED 1957	
TA-35-25	TSL-25	SODIUM BUILDING		N35+00 E115+00
TA-35-26	TSL-26	POWER REACTOR TEST BLDG	INCORPORATED WITH TSL-2	N37+50 E115+00
TA-35-27	TSL-27	NUCLEAR SAFEGUARDS RESEARCH LB	WAS CORE TEST FACILITY	N35+00 E120+00
TA-35-28	TSL-28	PUMP PIT	REMOVED 1965	
TA-35-29	TSL-29	GAS LASER BUILDING		N35+00 E117+50
TA-35-30	TSL-30	OFFICE BUILDING	RELOCATED TO TA-3-273	
TA-35-31	TSL-31	RETENTION TANK		N35+00 E120+00
TA-35-32	TSL-32	TRANSFORMER, SUBSTATION		N35+00 E117+50
TA-35-33	TSL-33	COOLING TOWER		N35+00 E120+00
TA-35-34	TSL-34	SODIUM TESTING BUILDING		N32+50 E115+00
TA-35-35	TSL-35	CONTROL TUNNEL	UNDERGROUND	N35+00 E117+50
TA-35-36	TSL-36	STORAGE TANK	FORMERLY TA-21-161	N32+50 E120+00
TA-35-37	TSL-37	FLOCCULATOR TANK		N32+50 E117+50
TA-35-38	TSL-38	REGENERANT TANK		N32+50 E117+50
TA-35-39	TSL-39	ION TANK		N32+50 E117+50
TA-35-40	TSL-40	ION TANK		N32+50 E117+50
TA-35-41	TSL-41	CAUSTIC TREATER BUILDING		N35+00 E120+00
TA-35-42	TSL-42	MANHOLE, ELECTRICAL		N35+00 E117+50
TA-35-43	TSL-43	SODIUM DISPOSAL TANKS		N30+00 E115+00
TA-35-44	TSL-44	SEPTIC TANK		N37+50 E115+00
TA-35-45	TSL-45	DISTRIBUTION BOX, SANITARY		N37+50 E115+00
TA-35-46	TSL-46	REACTOR COMPONENTS DEV BLDG		N35+00 E112+50
TA-35-47	TSL-47	MANHOLE, ELECTRICAL	ABANDONED 1975	N32+50 E117+50
TA-35-48	TSL-48	EXHAUST STACK		N35+00 E117+50
TA-35-49	TSL-49	STORAGE BUILDING	RELOCATED TO TA 3 378	
TA-35-51	TSL-51	ENG FIELD OFFICE	RELOCATED TO TA-0-189	
TA-35-52	TSL-52	CONTROL PANEL		N32+50 E120+00
TA-35-53	TSL-53	SUBSTATION, ELECTRICAL		N35+00 E120+00
TA-35-54	TSL-54	MANHOLE, ELECTRICAL		N35+00 E120+00
TA-35-55	TSL-55	RETAINING WALL		N35+00 E117+50
TA-35-56	TSL-56	MANIFOLD	REMOVED 1974	
TA-35-57	TSL-57	MANIFOLD	REMOVED 1974	
TA-35-58	TSL-58	MANIFOLD	REMOVED 1974	
TA-35-59	TSL-59	MANIFOLD	REMOVED 1974	
TA-35-60	TSL-60	MANHOLE, SANITARY SEWER		N37+50 E120+00
TA-35-61	TSL-61	MANHOLE, ACID SEWER VALVE		N37+50 E120+00
TA-35-62	TSL-62	MANHOLE, ELECTRICAL		N37+50 E117+50
TA-35-63	TSL-63	MANHOLE, SANITARY SEWER		N37+50 E120+00
TA-35-64	TSL-64	MANHOLE, SANITARY SEWER		N35+00 E122+50
TA-35-65	TSL-65	SEPTIC TANK, SANITARY SEWER		N35+00 E122+50
TA-35-66	TSL-66	SWITCHGEAR STATION		N37+50 E115+00
TA-35-67	TSL-67	WAREHOUSE		N32+50 E112+50
TA-35-68	TSL-68	OFFICE BUILDING		N35+00 E112+50
TA-35-69	TSL-69	OFFICE TRAILER	RELOCATED TO TA-0-300	
TA-35-70	TSL-70	OFFICE TRAILER	RELOCATED TO TA-0-310	
TA-35-71	TSL-71	OFFICE TRAILER	RELOCATED TO TA-0-299	
TA-35-72	TSL-72	OFFICE TRAILER	RELOCATED TO TA-0-298	
TA-35-73	TSL-73	OFFICE TRAILER	RELOCATED TO TA-0-297	
TA-35-74	TSL-74	OFFICE TRAILER	RELOCATED TO TA-0-455	
TA-35-75	TSL-75	OFFICE TRAILER	RELOCATED TO TA-0-296	
TA-35-76	TSL-76	TANK, SEPTIC	ABANDONED 1975	N32+50 E112+50
TA-35-77	TSL-77	DISTRIBUTION BOX	ABANDONED 1975	N32+50 E112+50
TA-35-78	TSL-78	SURGE TANKS	REMOVED 1976	
TA-35-79	TSL-79	OFFICE TRAILER	RELOCATED TO TA-0-385	
TA-35-80	TSL-80	OFFICE TRAILER	RELOCATED TO TA-0-384	
TA-35-81	TSL-81	RETAINING WALL		N37+50 E115+00
TA-35-82	TSL-82	MANHOLE, ELEC. PRIMARY		N35+00 E115+00
TA-35-83	TSL-83	TRANSFORMER STATION	NOT SHOWN-POLE MOUNTED	
TA-35-85	TSL-85	CHEMICAL LASER FACILITY		N37+50 E107+50
TA-35-86	TSL-86	CO_2 LASER BUILDING		N35+00 E107+50
TA-35-87	TSL-87	LAB OFFICE BUILDING		N35+00 E110+00
TA-35-88	TSL-88	PUMP HOUSE		N35+00 E110+00
TA-35-90	TSL-90	TRANSFORMER STATION	NOT SHOWN-POLE MOUNTED	
TA-35-96	TSL-96	STORAGE TANK	REMOVED 1976	
TA-35-97	TSL-97	STORAGE TANK	REMOVED 1976	
TA-35-98	TSL-98	CAPACITOR STATION	CANCELLED	
TA-35-99	TSL-99	TRANSFORMER STATION	NOT SHOWN-POLE MOUNTED	
TA-35-100	TSL-100	SUBSTATION, ELECTRICAL		N35+00 E105+00
TA-35-101	TSL-101	SUBSTATION, ELECTRICAL		N35+00 E110+00
TA-35-103	TSL-103	MANHOLE, STEAM		N35+00 E115+00
TA-35-108	TSL-108	MANHOLE, TELEPHONE		N32+50 E105+00
TA-35-109	TSL-109	MANHOLE, TELEPHONE		N40+00 E107+50
TA-35-110	TSL-110	TRANSPORTABLE OFFICE BLDG		N32+00 E115+00
TA-35-113	TSL-113	TRANSFORMER STATION	NOT SHOWN-POLE MOUNTED	
TA-35-114	TSL-114	TRANSPORTABLE OFFICE BLDG		N32+50 E117+50
TA-35-115	TSL-115	SOLVENT STORAGE SHED		N37+50 E117+50
TA-35-116	TSL-116	CONCRETE PAD		N32+50 E112+50
TA-35-117	TSL-117	MANIFOLD		N35+00 E120+00
TA-35-118	TSL-118	MANHOLE, ELECTRICAL	REMOVED 1978	
TA-35-119	TSL-119	MANHOLE, ELECTRICAL		N35+00 E105+00
TA-35-120	TSL-120	MANHOLE, ELECTRICAL		N35+00 E105+00
TA-35-121	TSL-121	MANHOLE, ELECTRICAL		N37+50 E107+50
TA-35-122	TSL-122	MANHOLE, ELECTRICAL		N37+50 E110+00
TA-35-123	TSL-123	MANHOLE, ELECTRICAL		N35+00 E110+00
TA-35-124	TSL-124	TARGET BUILDING		N35+00 E100+00
TA-35-125	TSL-125	LASER BUILDING		N32+50 E100+00
TA-35-126	TSL-126	TRUCK ACCESS TUNNEL		N35+00 E102+50
TA-35-127	TSL-127	OFFICE BUILDING		N35+00 E102+50
TA-35-128	TSL-128	WAREHOUSE		N32+50 E105+00
TA-35-129	TSL-129	WATER STORAGE TANK		N35+00 E110+00
TA-35-130	TSL-130	RETAINING WALL		N35+00 E107+50
TA-35-131	TSL-131	MANHOLE, SANITARY SEWER		N37+50 E107+50
TA-35-132	TSL-132	MANHOLE, SANITARY SEWER		N35+00 E107+50
TA-35-133	TSL-133	MANHOLE, SANITARY SEWER		N32+50 E107+50
TA-35-134	TSL-134	MANHOLE, SANITARY SEWER		N32+50 E110+00
TA-35-135	TSL-135	MANHOLE, SANITARY SEWER		N32+50 E110+00
TA-35-136	TSL-136	MANHOLE, SANITARY SEWER		N32+50 E112+50
TA-35-137	TSL-137	MANHOLE, SANITARY SEWER		N32+50 E115+00
TA-35-138	TSL-138	MANHOLE, SANITARY SEWER		N32+50 E117+50
TA-35-139	TSL-139	MANHOLE, SANITARY SEWER		N32+50 E122+50
TA-35-140	TSL-140	MANHOLE, SANITARY SEWER		N32+50 E125+00
TA-35-141	TSL-141	MANHOLE SANITARY SEWER		N32+50 E125+00
TA-35-142	TSL-142	MANHOLE, SANITARY SEWER		N32+50 E125+00
TA-35-143	TSL-143	MANHOLE, SANITARY SEWER		N32+50 E127+50
TA-35-144	TSL-144	SEWAGE LAGOON		N32+50 E130+00
TA-35-145	TSL-145	SEWAGE LAGOON		N32+50 E127+50
TA-35-146	TSL-146	SEWAGE LAGOON		N32+50 E130+00
TA-35-147	TSL-147	MANHOLE, TELEPHONE		N35+00 E102+50
TA-35-148	TSL-149	MANHOLE, TELEPHONE		N37+50 E107+50
TA-35-149	TSL-149	SEIGE TANK		N35+00 E107+50
TA-35-150	TSL-150	SEIGE TANK		N35+00 E107+50
TA-35-151	TSL-151	SEIGE TANK		N32+50 E107+50
TA-35-152	TSL-152	SEIGE TANK		N32+50 E107+50
TA-35-153	TSL-153	SEIGE TANK		N35+00 E105+00
TA-35-154	TSL-154	OIL HOLDING TANK		N32+50 E105+00
TA-35-155	TSL-155	REFRIGERATOR COOLANT PAD		N35+00 E107+50
TA-35-156	TSL-156	REFRIGERATOR COOLANT PAD		N35+00 E107+50
TA-35-157	TSL-157	REFRIGERATOR COOLANT PAD		N37+50 E110+00
TA-35-158	TSL-158	ACID SEWER STORAGE TANK	UNDERGROUND	N37+50 E107+50
TA-35-159	TSL-159	OIL STORAGE TANK	UNDERGROUND	N37+50 E107+50
TA-35-160	TSL-160	MANHOLE, ELECTRICAL		N35+00 E105+00
TA-35-161	TSL-161	MANHOLE, ELECTRICAL		N35+00 E110+00
TA-35-162	TSL-162	MANHOLE, ELECTRICAL		N37+50 E107+50
TA-35-163	TSL-163	MANHOLE, SANITARY SEWER		N32+50 E117+50
TA-35-164	TSL-164	MANHOLE, SANITARY SEWER		N35+00 E102+50
TA-35-165	TSL-165	MANHOLE, SANITARY SEWER		N37+50 E105+00
TA-35-184	TSL-184	FLIGHT MEASUREMENT LINE		N35+00 E100+00
TA-35-185	TSL-185	TIME OF FLIGHT SHED		N32+50 E97+50
TA-35-186	TSL-186	MODULAR OFFICE BUILDING		N35+00 E112+50
TA-35-187	TSL-187	TRANSFORMER SUBSTATION	NOT SHOWN-POLE MOUNTED	
TA-35-188	TSL-188	HIGH VOLT DEVELOPMENT LAB		N37+50 E107+50
TA-35-189	TSL-189	OPTICS EVALUATION LAB		N37+50 E105+00
TA-35-190	TSL-190	MANHOLE, SANITARY SEWER		N35+00 E102+50
TA-35-191	TSL-191	MANHOLE, SANITARY SEWER		N35+00 E105+00
TA-35-192	TSL-192	MANHOLE, SANITARY SEWER		N32+50 E105+00
TA-35-199	TSL-199	MANHOLE, ELECTRICAL		N35+00 E97+50
TA-35-200	TSL-200	MANHOLE, ELECTRICAL		N35+00 E100+00
TA-35-201	TSL-201	MANHOLE, ELECTRICAL		N35+00 E102+50
TA-35-202	TSL-202	MANHOLE, TELEPHONE		N37+50 E102+50
TA-35-203	TSL-203	MANHOLE, ELECTRICAL		N35+00 E105+00
TA-35-204	TSL-204	SWITCH GEAR STATION		N35+00 E102+50
TA-35-206	TSL-206	TRANSFORMER STATION	NOT SHOWN-POLE MOUNTED	
TA-35-207	TSL-207	EXPERIMENTAL SUPPORT LAB	PROPOSED	
TA-35-209	TSL-209	TRANSFORMER STATION	NOT SHOWN-POLE MOUNTED	
TA-35-210	TSL-210	TRANSFORMER STATION	NOT SHOWN-POLE MOUNTED	
TA-35-211	TSL-211	TRANSFORMER STATION	NOT SHOWN-POLE MOUNTED	
TA-35-212	TSL-212	STORAGE SHED		N30+00 E115+00
TA-35-213	TSL-213	TARGET FABRICATION BLDG	PROPOSED	

NO.	DATE	REVISIONS	BY	CHKD	GRP LDR
20	7-28-80	REVISED TO STATUS OF 7-28-80	SV		
19	4-12-77	REVISED DWG NO (FORMERLY ENG-R2461) REVISED TO STATUS OF 4-12-77	LAM		
18	12-1-75	REVISED TO STATUS OF 12-1-75	DAD		
17	10-7-74	REVISED TO STATUS OF 10-7-74	B.H.		
16	2-5-74	REVISED TO STATUS OF 2-5-74	DAD		

REVIEWER W. D. [illegible]

CLASS U DATE 7/30/80

AUTHORIZED FOR HEALTH SAFETY FIRE PROT. SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
FACILITIES MANAGEMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-35 TEN SITE

CHECKED PROJ ENG. [illegible] | RECOMMENDED GROUP LEADER [illegible] | APPROVED ENG DEPT OFFICE [illegible]

DESIGNER | DATE 9-15-61 | DRAWING NO
DRAWN LOGGAINS | SHEET 1 | ENG-R5117
SCALE NONE

Figure TA-35-2: Structure Location Plan for TA-35 - Ten Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-306	ULR-306	OFFICE TRAILER		N35+00 E112+50
TA-0-309	ULR-309	OFFICE TRAILER		N35+00 E112+50
TA-0-445	ULR-445	OFFICE TRAILER		N37+50 E102+50
TA-0-514	ULR-514	OFFICE TRAILER		N35+00 E112+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-515	ULR-515	OFFICE TRAILER		N35+00 E112+50
TA-0-517	ULR-517	OFFICE TRAILER		N35+00 E115+00
TA-0-518	ULR-518	OFFICE TRAILER		N35+00 E115+00
TA-0-520	ULR-520	CRAFT TRAILER		N32+50 E117+50
TA-0-523	ULR-523	CONSTRUCTION TRAILER		N32+50 E117+50
TA-0-529	ULR-529	OFFICE TRAILER		N35+00 E112+50
TA-0-530	ULR-530	OFFICE TRAILER		N35+00 E112+50
TA-0-532	ULR-532	OFFICE TRAILER		N35+00 E115+00
TA-0-533	ULR-533	OFFICE TRAILER		N35+00 E115+00
TA-0-536	ULR-536	OFFICE TRAILER		N35+00 E112+50
TA-0-660	ULR-660	OFFICE TRAILER		N32+50 E115+00
TA-0-662	ULR-662	OFFICE TRAILER		N32+50 E115+00
TA-0-668	ULR-668	DIAGNOSTIC TRAILER		N35+00 E117+50
TA-0-669	ULR-669	OFFICE TRAILER		N32+50 E115+00
TA-0-676	ULR-676	LABORATORY TRAILER		N35+00 E115+00
TA-0-678	ULR-678	OFFICE TRAILER		N32+50 E115+00
TA-0-696	ULR-696	OFFICE TRAILER		N32+50 E105+00
TA-0-697	ULR-697	OFFICE TRAILER		N40+00 E112+50
TA-0-699	ULR-699	OFFICE TRAILER		N37+50 E117+50
TA-0-700	ULR-700	OFFICE TRAILER		N37+50 E117+50
TA-0-701	ULR-701	OFFICE TRAILER		N37+50 E117+50
TA-0-702	ULR-702	OFFICE TRAILER		N32+50 E102+50
TA-0-703	ULR-703	OFFICE TRAILER		N32+50 E102+50
TA-0-718	ULR-718	OFFICE TRAILER		N32+50 E115+00
TA-0-722	ULR-722	OFFICE TRAILER		N32+50 E105+00
TA-0-723	ULR-723	OFFICE TRAILER		N37+50 E102+50
TA-0-724	ULR-724	OFFICE TRAILER		N37+50 E112+50
TA-0-725	ULR-725	OFFICE TRAILER		N40+00 E110+00
TA-0-716	ULR-716	OFFICE TRAILER		N35+00 E112+50
TA-0-717	ULR-717	OFFICE TRAILER		N35+00 E112+50
TA-0-1035	ULR-1035	TRANSPORTABLE OFFICE		N37+50 E112+50
TA-0-1042	ULR-1042	TRANSPORTABLE OFFICE		N37+50 E105+00
TA-0-1046	ULR-1046	TRANSPORTABLE OFFICE		N35+00 E110+00
TA-0-1047	ULR-1047	TRANSPORTABLE OFFICE		N35+00 E107+50

NO	DATE	CLASS REVIEW	REVISIONS	BY	CHKD	GRP	D.O.	GRP LDR
20	7-28-80		REVISED TO STATUS OF 7-28-80	SV				

THIS JOB MUST BE INSPECTED AND ANY CHANGES APPROVED BY ENG 4 PHONE

LOS ALAMOS SCIENTIFIC LABORATORY

FACILITIES MANAGEMENT

UNIVERSITY OF CALIFORNIA – LOS ALAMOS NEW MEXICO

DWG. CLASSIFICATION U TITLE

AUTHORIZED FOR: SECURITY / SAFETY / HEALTH / DIVISION / GROUP

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-35 TEN SITE

SUBMITTED PROJ. ENGR. — APPROVED
CHECKED — CA — BA — DATE — SHEET 2
DESIGNED — LAB JOB NUMBER — DRAWING NO ENG-R5117
DRAWN E TRUJILLO

Figure TA-35-2: Structure Location Plan for TA-35 - Ten Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)

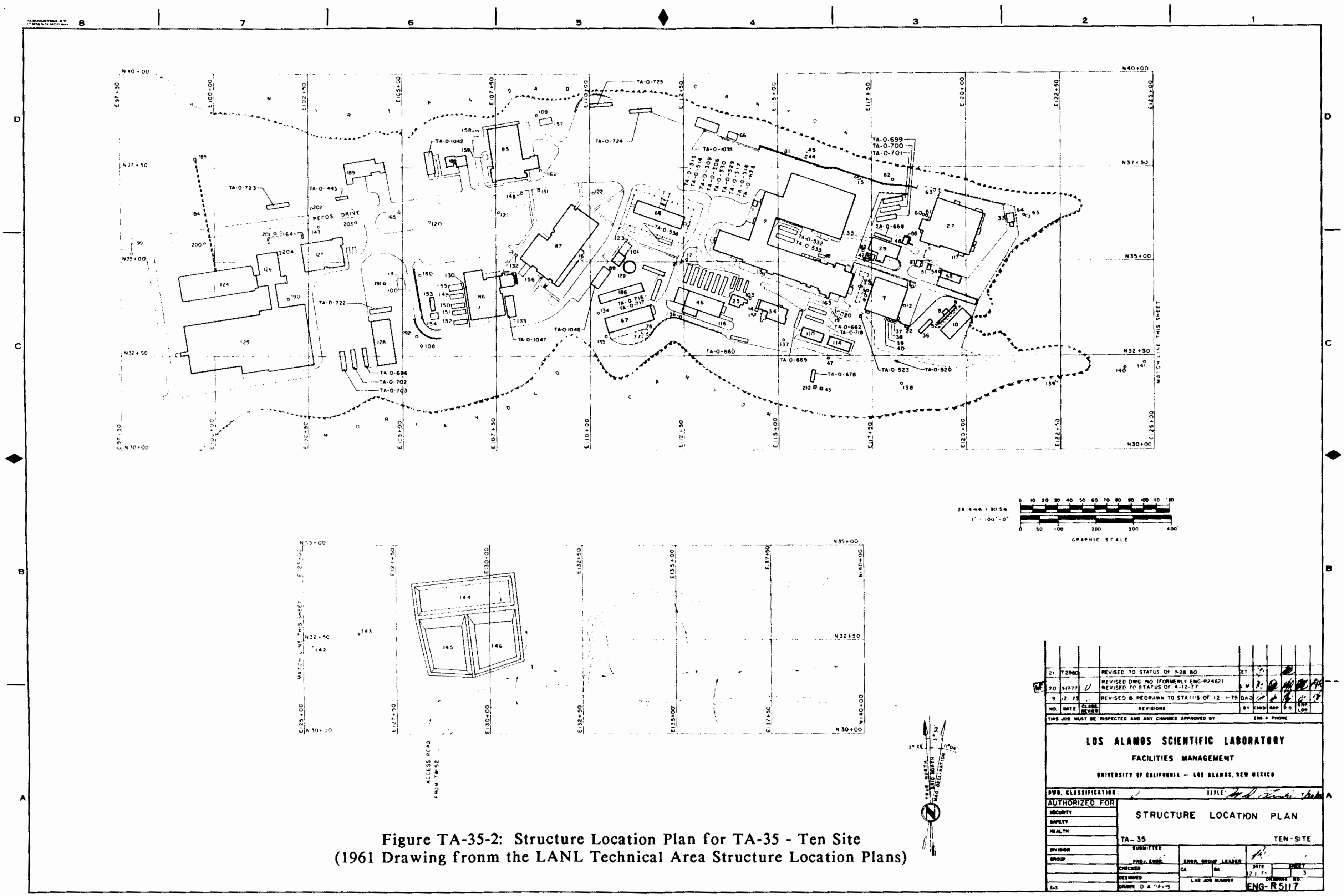
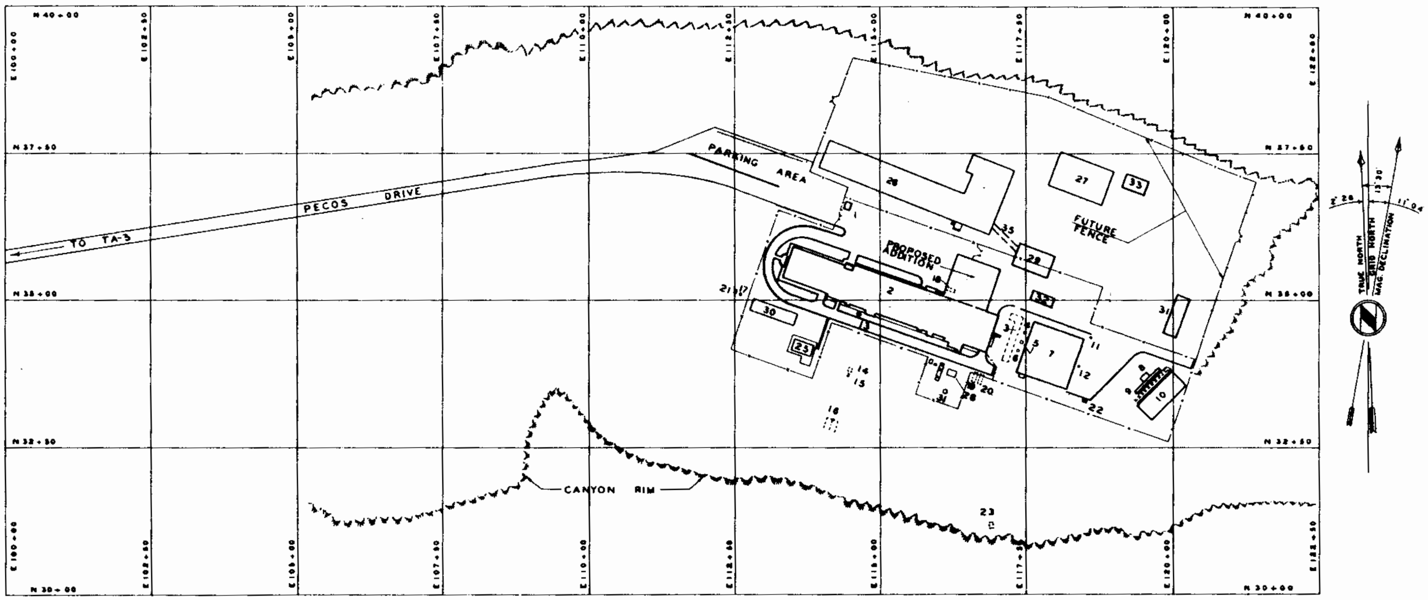


Figure TA-35-2: Structure Location Plan for TA-35 - Ten Site
(1961 Drawing fronm the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY



STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-35-1	TSL-1	GUARD HOUSE (STATION 410)
TA-35-2	TSL-2	LABORATORY & OFFICE BLDG.
TA-35-3	TSL-3	PHASE SEPARATOR PIT
TA-35-4	TSL-4	U.G. HOLDING TANK (ACID)
TA-35-5	TSL-5	U.G. HOLDING TANK (ACID)
TA-35-6	TSL-6	U.G. HOLDING TANK (ACID)
TA-35-7	TSL-7	AIR FILTER BLDG.
TA-35-8	TSL-8	PUMP PIT
TA-35-9	TSL-9	PIPE TRENCH
TA-35-10	TSL-10	CONCRETE TANK BLDG.
TA-35-11	TSL-11	MANHOLE (DRAINAGE)
TA-35-12	TSL-12	MANHOLE (WATER)
TA-35-13	TSL-13	MANHOLE (SANITARY SEWER)
TA-35-14	TSL-14	SEPTIC TANK (SANITARY)
TA-35-15	TSL-15	DOSING CHAMBER (SANITARY)
TA-35-16	TSL-16	DISTRIBUTION BOX (SANITARY)
TA-35-17	TSL-17	P.R.V. BOX (WATER)
TA-35-18	TSL-18	DIESEL FUEL TANK
TA-35-19	TSL-19	FUEL OIL TANK
TA-35-20	TSL-20	FUEL OIL TANK
TA-35-21	TSL-21	MANHOLE (GAS DRIP POT)
TA-35-22	TSL-22	SLUDGE TANK
TA-35-23	TSL-23	DISCHARGE SILENCER
TA-35-24	TSL-24	AIR TREATMENT BUILDING (CANCELLED)
TA-35-25	TSL-25	SODIUM BUILDING
TA-35-26	TSL-26	LABORATORY OFFICE BUILDING (PROPOSED)
TA-35-27	TSL-27	LAMPRE II BUILDING (PROPOSED)
TA-35-28	TSL-28	PUMP PIT (LAPRE II)
TA-35-29	TSL-29	TEST PIT (PROPOSED)
TA-35-30	TSL-30	OFFICE BUILDING (TEMPORARY)
TA-35-31	TSL-31	RETENTION TANK (PROPOSED)
TA-35-32	TSL-32	SUBSTATION (PROPOSED)
TA-35-35	TSL-33	COOLING TOWER (PROPOSED)
TA-35-34	TSL-34	RESERVE
TA-35-35	TSL-35	CONTROL TUNNEL (PROPOSED)

NO.	DATE	REVISIONS	BY	CHKD
6	7-1-57	REVISED TO STATUS OF 7-1-57	DDS	JAS
7		REDRAWN TO STATUS OF JULY 1, 1955	HOB	JAS

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-35 TEN SITE

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

CHECKED / DESIGNER — RECOMMENDED / GROUP LEADER — APPROVED / ENG. DEPT.

DRAWN: N. BYERS DATE: 10/4/55 DRAWING NO.: ENG- R 155
SCALE: 1" = 100' SHEET 1 OF 1

Figure TA-35-3: Structure Location Plan for TA-35 - Ten Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

TA-36 - KAPPA SITE

CURRENT OPERATIONS

At TA-36, operations have concentrated on understanding phenomena associated with the detonation of high explosives. Since 1985, much of the work has involved explosives research, with several hundred shots fired each year by the Explosives Applications Group (M-8). Firing sites include those known as Eenie, Meenie, Minie, Lower Slobbovia, and I-J.

POTENTIAL CERCLA/RCRA SITES

TA-36 was first occupied in 1950 after it was built to replace World War II explosives testing facilities at Anchor Far Point, NU Site, and L Site. In 1953, assembly drop tests were held; after one drop, damaged depleted uranium components were burned on the edge of the firing location at Lower Slobbovia (Oakes 1953).

In 1962, the Industrial Hygiene Group, H-5, sampled the Minie firing pit for barium and uranium after an estimated total of 10,000 lb of baratol had been fired in the pit. Maximum concentrations were 3.89 mg of barium per gram of soil and 46 pCi of uranium per gram of soil (Foreman 1962). Other materials that have been used in tests include lead, zinc, and beryllium.

Before using the burning pits at Lower Slobbovia, there was some incineration of firing site debris at other locations. A material storage area near TA-36-7 has a collection of metal scrap, mostly iron, steel, and aluminum with some depleted uranium contamination.

Uranium has been used in a number of tests at TA-36, but not in large quantities. Ecological studies in the mid-1970s showed uranium concentrations in soils to be slightly elevated at Minie and at Area II of Lower Slobbovia. Concentrations were somewhat higher in Area I of Lower Slobbovia; the average soil concentrations were approximately 40 pCi/g (Hanson and Miera 1976 and 1978). By comparison, DOE Formerly Utilized Sites Remedial Action Program cleanup guidelines for uranium in soil--a large volume, uniformly contaminated--are 75 pCi/g for unrestricted use (Gilbert 1983).

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-36. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-36 is 10.1 (Appendix B).

FIGURES

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TABLE TA-36 - POTENTIAL CERCLA/RCRA SITES

TA36-1-CA-I/A-HW/RW (Firing sites)

Background--Most of the firing sites at TA-36 are actively used today. Designated sites consist of (1) I-J, which was part of TA-15 until about 5 years ago, with control building TA-36-55 and associated trailers; (2) Eenie, with control building TA-36-3 and preparation building TA-36-4; (3) Meenie, with control building TA-36-6 and preparation building TA-36-5; (4) Minie, with control building TA-36-8 and preparation building TA-36-7; and (5) Lower Slobbovia, with control building TA-36-12 and preparation building TA-36-11.

Firing at TA-36 has mainly been limited to research on explosive phenomena. Materials included in the shots have been uranium, beryllium, lead, copper, iron, aluminum, steel, and various types of plastics. Beryllium has not been used since 1977. Barium is in some of the explosives used. Other types of explosives are reported to have been mixtures of nitric acid, nitrobenzene, and water (GMX-8 n.d.); liquid cyanogen, though very limited (Campbell and Milford 1957); nitromethane (H Division 1955a:21); and tetranitromethane (H Division 1955b:25 and 1955c:19).

During a 1987 CEARP field survey, many shots were observed to take place on wooden platforms, which minimize sand dispersion. The remaining residues of wood after a shot are picked up and taken to the burning pit. The sand is graded and more is added if needed. Sand benches several feet thick were seen and may contain very small pieces of high explosive. In the survey, both Eenie and Meenie were observed to have gun emplacements.

During a 1987 CEARP survey, a building containing a very large, spherical chamber was seen at I-J Site. It was used for containment and recovery shots, but is no longer being used. The chamber was used when I-J was part of TA-15. The chamber itself is reported free of contamination, but the filter system is contaminated with plutonium.

The inactive J firing site is located on the mesa just above the containment chamber. This site had an x-unit chamber, TA-15-32. The 1987 CEARP field survey confirmed that a storage shed and instrument box remain at the site. Uranium was found at the firing area during the survey.

The DOE Discharge Information System for July 12, 1982, lists 0.255 Ci of uranium-238 expended at Kappa Site between 1958 and 1981. It is not known whether this includes I-J Site. Records for the amount of uranium expended from 1950 to 1958 have not been found. In a field study at Lower Slobbovia in 1974, the maximum measured concentration of uranium in soil was 220 $\pm$ 22 micrograms/g, whereas for Meenie it was 12.3 $\pm$ 1.2 micrograms/g (Hanson and Miera 1976:33). In 1957, soil at Lower Slobbovia was sampled for uranium, and 0.64 micrograms/g at the pit, 0.68 micrograms/g at the firing point, and 0.68 micrograms/g (i.e., background) at the bunker were found (Eutsler 1957).

In 1962, uranium and barium at Meenie Site were sampled. Concentrations ranging between 0.055 and 0.114 mg/g for uranium were measured. Concentrations of barium were found to range from 0.028-3.89 mg/g. Approximately 10,000 lb of baratol have been fired (LASL 1962).

In 1983, cumulative samplers were installed in Potrillo Canyon and in a tributary to Mortandad Canyon. One report states, "In every run-off sample, uranium concentrations in solution and suspended sediments were inversely proportioned to the distance between the sampling location and the source firing site" (LANL 1985:75). Upper Potrillo Canyon would include I-J as well as TA-15 (E-F Site).

Beryllium, lead, and mercury in water were sampled at Fence Canyon at Meenie Site and mean concentrations of <50, <100, and <0.2 micrograms/L were reported, respectively. Sediments were also sampled and mean concentrations of 2, 74, <0.03 micrograms, respectively, were reported. Levels of 130 micrograms/g for lead were found in sediments at Water Canyon at NM 4 (LANL 1986:90-91).

In addition to experiments on the designated sites, according to a Los Alamos employee, a limited number of experiments using tetranitromethane were carried out in an area known as "the skunk works" located northwest of Lower Slobbovia. Several buildings were moved from TA-15 to the skunk works. Other than these buildings, which are presently in poor repair, nothing is reported to remain at the site.

One Los Alamos employee recalls the possibility of a few 500-lb test shots near Moe.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental CEARP Phase I activities, the extent of residuals resulting from firing-site-related activities will be determined for the inactive firing sites. The active firing sites are covered by routine LANL operations.

TA36-2-CA-I-HW/RW (Drop tower)

Background--On engineering drawing ENG-R5118, test stanchion TA-36-36 is noted at Lower Slobbovia. A 1953 report notes assembly drop tests at Kappa Site (LASL 1953). Another report indicates that four drop tests were carried out. The assembly became damaged and the equipment was burned. No contamination was found except in the burning pit (H Division 1953:3). Another memo indicates burning following a drop. Ashes read 1,000 counts/min, which was indicated as a normal count for uranium-238 (Oakes 1953). During the 1987 CEARP field survey, it was observed that drop tests are no longer conducted at Kappa Site. More information on the burning pit is included in TA36-6.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The drop tower area will be investigated during supplemental Phase I to determine the extent of residual contamination.

TA36-3-CA-I-HW (Detonator disposal)

Background--In the late 1950s, detonators were disposed of by adding nitromethane and exploding the combination at Lower Slobbovia. Between March 5, 1959, and September 16, 1959, 248 cans of detonators were shipped to GMX-8 to be destroyed. A search around the Lower Slobbovia firing site was conducted in October 1959 to determine whether any intact detonators had been blown from the pit. The report states, "Although metal and plastic fragments of detonators were recovered, no security items or parts of detonators containing explosive were found. Because of the ground cover surrounding the area it would be impossible in a search of this nature to find very many of the items searched for if they in fact existed. It is the opinion of those who took part in this search that the method of destruction was quite good and that there is a good chance that all high explosive was destroyed. However, we cannot be completely certain about this" (Anderson and Tucker 1959).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination from detonator destruction will be determined during supplemental Phase I.

TA36-4-S/ST/O-I/A-HW/RW (Liquid waste handling)

Background--During the 1987 CEARP field survey, the staff at TA-36 indicated that none of the outlying firing sites, with the exception of I-J, have any liquid waste treatment facilities. Firing point I-J has septic tank TA-36-61. Point I-J is very old, and whether high-explosive contamination or perhaps residual uranium may be present in the tank is not known. Overflow is reported to go to a drain line (Pan Am 1986:3).

Building 1 is shown on engineering drawing ENG-R1363 to have two drains leading to outfalls into Pajarito Canyon. The drain from the central part of the building was not located during the 1987 CEARP field survey, because the cliff is quite steep and has a great deal of vegetation. Whether it is active is not known. The drain from the east end of the building was observed several feet below the point where the cliff drops off and was discharging liquid. Where this liquid originated is not known. The engineering drawing also shows building 1 to be served by a septic system and septic tank 17 to have a distribution box. The overflow is reported to go to a seepage pit (Pan Am 1986:6). During the survey, a fairly large photo lab was observed in building 1. The spent fixer is currently shipped offsite and other spent chemicals are discarded down the drain. The drain is believed to connect with the outfall to the canyon. An employee interviewed on January 28, 1985, said that apparently the facility has had a photo lab for a long time, and in the past, fixer was discarded to the drain system that discharged to the canyon. Additionally, other sinks that receive chemical wastes drain to outfalls.

In 1957, surface grinding of uranium-238 was reported (H Division 1957). How wastes were handled is not known. A 1968 memo mentions that sheets of uranium were cut, polished, and lapped by hand. Various solvents and hydrochloric acid were used in the process, which was conducted in the southeast basement corner room of TA-36-1. Waste solutions were diluted if necessary and "released to the drain." These solutions included uranium-238. Whether they went to the canyon outfall or to the septic tank is not indicated (Buckland 1968). Today, a machine shop for steel, aluminum, and plastics occupies much of the basement. A soldering shop is also in operation in the basement.

Building 48 has been known as the controlled environment building since about 1970 when the building was used for temperature-controlled experiments. During the 1987 CEARP field survey and when talking with employees at the site, it was learned that the building has been used as an assembly building in which small quantities of glue were used and that small quantities of zinc chloride and acids had probably been poured down the drain. Trace quantities of high explosives and acetone were also discharged to the drain. The building has also been used to plate aluminum on mirrors. For these operations, water and small quantities of sodium hydroxide may have been sent to the drain. The drain appears to connect to sump pit TA-36-49. Construction details on this pit are lacking. Currently, the building is not in active use.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with past liquid waste discharges will be determined. The active liquid waste management systems are covered by routine LANL operations.

TA36-5-CA-I-HW (Liquid disposal)

Background--At one time, dithekite, a mixture of nitric acid, nitrobenzene, and water, was used in firing experiments at TA-36. The standard operating procedure listed the proper disposal technique as "pouring on the ground not less than 100 ft from any building or road at Kappa Site" (GMX-8 n.d.).

There is no indication of residual environmental contamination of concern.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination will be determined during supplemental Phase I.

TA36-6-L-I/A-HW/RW (Burning pits)

Background--After the establishment of TA-36, it was the practice to burn cables and perhaps other combustibles near the firing pad at each site. Some cables were also burned by a magazine site known as Moe (TA-36-9,10). However, the burned residue was removed and it is felt that no contamination should now be present in this area. In an interview an employee said that there was a burning pit across the road from Minie site. No further information has been obtained and the area was not located during the 1987 CEARP field survey. The aerial pictures clearly show a burn site north of the road about halfway between Moe and Lower Slobbovia. Employees report that the area probably has copper, aluminum, and steel residues. It is possible that the area across from Minie site may be this area. In 1959, a proposal was made to establish a burning pit at Kappa Site in order to dispose of combustible items possibly contaminated with high explosive (LaBerge 1959). Which site this 1959 proposal resulted in is not clear. At some time, the burning pit was moved to a location at Lower Slobbovia. On engineering drawing ENG-R4482, three burning pits are noted to be located to the southwest of TA-36-12, and they are designated as Material Disposal Area AA (see Material Disposal Area AA). One employee remembers four and possibly six burning pits. However, they all (regardless of number) appear to have been in the same area that is in use today. During the 1987 CEARP field survey, all these pits were determined to have been covered over. It was learned that until recently, a rectangular pit--again in the area southwest of TA-36-12--had been used until the edges began to cave in and the pit was filled. At the present, a rectangular pit just to the side of the former pit has been dug and is being used. Contaminants in the pits at Lower Slobbovia might be very small quantities of uranium and other materials in the shots that adhered to the combustibles and therefore were taken to the burning area.

Pieces from the drop tower experiments (see TA-36-2), which included uranium-238, were pulled from the pad area and burned near where the "dead man" for the tower remains in place today, a Los Alamos employee has reported. Disks and uranium-238 probably may remain in the subsurface soils, unless they were removed to burial pits (see TA36-8).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the extent of residual contamination associated with the inactive burning pits will be determined. The active burning pits are covered by routine LANL operations. The planned action for Area AA is discussed under Material Disposal Areas.

TA36-7-CA-A-HW/RW (Material storage)

Background--It was noted during the 1987 CEARP field survey that a large outdoor material storage area at Kappa Site is used for storage of iron and steel, which are in some cases contaminated with uranium, and other pieces of seldom-used material. In addition, several unmarked drums and cylinders were noted.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active material storage area is covered by routine LANL operations.

TA36-8-L-I-HW/RW (Landfills)

Background--A 1956 memo states that two small waste burial sites are located in Potrillo Canyon near building TA-36-12. They contain ash from fires in which depleted uranium was burned (Campbell 1956). Reference is also made to this area in an undated note in engineering file 1757. These areas may be different from the Material Disposal Area AA pits, because they appear to have been used earlier.

To the north of Eenie along the edge of the canyon, cables and similar residues are reported to have been disposed of. Cables that are used to hold fill at Lower Slobbovia have also been mentioned by employees.

The mounded circles just after the turnoff to Moe and south of the main road are due to fill being placed there. This fill is not believed to be contaminated.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The landfills will be investigated as part of supplemental Phase I. The planned action for Area AA is discussed under Material Disposal Areas.

TA36-9-CA-A-HW (Disposal of high explosive)

Background--The field survey determined that Minie Site is used to explode scrap high explosive.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. Current practices at Minie Site are covered by routine LANL operations.

TA36-10-CA-A-HW (Storing waste explosive)

Background--The preparation buildings, TA-36-4, -5, -7, -and -11, are used to store small quantities of waste explosive for short terms, as observed during the 1987 CEARP field survey.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. Waste explosives handling is covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-36-1	KAPPA-1	LABORATORY & OFFICE BLDG.		S 55+00 E175+00
TA-36-2	KAPPA-2		UNASSIGNED	
TA-36-3	KAPPA-3	CONTROL BUILDING		S 75+00 E145+00
TA-36-4	KAPPA-4	PREPARATION BUILDING		S 75+00 E155+00
TA-36-5	KAPPA-5	PREPARATION BUILDING		S 85+00 E155+00
TA-36-6	KAPPA-6	CONTROL BUILDING		S 65+00 E155+00
TA-36-7	KAPPA-7	PREPARATION BUILDING		S 95+00 E155+00
TA-36-8	KAPPA-8	CONTROL BUILDING		S 95+00 E155+00
TA-36-9	KAPPA-9	MAGAZINE		S 85+00 E185+00
TA-36-10	KAPPA-10	MAGAZINE		S 85+00 E185+00
TA-36-11	KAPPA-11	PREPARATION BUILDING		S 85+00 E225+00
TA-36-12	KAPPA-12	CONTROL BUILDING		S 85+00 E235+00
TA-36-13	KAPPA-13	INSTRUMENT CHAMBER		S 95+00 E235+00
TA-36-14	KAPPA-14	FIRING BOX, DOUBLE		S 95+00 E155+00
TA-36-15	KAPPA-15	FIRING BOX, DOUBLE		S 85+00 E155+00
TA-36-16	KAPPA-16		REMOVED 1955	
TA-36-17	KAPPA-17	TANK, SEPTIC		S 55+00 E175+00
TA-36-18	KAPPA-18	TANK, WATER		S 55+00 E175+00
TA-36-19	KAPPA-19	INSTRUMENT CHAMBER		S 85+00 E155+00
TA-36-20	KAPPA-20	INSTRUMENT CHAMBER		S 95+00 E155+00
TA-36-21	KAPPA-21	FIRING BOX, DOUBLE		S 95+00 E235+00
TA-36-22	KAPPA-22	GUARD STATION	STATION #460	S 55+00 E175+00
TA-36-23	KAPPA-23	ANTENNA TOWER		S 55+00 E175+00
TA-36-24	KAPPA-24	TRANSFORMER STATION		S 55+00 E175+00
TA-36-25	KAPPA-25	TRANSFORMER STATION		S 75+00 E145+00
TA-36-26	KAPPA-26	TRANSFORMER STATION		S 85+00 E155+00
TA-36-27	KAPPA-27	TRANSFORMER STATION		S 95+00 E155+00
TA-36-28	KAPPA-28	TRANSFORMER STATION		S 85+00 E225+00
TA-36-29	KAPPA-29	WIGWAG		S 85+00 E155+00
TA-36-30	KAPPA-30	WIGWAG		S 85+00 E155+00
TA-36-31	KAPPA-31	WIGWAG		S 95+00 E215+00
TA-36-32	KAPPA-32	SIREN PLATFORM		S 95+00 E225+00
TA-36-33	KAPPA-33	RETAINING WALL		S 85+00 E155+00
TA-36-34	KAPPA-34	MANHOLE, WATER		S 55+00 E175+00
TA-36-35	KAPPA-35	MANHOLE, STORM DRAINAGE		S 55+00 E175+00
TA-36-36	KAPPA-36	TEST STANCHION HOIST		S 95+00 E235+00
TA-36-37	KAPPA-37	WIGWAG		S 75+00 E155+00
TA-36-38	KAPPA-38	MANHOLE, SANITARY		S 55+00 E175+00
TA-36-39	KAPPA-39	RETAINING WALL		S 55+00 E175+00
TA-36-40	KAPPA-40	RETAINING WALL		S 95+00 E155+00
TA-36-41	KAPPA-41	FIRING BOX, SINGLE		S 95+00 E235+00
TA-36-42	KAPPA-42	FIRING BOX, SINGLE		S 65+00 E155+00
TA-36-43	KAPPA-43	FIRING BOX, SINGLE		S 95+00 E155+00
TA-36-44	KAPPA-44	STORAGE BUILDING	ABANDONED 1963	S 75+00 E215+00
TA-36-45	KAPPA-45	STORAGE BUILDING	ABANDONED 1963	S 75+00 E215+00
TA-36-46	KAPPA-46	STORAGE BUILDING		S 55+00 E175+00
TA-36-47	KAPPA-47	STORAGE BUILDING		S 55+00 E165+00
TA-36-48	KAPPA-48	CONTROLLED ENVIRONMENT BLDG		S 55+00 E165+00
TA-36-49	KAPPA-49	SUMP PIT		S 55+00 E165+00
TA-36-50	KAPPA-50	TRANSFORMER STATION		S 55+00 E165+00
TA-36-51	KAPPA-51	TRANSFORMER STATION		S 85+00 E185+00
TA-36-52	KAPPA-52	METERING STATION		S 75+00 E145+00
TA-36-53	KAPPA-53	STORAGE SHED		S 55+00 E175+00
TA-36-54	KAPPA-54	TRACTOR SHED		S 55+00 E165+00
TA-36-55	KAPPA-55	CONTROL BLDG.	FORMERLY TA-15-31	S 55+00 E115+00
TA-36-56	KAPPA-56	GUN EMPLACEMENT	FORMERLY TA-15-207	S 55+00 E115+00
TA-36-57	KAPPA-57	TRAILER, OFFICE	FORMERLY TA-0-304	S 55+00 E175+00
TA-36-58	KAPPA-58	TRAILER, OFFICE	FORMERLY TA-0-598	S 55+00 E175+00
TA-36-59	KAPPA-59	TRANSFORMER STATION	FORMERLY TA-15-58	S 55+00 E115+00
TA-36-60	KAPPA-60	TANK, WATER UG	FORMERLY TA-15-66	S 55+00 E115+00
TA-36-61	KAPPA-61	TANK, SEPTIC	FORMERLY TA-15-67	S 55+00 E115+00
TA-36-62	KAPPA-62	MANHOLE, ELECTRICAL	FORMERLY TA-15-164	S 55+00 E115+00
TA-36-63	KAPPA-63	MANHOLE, ELECTRICAL	FORMERLY TA-15-165	S 55+00 E115+00
TA-36-64	KAPPA-64	MANHOLE, ELECTRICAL	FORMERLY TA-15-167	S 55+00 E115+00

REV.	DATE	REVISION	BY	CKD	APP
15	9-7-83	REVISED TITLE BLOCK & DWG TO STATUS OF 8-8-83	HS	TB	DR

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-36 KAPPA SITE

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Figure TA-36-1: Structure Location Plan for TA-36 - Kappa Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

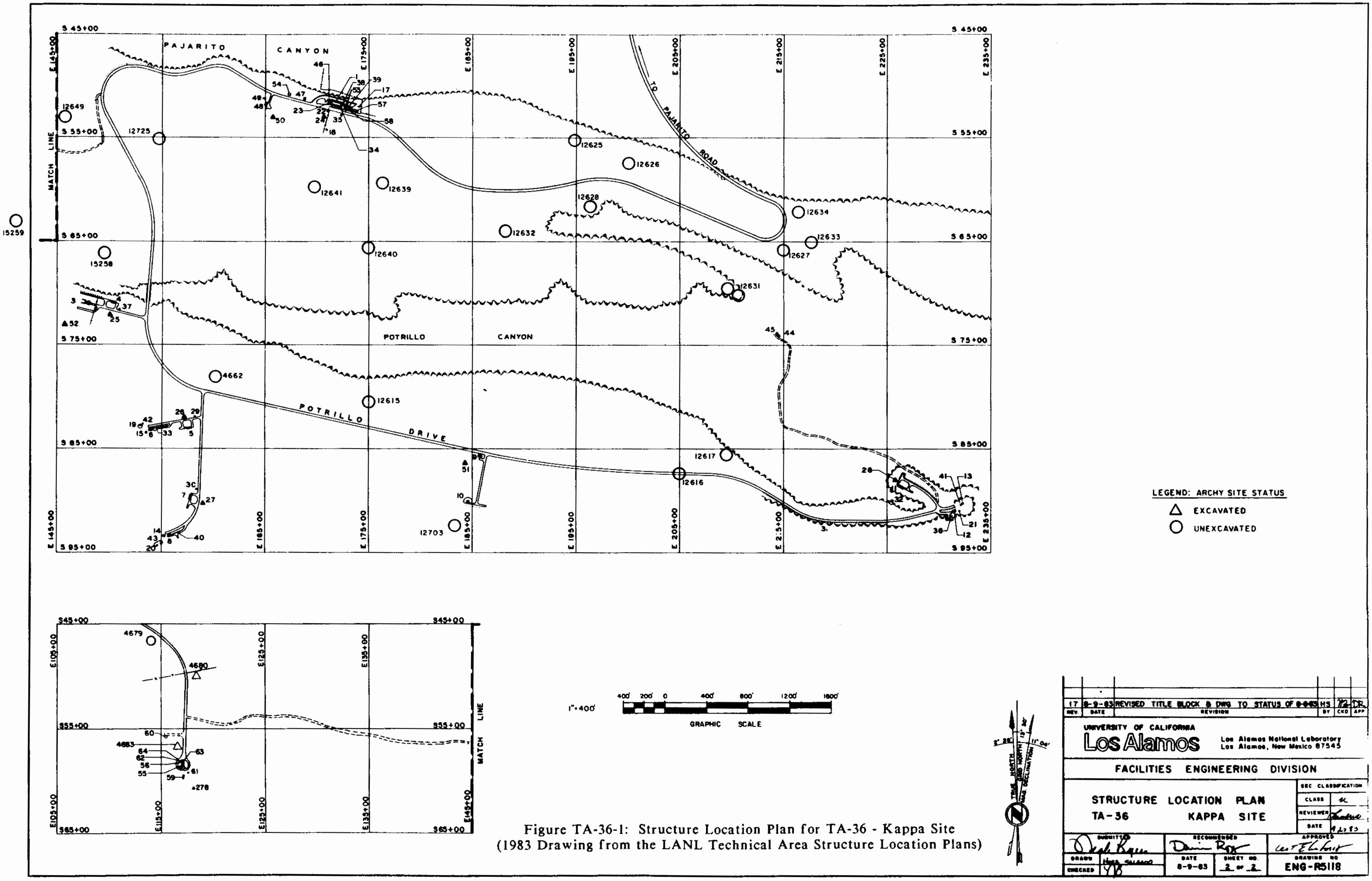

Figure TA-36-1: Structure Location Plan for TA-36 - Kappa Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-36-1	KAPPA-1	LABORATORY & OFFICE BLDG.		S 55+00 E175+00
TA-36-2	KAPPA-2		UNASSIGNED	
TA-36-3	KAPPA-3	CONTROL BUILDING		S 75+00 E145+00
TA-36-4	KAPPA-4	PREPARATION BUILDING		S 75+00 E155+00
TA-36-5	KAPPA-5	PREPARATION BUILDING		S 85+00 E155+00
TA-36-6	KAPPA-6	CONTROL BUILDING		S 85+00 E155+00
TA-36-7	KAPPA-7	PREPARATION BUILDING		S 95+00 E155+00
TA-36-8	KAPPA-8	CONTROL BUILDING		S 95+00 E155+00
TA-36-9	KAPPA-9	MAGAZINE		S 85+00 E185+00
TA-36-10	KAPPA-10	MAGAZINE		S 85+00 E185+00
TA-36-11	KAPPA-11	PREPARATION BUILDING		S 85+00 E225+00
TA-36-12	KAPPA-12	CONTROL BUILDING		S 95+00 E235+00
TA-36-13	KAPPA-13	INSTRUMENT CHAMBER		S 95+00 E235+00
TA-36-14	KAPPA-14	FIRING BOX	DOUBLE	S 95+00 E155+00
TA-36-15	KAPPA-15	FIRING BOX	DOUBLE	S 85+00 E155+00
TA-36-16	KAPPA-16		FUEL, REMOVED 1955	
TA-36-17	KAPPA-17	TANK	SEPTIC	S 55+00 E175+00
TA-36-18	KAPPA-18	TANK	WATER	S 55+00 E175+00
TA-36-19	KAPPA-19	INSTRUMENT CHAMBER		S 85+00 E155+00
TA-36-20	KAPPA-20	INSTRUMENT CHAMBER		S 95+00 E155+00
TA-36-21	KAPPA-21	FIRING BOX	DOUBLE	S 95+00 E235+00
TA-36-22	KAPPA-22	GUARD HOUSE	STATION 460	S 55+00 E175+00
TA-36-23	KAPPA-23	ANTENNA TOWER		S 55+00 E175+00
TA-36-24	KAPPA-24	TRANSFORMER STATION		S 55+00 E175+00
TA-36-25	KAPPA-25	TRANSFORMER STATION		S 75+00 E145+00
TA-36-26	KAPPA-26	TRANSFORMER STATION		S 85+00 E155+00
TA-36-27	KAPPA-27	TRANSFORMER STATION		S 95+00 E155+00
TA-36-28	KAPPA-28	TRANSFORMER STATION		S 85+00 E225+00
TA-36-29	KAPPA-29	WIGWAG		S 85+00 E155+00
TA-36-30	KAPPA-30	WIGWAG		S 85+00 E155+00
TA-36-31	KAPPA-31	WIGWAG		S 95+00 E215+00
TA-36-32	KAPPA-32	SIREN PLATFORM		S 95+00 E225+00
TA-36-33	KAPPA-33	RETAINING WALL		S 85+00 E155+00
TA-36-34	KAPPA-34	MANHOLE	WATER	S 55+00 E175+00
TA-36-35	KAPPA-35	MANHOLE	STORM DRAINAGE	S 55+00 E175+00
TA-36-36	KAPPA-36	TEST STANCHION		S 95+00 E235+00
TA-36-37	KAPPA-37	WIGWAG		S 75+00 E155+00
TA-36-38	KAPPA-38	MANHOLE	SANITARY	S 55+00 E175+00
TA-36-39	KAPPA-39	RETAINING WALL		S 55+00 E175+00
TA-36-40	KAPPA-40	RETAINING WALL		S 95+00 E155+00
TA-36-41	KAPPA-41	FIRING BOX	SINGLE	S 95+00 E235+00
TA-36-42	KAPPA-42	FIRING BOX	SINGLE	S 85+00 E155+00
TA-36-43	KAPPA-43	FIRING BOX	SINGLE	S 95+00 E155+00
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TA-36-45	KAPPA-45	STORAGE BUILDING	ABANDONED 1963	S 75+00 E215+00
TA-36-46	KAPPA-46	STORAGE BUILDING		S 55+00 E175+00
TA-36-47	KAPPA-47	STORAGE BUILDING		S 55+00 E165+00
TA-36-48	KAPPA-48	CONTROLLED ENVIRONMENT BLDG		S 55+00 E165+00
TA-36-49	KAPPA-49	SUMP PIT		S 55+00 E165+00
TA-36-50	KAPPA-50	TRANSFORMER STATION		S 55+00 E165+00
TA-36-51	KAPPA-51	TRANSFORMER STATION		S 85+00 E185+00
TA-36-52	KAPPA-52	METERING STATION		S 75+00 E145+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REVIEWER M. D. Linke

CLASS u DATE 7/28/92

NO.	DATE	REVISIONS	BY	CHKD	GRP LDR	ENG D.O.
14	4-19-77	REVISED DWG NO (FORMERLY R2464)	M.M.			
13	3-8-72	REVISED TO STATUS OF 3-8-72	DAD			
12	11-6-69	REVISED TO STATUS OF 11-6-69	DAD			
11	10-27-65	REVISED TO STATUS OF 10-7-65	ERW			
10	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R157)	H R			

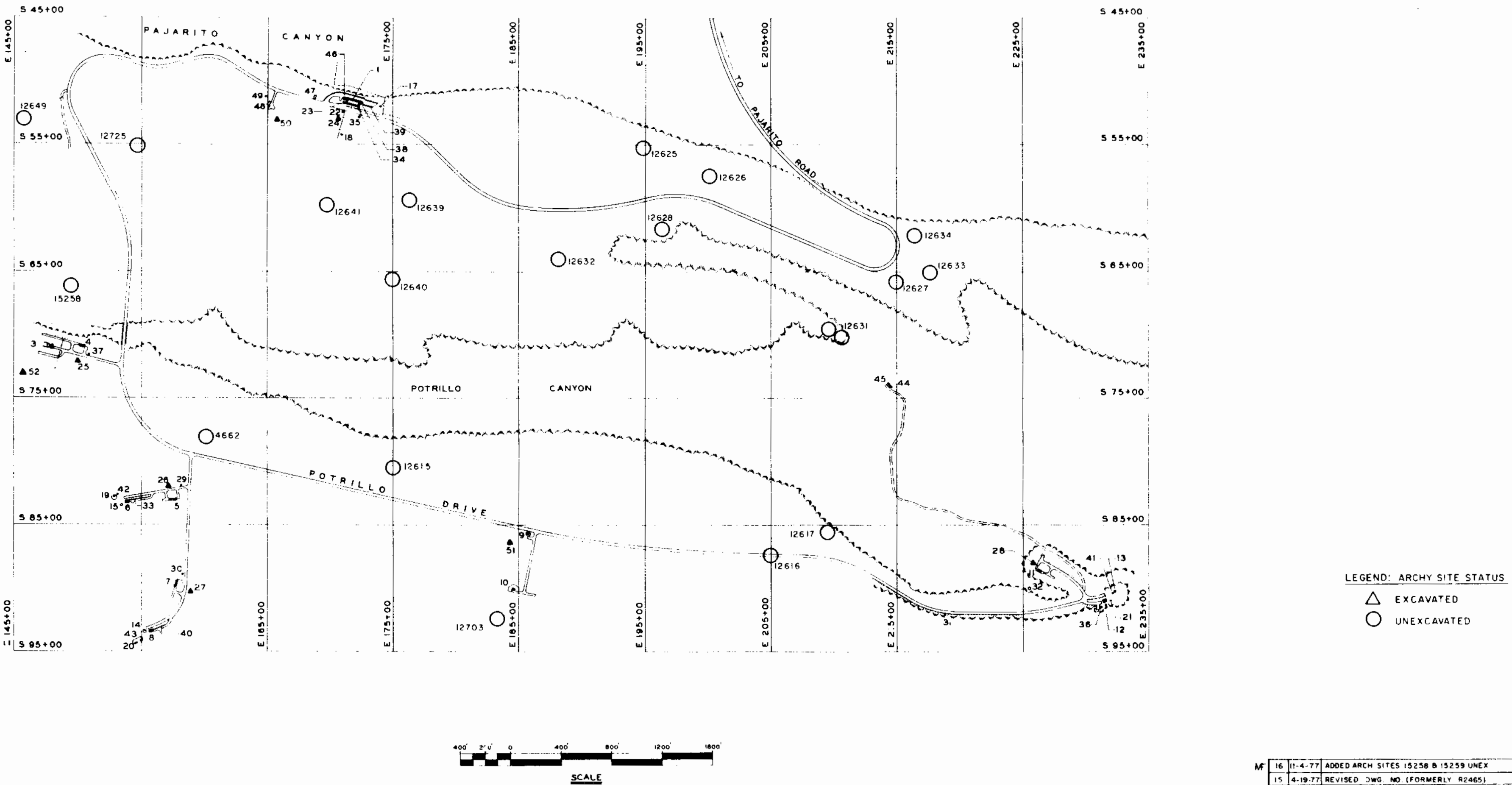
AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

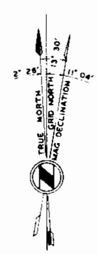
LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-36 KAPPA SITE

CHECKED PROJ. ENG.	RECOMMENDED GROUP LEADER	APPROVED ENG DEPT OFFICE
DESIGNER	DATE 8-15-61	DRAWING NO
DRAWN ROBINSON	SHEET NO 1	ENG-R 5118
SCALE NONE		

Figure TA-36-2: Structure Location Plan for TA-36 - Kappa Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)





REVIEWER ______
CLASS ______ DATE ______

Figure TA-36-2: Structure Location Plan for TA-36 - Kappa Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)

NO.	DATE	REVISIONS	BY	CHKD
16	11-4-77	ADDED ARCH SITES 15258 & 15259 UNEX	DAD	
15	4-19-77	REVISED DWG NO (FORMERLY R2465)	MM	
14	12-8-76	ADD. ARCHY SITES, REF DWGS R2442 & 2444	DAD	
13	3-8-72	REVISED TO STATUS OF 3-8-72	DAD	
12	11-6-69	REVISED TO STATUS OF 11-6-69	DAD	
11	10-27-65	REVISED TO STATUS OF 10-7-65	ERW	
10	8-15-61	REDRAWN TO STATUS OF 6-1-61 (WAS ENG-R157)	TGR	

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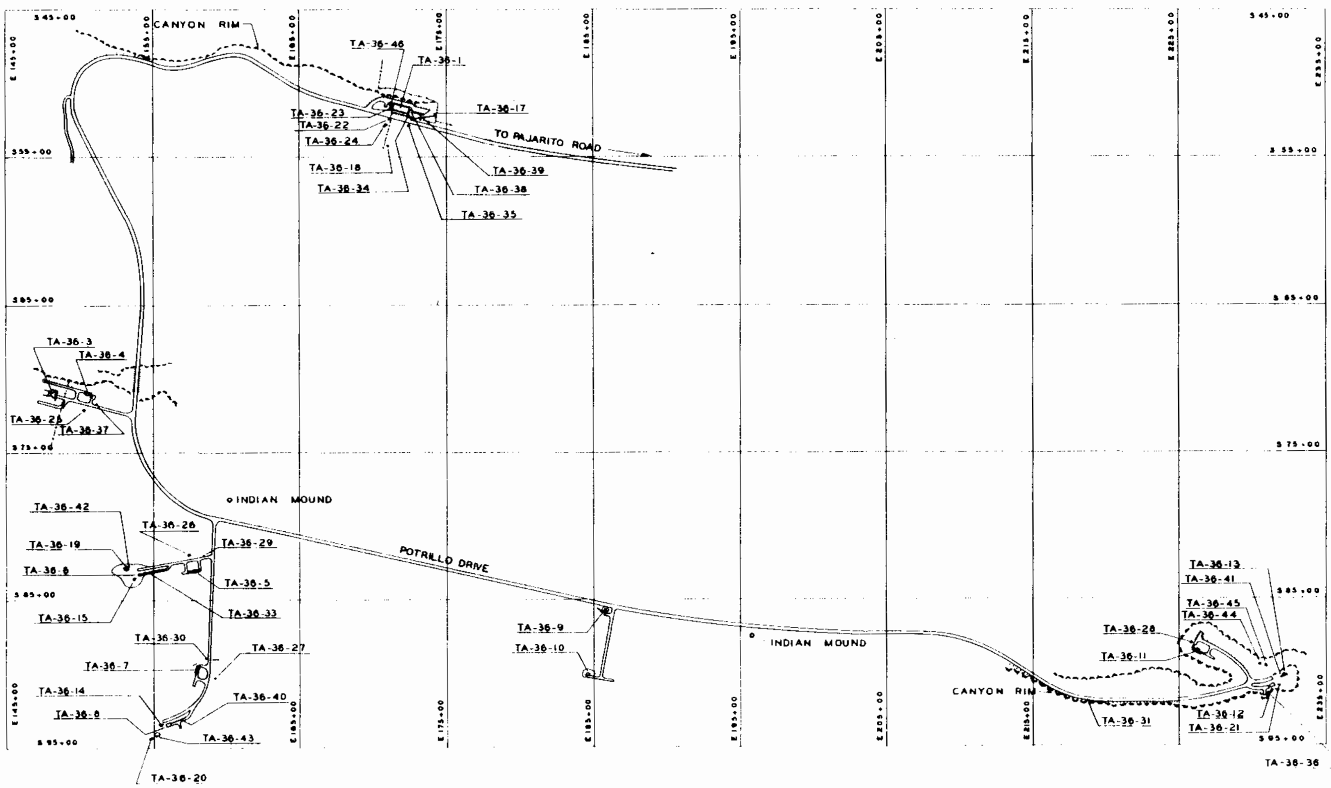
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

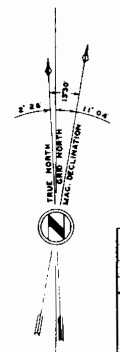
STRUCTURE LOCATION PLAN
TA-36 KAPPA SITE

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

CHECKED PROJ. ENG.	RECOMMENDED GROUP LEADER	APPROVED ENG. DEPT OFFICE
DESIGNER	DATE 6-15-61	DRAWING NO.
DRAWN T.G. ROYBAL	SHEET NO 2	ENG-R 5118
SCALE AS NOTED		

OFFICIAL USE ONLY





STRUCTURE NUMBER	DESIGNATION	REMARKS & FORMER DESIGNATION
TA-36-1	KAPPA-1	LABORATORY & OFFICE BLDG.
TA-36-2	KAPPA-2	RESERVE
TA-36-3	KAPPA-3	CONTROL BLDG.
TA-36-4	KAPPA-4	PREP BLDG.
TA-36-5	KAPPA-5	PREP BLDG
TA-36-6	KAPPA-6	CONTROL BLDG.
TA-36-7	KAPPA-7	PREP. BLDG.
TA-36-8	KAPPA-8	CONTROL BLDG
TA-36-9	KAPPA-9	MAGAZINE
TA-36-10	KAPPA-10	MAGAZINE
TA-36-11	KAPPA-11	PREP BLDG
TA-36-12	KAPPA-12	CONTROL BLDG
TA-36-13	KAPPA-13	INSTRUMENT CHAMBER
TA-36-14	KAPPA-14	FIRING BOX (DOUBLE)
TA-36-15	KAPPA-15	FIRING BOX (DOUBLE)
TA-36-16	KAPPA-16	GAS TANK (RELOCATED) NOW TA-33-111
TA-36-17	KAPPA-17	SEPTIC TANK (SANITARY)
TA-36-18	KAPPA-18	WATER TANK
TA-36-19	KAPPA-19	INSTRUMENT CHAMBER
TA-36-20	KAPPA-20	INSTRUMENT CHAMBER
TA-36-21	KAPPA-21	FIRING BOX (DOUBLE)
TA-36-22	KAPPA-22	GUARD HOUSE (STATION 460)
TA-36-23	KAPPA-23	ANTENNA TOWER
TA-36-24	KAPPA-24	TRANSFORMER STATION
TA-36-25	KAPPA-25	TRANSFORMER STATION
TA-36-26	KAPPA-26	TRANSFORMER STATION
TA-36-27	KAPPA-27	TRANSFORMER STATION
TA-36-28	KAPPA-28	TRANSFORMER STATION
TA-36-29	KAPPA-29	WIGWAG
TA-36-30	KAPPA-30	WIGWAG
TA-36-31	KAPPA-31	WIGWAG
TA-36-32	KAPPA-32	SIREN PLATFORM
TA-36-33	KAPPA-33	RETAINING WALL
TA-36-34	KAPPA-34	MANHOLE (WATER)
TA-36-35	KAPPA-35	MANHOLE (DRAINAGE)
TA-36-36	KAPPA-36	TEST STANCHION
TA-36-37	KAPPA-37	WIGWAG
TA-36-38	KAPPA-38	MANHOLE (SANITARY SEWER)
TA-36-39	KAPPA-39	RETAINING WALL
TA-36-40	KAPPA-40	RETAINING WALL
TA-36-41	KAPPA-41	FIRING BOX (SINGLE)
TA-36-42	KAPPA-42	FIRING BOX (SINGLE)
TA-36-43	KAPPA-43	FIRING BOX (SINGLE)
TA-36-44	KAPPA-44	STORAGE BLDG. (WAS R-107 AT TA-15)
TA-36-45	KAPPA-45	STORAGE BLDG. (WAS R-136 AT TA-15)
TA-36-46	KAPPA-46	STORAGE BLDG (PROPOSED)

NO.	DATE	REVISIONS	BY	CHKD	GRP. LDR.	ENG. D.O.
8	7-16-57	REVISED TO STATUS OF 7-1-57	P.R.	NB		
7	10/24/55	REDRAWN TO STATUS OF JULY 1, 1955	NOB	JAS		

AUTHORIZED FOR: HEALTH / SAFETY / FIRE PROT. / SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-36 KAPPA SITE

CHECKED: DESIGNER — RECOMMENDED: GROUP LEADER — APPROVED: ENG. DEPT. OFFICE
DRAWN: N BYERS — DATE: 10/24/55 — DRAWING NO.: ENG- R 157
SCALE: 1" = 400' — SHEET: 1 of 1

Figure TA-36-3: Structure Location Plan for TA-36 - Kappa Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

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TA-37 - MAGAZINE AREA C, PERMANENT MAGAZINE AREA

CURRENT OPERATIONS

TA-37, known as the "Permanent Magazine Area," includes 24 magazines and is the main explosives storage area for the Laboratory. Explosives are currently transported and stored in closed containers.

POTENTIAL CERCLA/RCRA SITES

Potential CERCLA/RCRA sites at TA-37 include the bunkers and a septic tank. The following table presents what is known about these sites. CEARP findings are negative for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site; therefore, an HRS Migration Mode Score is not calculated. No further action is warranted under CEARP.

FIGURES

Figure TA-37-1: Structure Location Plan for TA-37 - Magazine Area C (1983)
Figure TA-37-2: Structure Location Plan for TA-37 - Magazine Area C (1955)

REFERENCES

Voelz, George E. 1974. Los Alamos Scientific Laboratory memorandum to Herman C. Roser, DOE, July 9, 1979.

TABLE TA-37 - PERMANENT MAGAZINE AREA

TA37-1-CA-A-HW (Bunkers)

Background--TA-37 consists of 24 magazines and a storage-type building. Two small buildings at the entry to the site are noted as TA-37-1, a guard building, and TA-37-2, a trim building, in an engineering drawing from the early 1950s. It appears from the drawing that the site had been constructed by 1951. TA-37-1 is currently used to store aluminum powder, and TA-37-2 is used to store Class C explosives (i.e., squibs and electric ignitors). A careful look around the outside of the building during the 1987 CEARP field survey indicated no sumps or other types of drains that might need to be investigated for contamination.

The bunkers are used as the main storage facility for explosives at the Laboratory. In addition to high explosives, some uranium-238 has been stored as projectiles (Voelz 1979). This present use of the bunkers was confirmed during the 1987 CEARP field survey.

The bunkers are considered to be potentially contaminated with high explosive. As a safety measure, the roofs of the bunkers are designed to come off to release pressure in the event of an accidental detonation, thus minimizing the hazard to surrounding areas.

There is no indication of residual environmental contamination of concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted. The active bunkers are covered by routine LANL operations.

TA37-2-ST-A-SW (Septic tank)

Background--The site has a septic tank, TA-37-28, which was observed in the 1987 CEARP field survey. Drawings refer to the building as an office or guard house, so the possibility of contamination from high explosive is very small. There is no indication of residual environmental contamination of concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted. The active septic tank is covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-37-1	MAC-1	OFFICE BUILDING		S70+00 E30+00
TA-37-2	MAC-2	TRIM BLDG		S70+00 E35+00
TA-37-3	MAC-3	MAGAZINE	FORMERLY 301	S70+00 E35+00
TA-37-4	MAC-4	MAGAZINE	FORMERLY 302	S70+00 E40+00
TA-37-5	MAC-5	MAGAZINE	FORMERLY 303	S70+00 E40+00
TA-37-6	MAC-6	MAGAZINE	FORMERLY 304	S75+00 E40+00
TA-37-7	MAC-7	MAGAZINE	FORMERLY 305	S75+00 E45+00
TA-37-8	MAC-8	MAGAZINE	FORMERLY 306	S75+00 E45+00
TA-37-9	MAC-9	MAGAZINE	FORMERLY 307	S75+00 E45+00
TA-37-10	MAC-10	MAGAZINE	FORMERLY 308	S75+00 E50+00
TA-37-11	MAC-11	MAGAZINE	FORMERLY 701	S75+00 E50+00
TA-37-12	MAC-12	MAGAZINE	FORMERLY 702	S75+00 E50+00
TA-37-13	MAC-13	MAGAZINE	FORMERLY 703	S75+00 E55+00
TA-37-14	MAC-14	MAGAZINE	FORMERLY 704	S75+00 E55+00
TA-37-15	MAC-15	MAGAZINE	FORMERLY 501	S75+00 E35+00
TA-37-16	MAC-16	MAGAZINE	FORMERLY 502	S75+00 E40+00
TA-37-17	MAC-17	MAGAZINE	FORMERLY 503	S75+00 E40+00
TA-37-18	MAC-18	MAGAZINE	FORMERLY 504	S80+00 E45+00
TA-37-19	MAC-19	MAGAZINE	FORMERLY 505	S80+00 E45+00
TA-37-20	MAC-20	MAGAZINE	FORMERLY 506	S80+00 E50+00
TA-37-21	MAC-21	MAGAZINE	FORMERLY 507	S80+00 E50+00
TA-37-22	MAC-22	MAGAZINE	FORMERLY 508	S80+00 E50+00
TA-37-23	MAC-23	MAGAZINE	FORMERLY 509	S80+00 E55+00
TA-37-24	MAC-24	MAGAZINE	FORMERLY 510	S80+00 E55+00
TA-37-25	MAC-25	MAGAZINE	FORMERLY 511	S80+00 E60+00
TA-37-26	MAC-26	MAGAZINE	FORMERLY 512	S80+00 E60+00
TA-37-27	MAC-27	STORAGE BUILDING		S75+00 E35+00
TA-37-28	MAC-28	TANK	SEPTIC	S70+00 E30+00
TA-37-29	MAC-29	TANK	WATER-UNDERGROUND	S70+00 E30+00
TA-37-30	MAC-30	MANHOLE	SANITARY	S70+00 E30+00
TA-37-31	MAC-31	TRANSFORMER STATION		S80+00 E55+00
TA-37-32	MAC-32	TRANSFORMER STATION		S75+00 E45+00
TA-37-33	MAC-33	TRANSFORMER STATION		S70+00 E30+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV.	DATE	REVISION	BY	CKD	APP
15	8-18-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-27-83	HS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-37 MAGAZINE AREA-C

SEC CLASSIFICATION
CLASS u
REVIEWER
DATE

SUBMITTED
RECOMMENDED
APPROVED W. T. E
DRAWN HERB SALGADO
CHECKED
DATE 8-18-83
SHEET NO 1 of 2
DRAWING NO ENG-R5119

Figure TA-37-1: Structure Location Plan for TA-37 - Magazine Area-C
(1983 Drawing from the LANL Technical Area Structure Location Plans)

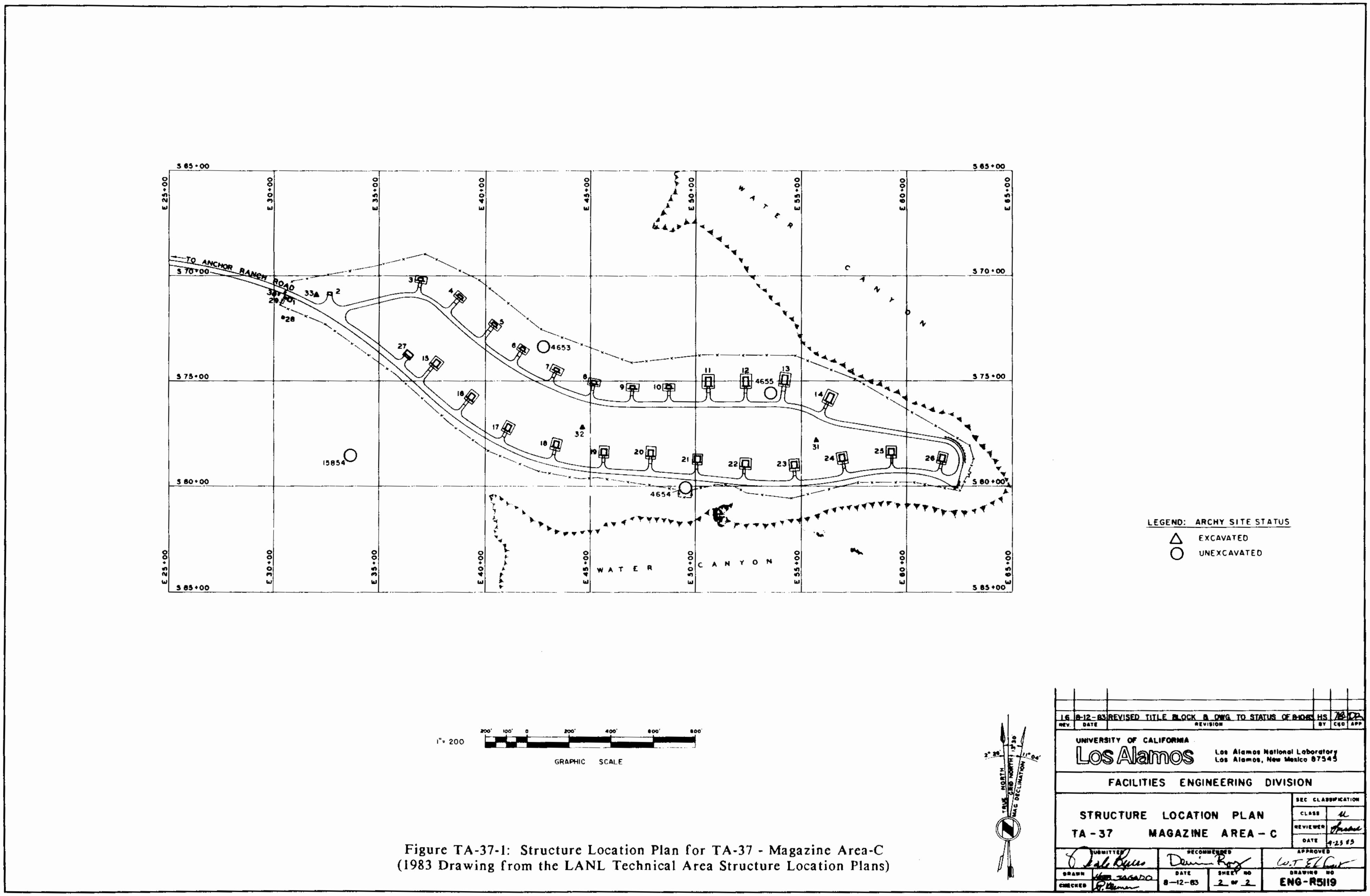

Figure TA-37-1: Structure Location Plan for TA-37 - Magazine Area-C
(1983 Drawing from the LANL Technical Area Structure Location Plans)

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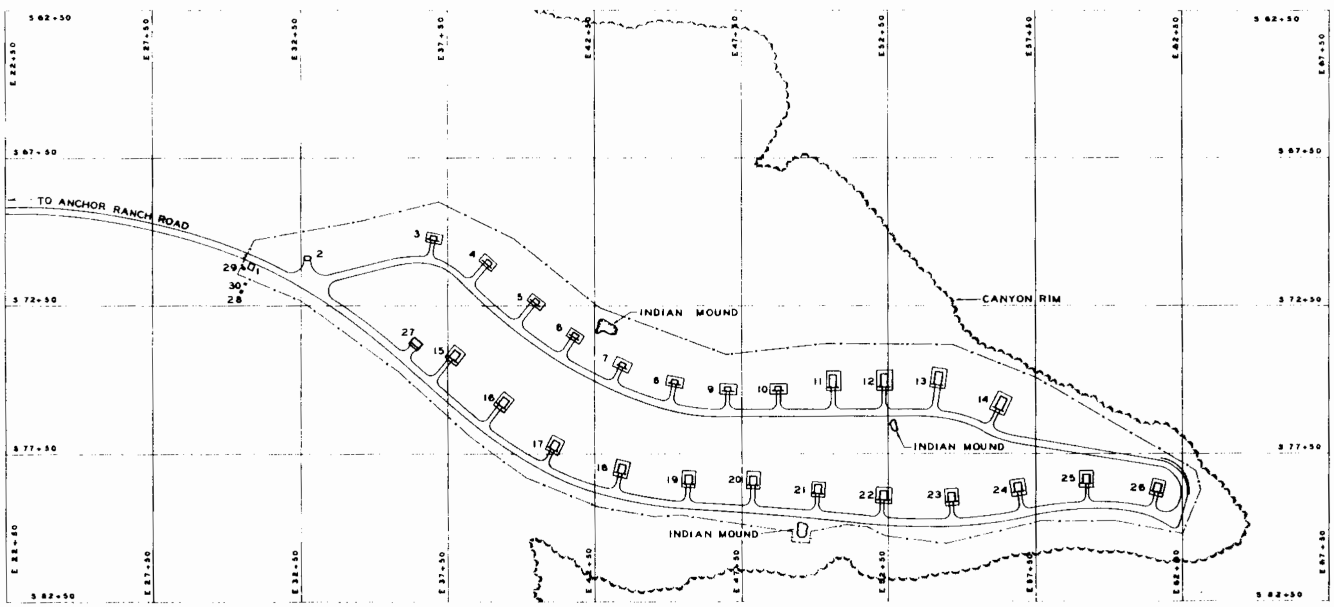
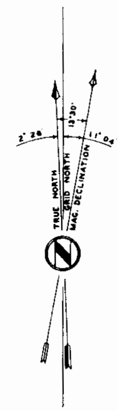
STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-37-1	MAC - 1	GUARD BUILDING (ABANDONED)
TA-37-2	MAC - 2	TRIM BUILDING
TA-37-3	MAC - 3	MAGAZINE (FORMERLY 301)
TA-37-4	MAC - 4	MAGAZINE (FORMERLY 302)
TA-37-5	MAC - 5	MAGAZINE (FORMERLY 303)
TA-37-6	MAC - 6	MAGAZINE (FORMERLY 304)
TA-37-7	MAC - 7	MAGAZINE (FORMERLY 305)
TA-37-8	MAC - 8	MAGAZINE (FORMERLY 306)
TA-37-9	MAC - 9	MAGAZINE (FORMERLY 307)
TA-37-10	MAC - 10	MAGAZINE (FORMERLY 308)
TA-37-11	MAC - 11	MAGAZINE (FORMERLY 701)
TA-37-12	MAC - 12	MAGAZINE (FORMERLY 702)
TA-37-13	MAC - 13	MAGAZINE (FORMERLY 703)
TA-37-14	MAC - 14	MAGAZINE (FORMERLY 704)
TA-37-15	MAC - 15	MAGAZINE (FORMERLY 501)
TA-37-16	MAC - 16	MAGAZINE (FORMERLY 502)
TA-37-17	MAC - 17	MAGAZINE (FORMERLY 503)
TA-37-18	MAC - 18	MAGAZINE (FORMERLY 504)
TA-37-19	MAC - 19	MAGAZINE (FORMERLY 505)
TA-37-20	MAC - 20	MAGAZINE (FORMERLY 506)
TA-37-21	MAC - 21	MAGAZINE (FORMERLY 507)
TA-37-22	MAC - 22	MAGAZINE (FORMERLY 508)
TA-37-23	MAC - 23	MAGAZINE (FORMERLY 509)
TA-37-24	MAC - 24	MAGAZINE (FORMERLY 510)
TA-37-25	MAC - 25	MAGAZINE (FORMERLY 511)
TA-37-26	MAC - 26	MAGAZINE (FORMERLY 512)
TA-37-27	MAC - 27	STORAGE BUILDING
TA-37-28	MAC - 28	SEPTIC TANK (SANITARY)
TA-37-29	MAC - 29	WATER TANK
TA-37-30	MAC - 30	MANHOLE (SEWER)





NO.	DATE	REVISIONS	BY	CHKD
8	7-17-57	REVISED TO STATUS OF 7-1-57	P R JAS	
7	11/10/55	REDRAWN TO STATUS OF JULY 1, 1955	NOB JAS	

AUTHORIZED FOR: HEALTH / SAFETY / FIRE PROT. / SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA - 37 MAGAZINE AREA - C

CHECKED J. A. Sizer DESIGNER — RECOMMENDED S E Kuehn GROUP LEADER — APPROVED ENG. DEPT. OFFICE
DRAWN N BYERS — DATE 11/10/55 — DRAWING NO. ENG- R 158
SCALE 1" = 200' — SHEET 1 OF 1

Figure TA-37-2: Structure Location Plan for TA-37 - Magazine Area-C
(1955 Drawing from the LANL Technical Area Structure Location Plans)

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TABLE TA-38 - MONTEREY SITE

CURRENT OPERATIONS

Plans for this area were cancelled, and the area number has never been used.

POTENTIAL CERLCA/RCRA SITES

Potential CERCLA/RCRA sites do not exist and no further action is warranted.

TA-39 - ANCHO CANYON SITE

CURRENT OPERATIONS

TA-39 was first occupied in 1953 as a remote high-explosives firing site for the Shock Wave Physics Group (current designation M-6). The site has been continuously occupied by this group since then. The site consists of five firing points (the four presently active are numbered 6, 8, 57, and 88) for open-air detonation of explosive systems; a facility with several low-velocity guns, one of which has fired projectiles into a canyon wall; and a high-velocity gas gun facility where all work is performed inside a building. Experiments conducted within this site use high explosives or guns to move metals to high velocity. Types of experiments have involved equations of state, shock wave phenomena, development of implosion systems, development and application of explosively produced pulses of electrical power, and production of high magnetic fields.

Typical shots at the firing points involve 10 to 100 lb of explosives fired on a wooden table or over a plastic container full of water. In the rare event that a shot does not detonate properly, the scattered pieces of high explosives are picked up immediately. Gravel displaced by shots is replenished from stockpiles kept onsite. The firing pads are smoothed over with a small tractor.

POTENTIAL CERCLA/RCRA SITES

TA-39 has been and still is used as a firing site. Facilities associated with operations include firing chambers, magazines, a gun building, and firing points. Materials used here have included beryllium, mercury, aluminum, copper, brass, iron, lead, thallium, cadmium, chromium, thorium, and high explosives. Wastes were buried in pits onsite. Past problems with the septic system could have allowed chemicals and solvents to discharge into a canyon.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the

CEARP Phase IIA Monitoring Plan for TA-39. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-39 is 12.8 (Appendix B).

FIGURES

Figure TA-39-1: Structure Location Plan for TA-39 - Ancho Canyon Site (1983)
Figure TA-39-2: Structure Location Plan for TA-39 - Ancho Canyon Site (1961)
Figure TA-39-3: Structure Location Plan for TA-39 - Ancho Canyon Site (1955)

REFERENCES

Atomic Energy Commission. 1973. "Environmental Assessment for AEC/ALO Project No. 19, Improve Septic Tank Systems, LASL Tech Areas," Los Alamos Scientific Laboratory document, June 7, 1973.

Garde, Ray. 1972. "Discharge of Poisons to Sanitary Sewer," Los Alamos Scientific Laboratory memorandum to Roy D. Stone, November 28, 1972.

GMX-6. 1962. Inspection Sheet, Los Alamos Scientific Laboratory document, April 26, 1962.

GMX-6. 1965. Inspection Sheet, Los Alamos Scientific Laboratory document, March 15, 1965.

GMX-6. 1967. Inspection Sheet, Los Alamos Scientific Laboratory document, March 15, 1967.

Harper, J. D. 1966. "GMX-6 Safety Committee Meeting," Los Alamos Scientific Laboratory memorandum, July 28, 1966.

Harper, J. D. 1967. "GMX-6 Safety Committee Meeting," Los Alamos Scientific Laboratory memorandum, March 16, 1967.

Hopson, John. 1977. "Removal of Structure No. TA-39-55," Los Alamos Scientific Laboratory memorandum to M. Linke, April 22, 1977.

LANL. 1986. "Newsbulletin," Vol. 6, No. 1, Los Alamos National Laboratory, January 10, 1986, p. 1.

LASL. 1969. "H-5 Sample Data Sheet," Los Alamos Scientific Laboratory, July 24, 1969.

Montoya, J. B. 1977. "Disposition of Incinerator AC-55, TA-39," Los Alamos Scientific Laboratory memorandum to Harry F. Althaus, August 3, 1977.

Pan Am World Services, Inc. 1986. "Septic Tank Report," Los Alamos, NM, February 26, 1986.

Stoker, Alan. 1977. Note to Lamar Johnson, in CEARP files at Los Alamos Scientific Laboratory, September 29, 1977.

TABLE TA-39 - POTENTIAL CERCLA/RCRA SITES

TA39-1-CA-I/A-HW/RW (Firing sites, including scrap shots)

Background--TA-39 was built in the early 1950s as a remote firing site. In the 1950s, it consisted of three firing chambers, TA-39-6, -7, and -8, a laboratory and office building, TA-39-2, trim building, TA-39-4, and magazines, TA-39-3 and -5, according to LASL engineering drawing ENG-R161. By the 1980s, a gun building, TA-39-56, firing chamber, TA-39-57, capacitor bank enclosure, TA-39-67, gas gun, TA-39-69, magazine, TA-39-77, firing point, TA-39-88, and gun building, TA-39-89, had been added, according to engineering drawing ENG-R5120. Firing point 88 is rated for shots containing up to 2,000 lb of high explosive (LANL 1986:1).

During the 1986 CEARP field survey, it was observed that firing chambers 7 and 8 are now inactive, whereas 6, 57, and 88 are being used as open-air detonation sites, and 56 is used for the enclosed light gas gun.

The CEARP field survey information and CEARP files indicate that materials used in the firing experiments have included beryllium, mercury, aluminum, copper, brass, iron, lead, and stainless steel. Thallium, cadmium, chromium, thorium, and natural and depleted uranium have been included in shots. The DOE Onsite Discharge Information system (run date July 12, 1982) indicates that the decayed inventory as of December 1981 for the Ancho Canyon firing points was 0.126 Ci of natural uranium and 2.605 Ci of uranium-238.

Gravel displaced by open shots is replenished from stockpiles kept on the site. Pieces of high explosive that do not detonate are picked up and then fired in a scrap shot at TA-39-57. After a shot, a small tractor resmooths the pads. No data on the extent of high-explosive contamination in surrounding soils were found.

Point 57 appears to have been very active in the firing of beryllium (Harper 1966, 1967). In 1957, soil samples taken at point 8 indicated a maximum of 1.0 micrograms beryllium/gram of soil and point 7 indicated a maximum of 0.8 micrograms beryllium/gram of soil. Measurements made in the interior of the berm used for air gun projectiles at building 6 indicated measurable quantities of beryllium (LASL 1969). Mention was made that an air gun using beryllium in aluminum was fired into a tuff cliff. The projectiles were expected to be buried in the cliff (GMX-6 1962).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The inactive firing sites will be investigated during supplemental CEARP Phase I. The active firing sites are covered by routine LANL operations.

TA39-2-L-I/A-HW/RW (Landfills)

Background--Waste disposal over the years was observed during the 1986 CEARP field survey to have been in at least four pits, three of which are inactive and covered. The first two are in the vicinity of TA-39-69, and the building covers a small portion of one. A volleyball and basketball court covers part of the other. The third pit is Material Disposal Area Y (see the Material Disposal Areas section).

In past years, packing boxes, laboratory benches and shelves, debris from firing sites, and general trash have been placed in the pits. One note suggests that some of the chemicals from when the site was cleaned up went into the pit that was active at that time (GMX-6 1962).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental CEARP Phase I activities, additional information will be gathered on the inactive (prior to November 1980) disposal areas. The post-November 1980 landfills (i.e., Material Disposal Area Y) are covered by routine LANL operations (see Material Disposal Area Y).

TA39-3-CA/ST-I/A-RW/HW (Septic tank)

Background--The only septic tank shown on engineering drawings at TA-39 is tank 12, which serves building 2. In 1972, the tank was found to be not functioning properly. The problem was thought to be caused by solutions from the developing process being discharged from building 2 acting as poisons and interfering with the sewage digestion in the tank. It was reported that Group H-3 had agreed to pick up these solutions and to dispose of them in the chemical disposal area (Garde 1972).

Because there is no acid drain in building 1, small quantities of other chemicals and solvents may also have been discharged. Engineering drawing ENG-R1437 shows the septic tank overflow discharging to a sand filter, which in turn discharges to the canyon.

In 1973, the septic system was daylighting (reaching the surface of the ground) and a new subsurface sand filter was proposed (Atomic Energy Commission 1973). The sand filter was rebuilt and returned to service in October 1985, and service is reported to be adequate (Pan Am 1986:6).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Areas potentially contaminated from past discharges will be investigated during supplemental CEARP Phase I. The active septic tank is covered by routine LANL operations.

TA-39-4-CA-A-HW (Contaminated ducts)

Background--The shop at TA-39 has worked on erbium, lithium, lanthanum, cerium, yttrium, gadolinium, dysprosium, neodynium, samarium, terbium, and plastics, according to information in the CEARP files. Silver soldering was also done, and there were spray and welding booths.

A mercury spill occurred in building 1 (GMX-6 1967). Another spill, probably in the same building, was reported in 1965 (GMX-6 1965). Both of these spills were small.

Possible residues remaining in the ducts of the building, the drains, etc., are not known. Possible high-explosive residues in the trim building and magazine are also unknown.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active facilities are covered by routine LANL operations.

TA39-5-IN-I-SW (Incinerator)

Background--From approximately 1955 into the 1960s, waste was burned in an incinerator, TA-39-55, located southeast of TA-39-2. It is possible that on a few occasions magnesium shavings were burned. The incinerator was removed in 1977. Its final fate is not known (Montoya 1977; Stoker 1977; Hopson 1977). There is no indication of residual environmental contamination in the area of former incinerator operations.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

TA39-6-CA-A-HW (Capacitor banks)

Background--Two capacitor complexes exist: TA-39-67 and a complex for point 88. A 1966 memo mentioned possible diphenyl fumes from the capacitors, but whether this implied that leakage may have occurred is not known (Harper 1966).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The capacitor banks are covered by routine LANL operations.

TA39-7-CA-A-HW (Scrap storage)

Background--Building TA-39-4 is used for short-term storage of small quantities of scrap high explosive. This building has residual high-explosive contamination.

CERCLA Finding--Negative for FFSDIF, PA, and PI.

Planned Future Action--No further action is warranted under CEARP. TA-39-4 is covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-39-1	AC-1		UNASSIGNED	
TA-39-2	AC-2	LABORATORY & OFFICE BLDG.		S225+00 E240+00
TA-39-3	AC-3	MAIN MAGAZINE		S205+00 E240+00
TA-39-4	AC-4	TRIM BUILDING		S205+00 E240+00
TA-39-5	AC-5	READY MAGAZINE		S205+00 E230+00
TA-39-6	AC-6	FIRING CHAMBER NO.1		S185+00 E200+00
TA-39-7	AC-7	FIRING CHAMBER NO.2		S155+00 E190+00
TA-39-8	AC-8	FIRING CHAMBER NO.3		S155+00 E180+00
TA-39-9	AC-9	HOSE HOUSE		S225+00 E240+00
TA-39-10	AC-10	HOSE HOUSE		S235+00 E250+00
TA-39-11	AC-11		REMOVED 1963	
TA-39-12	AC-12	TANK	SEPTIC	S235+00 E250+00
TA-39-13	AC-13	BARRICADE		S155+00 E190+00
TA-39-14	AC-14	BARRICADE		S195+00 E210+00
TA-39-15	AC-15	BARRICADE		S155+00 E190+00
TA-39-16	AC-16	WIGWAG		S195+00 E220+00
TA-39-17	AC-17		REMOVED 1968	
TA-39-18	AC-18	SIREN		S185+00 E200+00
TA-39-19	AC-19	SIREN		S195+00 E210+00
TA-39-20	AC-20	ROAD BLOCK		S225+00 E250+00
TA-39-21	AC-21	TRANSFORMER STATION		S235+00 E240+00
TA-39-22	AC-22	MANHOLE	WATER	S235+00 E240+00
TA-39-23	AC-23	MANHOLE	ELECTRICAL	S195+00 E220+00
TA-39-24	AC-24	MANHOLE	ELECTRICAL	S195+00 E220+00
TA-39-25	AC-25	MANHOLE	ELECTRICAL	S195+00 E220+00
TA-39-26	AC-26	MANHOLE	ELECTRICAL	S195+00 E210+00
TA-39-27	AC-27	MANHOLE	ELECTRICAL	S195+00 E210+00
TA-39-28	AC-28	MANHOLE	ELECTRICAL	S195+00 E210+00
TA-39-29	AC-29	MANHOLE	ELECTRICAL	S195+00 E210+00
TA-39-30	AC-30	MANHOLE	ELECTRICAL	S185+00 E210+00
TA-39-31	AC-31	MANHOLE	ELECTRICAL	S185+00 E210+00
TA-39-32	AC-32	MANHOLE	ELECTRICAL	S185+00 E210+00
TA-39-33	AC-33	MANHOLE	ELECTRICAL	S185+00 E200+00
TA-39-34	AC-34	MANHOLE	ELECTRICAL	S185+00 E200+00
TA-39-35	AC-35	MANHOLE	ELECTRICAL	S185+00 E200+00
TA-39-36	AC-36	MANHOLE	ELECTRICAL	S185+00 E200+00
TA-39-37	AC-37	MANHOLE	ELECTRICAL	S155+00 E190+00
TA-39-38	AC-38	MANHOLE	ELECTRICAL	S155+00 E190+00
TA-39-39	AC-39	MANHOLE	ELECTRICAL	S155+00 E190+00
TA-39-40	AC-40	MANHOLE	ELECTRICAL	S155+00 E190+00
TA-39-41	AC-41	MANHOLE	STORM DRAINAGE	S225+00 E250+00
TA-39-42	AC-42	MANHOLE	STORM DRAINAGE	S205+00 E240+00
TA-39-43	AC-43	MANHOLE	STORM DRAINAGE	S205+00 E240+00
TA-39-44	AC-44	MANHOLE	STORM DRAINAGE	S205+00 E230+00
TA-39-45	AC-45	MANHOLE	STORM DRAINAGE	S155+00 E190+00
TA-39-46	AC-46	BOX CULVERT		S185+00 E200+00
TA-39-47	AC-47	BOX CULVERT	INCORP. WITH AC-46	
TA-39-48	AC-48	BOX CULVERT		S195+00 E210+00
TA-39-49	AC-49	BOX CULVERT	INCORP. WITH AC-48	
TA-39-50	AC-50	BOX CULVERT		S205+00 E230+00
TA-39-51	AC-51	BOX CULVERT	INCORP. WITH AC-50	
TA-39-52	AC-52	BOX CULVERT		S205+00 E240+00
TA-39-53	AC-53	BOX CULVERT	INCORP. WITH AC-52	
TA-39-54	AC-54	MAGAZINE		S185+00 E210+00
TA-39-55	AC-55	INCINERATOR	REMOVED 1977	
TA-39-56	AC-56	GUN BUILDING		S185+00 E210+00
TA-39-57	AC-57	FIRING CHAMBER		S155+00 E190+00
TA-39-58	AC-58	ROAD BLOCK		S205+00 E230+00
TA-39-59	AC-59		REMOVED 1968	
TA-39-60	AC-60	RETAINING WALL		S155+00 E190+00
TA-39-61	AC-61	ROAD BLOCK	FORMERLY TA-33-115	S195+00 E220+00
TA-39-62	AC-62	STORAGE BUILDING		S225+00 E240+00
TA-39-63	AC-63	EQUIPMENT SHELTER		S195+00 E210+00
TA-39-64	AC-64	EQUIPMENT SHELTER		S185+00 E210+00
TA-39-65	AC-65	SIREN		S185+00 E210+00
TA-39-66	AC-66	BARRICADE		S155+00 E190+00
TA-39-67	AC-67	CAPACITOR BANK ENCLOSURE		S185+00 E200+00
TA-39-68	AC-68	STORAGE BUILDING		S205+00 E240+00
TA-39-69	AC-69	LIGHT, GAS GUN FACILITY		S215+00 E240+00
TA-39-70	AC-70	JIB CRANE		S185+00 E210+00
TA-39-71	AC-71	TRANSFORMER STATION		S185+00 E210+00
TA-39-72	AC-72	TRANSFORMER STATION		S205+00 E230+00
TA-39-73	AC-73	BARRICADE		S155+00 E190+00
TA-39-74	AC-74	SAFETY GATE		S175+00 E210+00
TA-39-75	AC-75	TRANSFORMER STATION		S215+00 E240+00
TA-39-76	AC-76	TRANSFORMER STATION		S215+00 E240+00
TA-39-77	AC-77	MAGAZINE		S205+00 E240+00
TA-39-78	AC-78	PULL-BOX		S155+00 E190+00
TA-39-79	AC-79	PULL-BOX		S155+00 E190+00
TA-39-80	AC-80	PULL-BOX		S155+00 E190+00
TA-39-81	AC-81		CANCELLED	
TA-39-82	AC-82		CANCELLED	
TA-39-83	AC-83		CANCELLED	
TA-39-84	AC-84	TRANSFORMER STATION		S205+00 E240+00
TA-39-88	AC-88	FIRING POINT		S165+00 E190+00
TA-39-89	AC-89	GUN BUILDING		S225+00 E250+00
TA-39-92	AC-92	PULL BOX, TELEPHONE		S155+00 E190+00
TA-39-93	AC-93	PULL BOX, ELECTRICAL		S155+00 E190+00
TA-39-100	AC-100	TRANSPORTABLE OFFICE BLDG		S250+00 E235+00
TA-39-101	AC-101	TRAILER, LABORATORY	FORMERLY TA-0-513	S225+00 E250+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV.	DATE	REVISION	BY	CKD	APP
14	9-22-83	REVISED TITLE BLOCK AND DWG. TO STATUS OF 8-1-83	VM	XB	DP

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-39 ANCHO CANYON SITE

SEC CLASSIFICATION
CLASS u
REVIEWER
DATE 10-28-83

SUBMITTED | RECOMMENDED | APPROVED W.T. El...

DRAWN | CHECKED XB | DATE 9-22-83 | SHEET NO 1 OF 2 | DRAWING NO ENG-R5120

Figure TA-39-1: Structure Location Plan for TA-39 - Ancho Canyon Site (1983 Drawing from the LANL Technical Area Structure Location Plans)

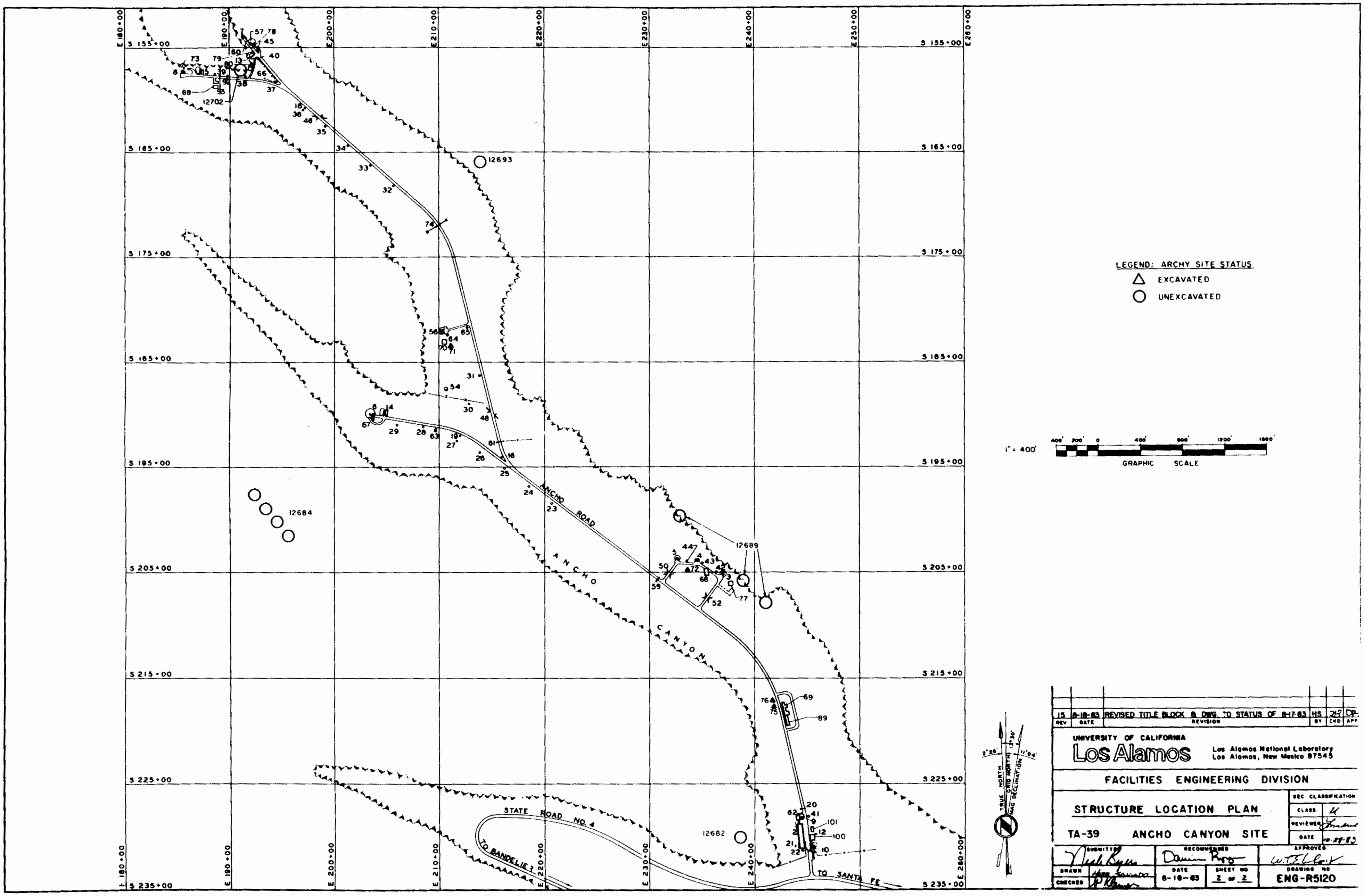

Figure TA-39-1: Structure Location Plan for TA-39 - Ancho Canyon Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-39-1	AC-1		UNASSIGNED	
TA-39-2	AC-2	LABORATORY & OFFICE BLDG.		S225+00 E240+00
TA-39-3	AC-3	MAIN MAGAZINE		S205+00 E240+00
TA-39-4	AC-4	TRIM BUILDING		S205+00 E240+00
TA-39-5	AC-5	READY MAGAZINE		S205+00 E230+00
TA-39-6	AC-6	FIRING CHAMBER NO.1		S185+00 E200+00
TA-39-7	AC-7	FIRING CHAMBER NO.2		S155+00 E190+00
TA-39-8	AC-8	FIRING CHAMBER NO.3		S155+00 E180+00
TA-39-9	AC-9	HOSE HOUSE		S225+00 E240+00
TA-39-10	AC-10	HOSE HOUSE		S235+00 E250+00
TA-39-11	AC-11		REMOVED 1963	
TA-39-12	AC-12	TANK	SEPTIC	S235+00 E250+00
TA-39-13	AC-13	BARRICADE		S155+00 E190+00
TA-39-14	AC-14	BARRICADE		S185+00 E210+00
TA-39-15	AC-15	BARRICADE		S155+00 E190+00
TA-39-16	AC-16	WIGWAG		S195+00 E220+00
TA-39-17	AC-17		REMOVED 1968	
TA-39-18	AC-18	SIREN		S165+00 E200+00
TA-39-19	AC 19	SIREN		S195+00 E210+00
TA-39-20	AC-20	ROAD BLOCK		S225+00 E250+00
TA-39-21	AC-21	TRANSFORMER STATION		S235+00 E240+00
TA-39-22	AC-22	MANHOLE	WATER	S235+00 E240+00
TA-39-23	AC-23	MANHOLE	ELECTRICAL	S195+00 E220+00
TA-39-24	AC-24	MANHOLE	ELECTRICAL	S195+00 E220+00
TA-39-25	AC-25	MANHOLE	ELECTRICAL	S195+00 E220+00
TA-39-26	AC-26	MANHOLE	ELECTRICAL	S195+00 E210+00
TA-39-27	AC-27	MANHOLE	ELECTRICAL	S195+00 E210+00
TA-39-28	AC-28	MANHOLE	ELECTRICAL	S195+00 E210+00
TA-39-29	AC-29	MANHOLE	ELECTRICAL	S195+00 E210+00
TA-39-30	AC-30	MANHOLE	ELECTRICAL	S185+00 E210+00
TA-39-31	AC-31	MANHOLE	ELECTRICAL	S185+00 E210+00
TA-39-32	AC-32	MANHOLE	ELECTRICAL	S165+00 E210+00
TA-39-33	AC-33	MANHOLE	ELECTRICAL	S165+00 E200+00
TA-39-34	AC-34	MANHOLE	ELECTRICAL	S165+00 E200+00
TA-39-35	AC-35	MANHOLE	ELECTRICAL	S165+00 E200+00
TA-39-36	AC-36	MANHOLE	ELECTRICAL	S165+00 E200+00
TA-39-37	AC-37	MANHOLE	ELECTRICAL	S155+00 E190+00
TA-39-38	AC-38	MANHOLE	ELECTRICAL	S155+00 E190+00
TA 39-39	AC-39	MANHOLE	ELECTRICAL	S155+00 E190+00
TA-39-40	AC-40	MANHOLE	ELECTRICAL	S155+00 E190+00
TA-39-41	AC-41	MANHOLE	STORM DRAINAGE	S225+00 E250+00
TA-39-42	AC-42	MANHOLE	STORM DRAINAGE	S205+00 E240+00
TA-39-43	AC-43	MANHOLE	STORM DRAINAGE	S205+00 E240+00
TA-39-44	AC-44	MANHOLE	STORM DRAINAGE	S205+00 E230+00
TA-39-45	AC-45	MANHOLE	STORM DRAINAGE	S155+00 E190+00
TA-39-46	AC-46	BOX CULVERT		S165+00 E200+00
TA-39-47	AC-47	BOX CULVERT	INCORP. WITH AC-46	
TA-39-48	AC-48	BOX CULVERT		S195+00 E210+00
TA-39-49	AC-49	BOX CULVERT	INCORP. WITH AC-48	
TA-39-50	AC-50	BOX CULVERT		S205+00 E230+00
TA-39-51	AC-51	BOX CULVERT	INCORP. WITH AC-50	
TA-39-52	AC-52	BOX CULVERT		S205+00 E240+00
TA-39-53	AC-53	BOX CULVERT	INCORP. WITH AC-52	
TA-39-54	AC-54	MAGAZINE		S185+00 E210+00
TA-39-55	AC-55	INCINERATOR		S235+00 E240+00
TA-39-56	AC-56	GUN BUILDING		S185+00 E210+00
TA-39-57	AC-57	FIRING CHAMBER		S155+00 E190+00
TA 39-58	AC-58	ROAD BLOCK		S205+00 E230+00
TA-39-59	AC-59		REMOVED 1968	
TA-39-60	AC-60	RETAINING WALL		S155+00 E190+00
TA-39-61	AC-61	ROAD BLOCK	FORMERLY TA-33-115	S195+00 E220+00
TA-39-62	AC-62	STORAGE BUILDING		S225+00 E240+00
TA-39-63	AC-63	EQUIPMENT SHELTER		S195+00 E210+00
TA 39-64	AC-64	EQUIPMENT SHELTER		S185+00 E210+00
TA-39-65	AC-65	SIREN		S185+00 E210+00
TA-39-66	AC-66	BARRICADE		S155+00 E190+00
TA-39-67	AC-67	CAPACITOR BANK ENCLOSURE		S185+00 E200+00
TA-39-68	AC-68	STORAGE BUILDING		S205+00 E240+00
TA-39-69	AC-69	LIGHT, GAS GUN FACILITY		S215+00 E240+00
TA-39-70	AC-70	JIB CRANE		S185+00 E210+00
TA-39-71	AC-71	TRANSFORMER STATION		S185+00 E210+00
TA-39-72	AC-72	TRANSFORMER STATION		S205+00 E230+00
TA 39-73	AC-73	BARRICADE		S155+00 E190+00
TA-39-74	AC 74	SAFETY GATE		S175+00 E210+00
TA-39-75	AC-75	TRANSFORMER STATION		S215+00 E240+00
TA-39-76	AC-76	TRANSFORMER STATION		S215+00 E240+00
TA-39-77	AC-77	MAGAZINE		S205+00 E240+00
TA-39-78	AC-78	PULL-BOX		S155+00 E190+00
TA-39-79	AC-79	PULL-BOX		S155+00 E190+00
TA 39-80	AC 80	PULL-BOX		S155+00 E190+00
TA-39-81	AC-81		CANCELLED	
TA-39-82	AC-82		CANCELLED	
TA-39-83	AC-83		CANCELLED	
TA-39-84	AC-84	TRANSFORMER STATION		S205+00 E240+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-513	ULR-513	OFFICE TRAILER		S225+00 E250+00

REVIEWER M. D. Finke

CLASS U DATE 7/28/77

NO.	DATE	REVISIONS	BY	CHKD	GRP LDR	ENG D.O.
13	4-19-77	REVISED DWG NO (FORMERLY R2469)	MM			
12	2-20-74	REVISED TO STATUS OF 2-20-74	DAD			
11	3-8-72	REVISED TO STATUS OF 3-8-72	DAD			
10	11-6-69	REVISED TO STATUS OF 11-6-69	DAD			
9	3-5-68	REVISED TO STATUS OF 3-5-68	RZ			
8	1-15-68	REVISED TO STATUS OF 12-18-67				
7	10-13-65	REVISED TO STATUS OF 6-2-65	RH			
6	8-15-61	REDRAWN TO STATUS OF 6-1-61 (WAS ENG-R181)	FA			

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT, SEC

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-39 ANCHO CANYON SITE

CHECKED: PROJ ENG | RECOMMENDED: GROUP LEADER | APPROVED: ENG DEPT OFFICE
DESIGNER | DATE 8-15-61 | DRAWING NO ENG-R 5120
DRAWN ARZOLA | SHEET NO 1
SCALE NONE

Figure TA-39-2: Structure Location Plan for TA-39 - Ancho Canyon Site (1961 Drawing from the LANL Technical Area Structure Location Plans)

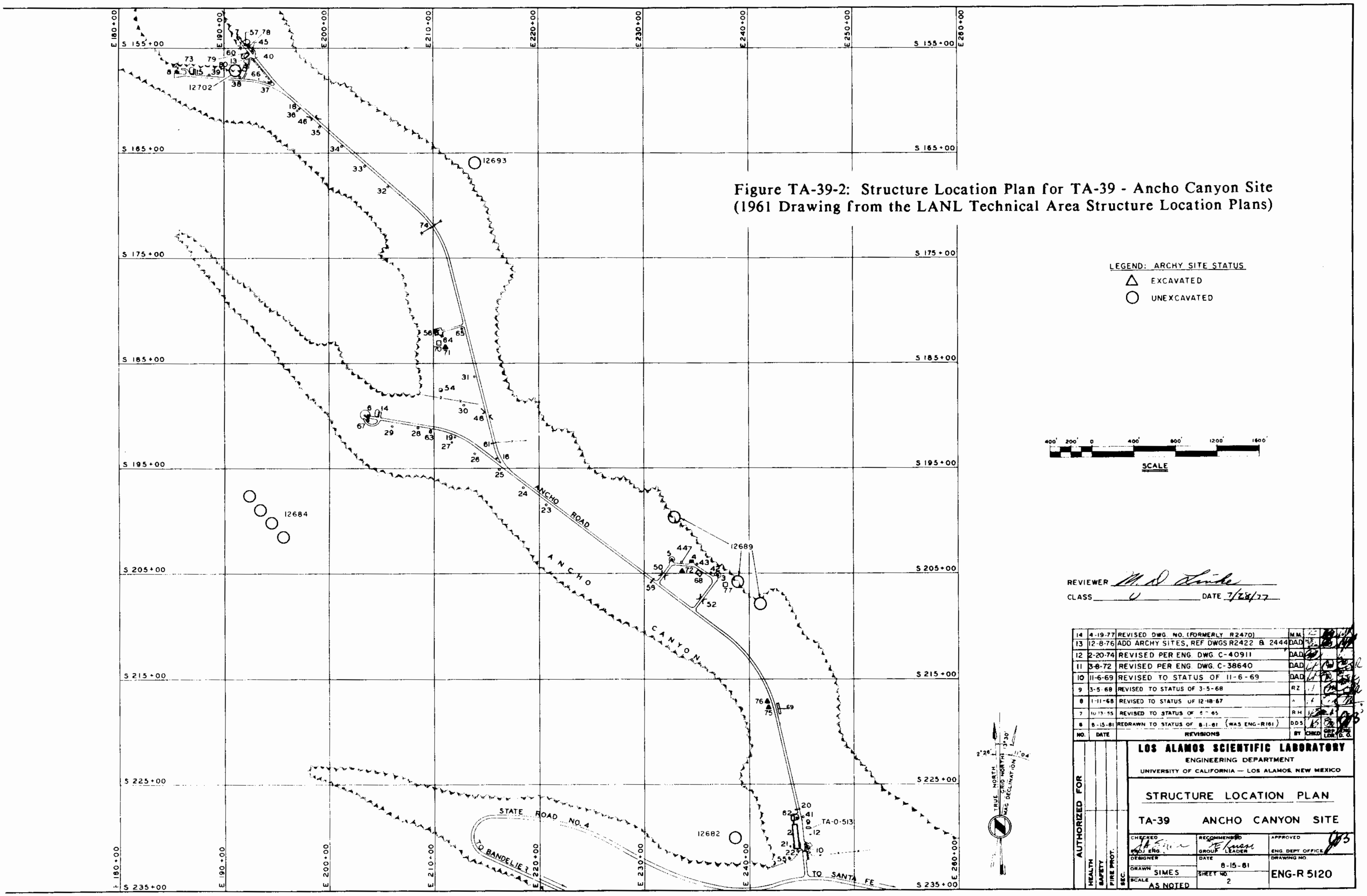

Figure TA-39-2: Structure Location Plan for TA-39 - Ancho Canyon Site (1961 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY

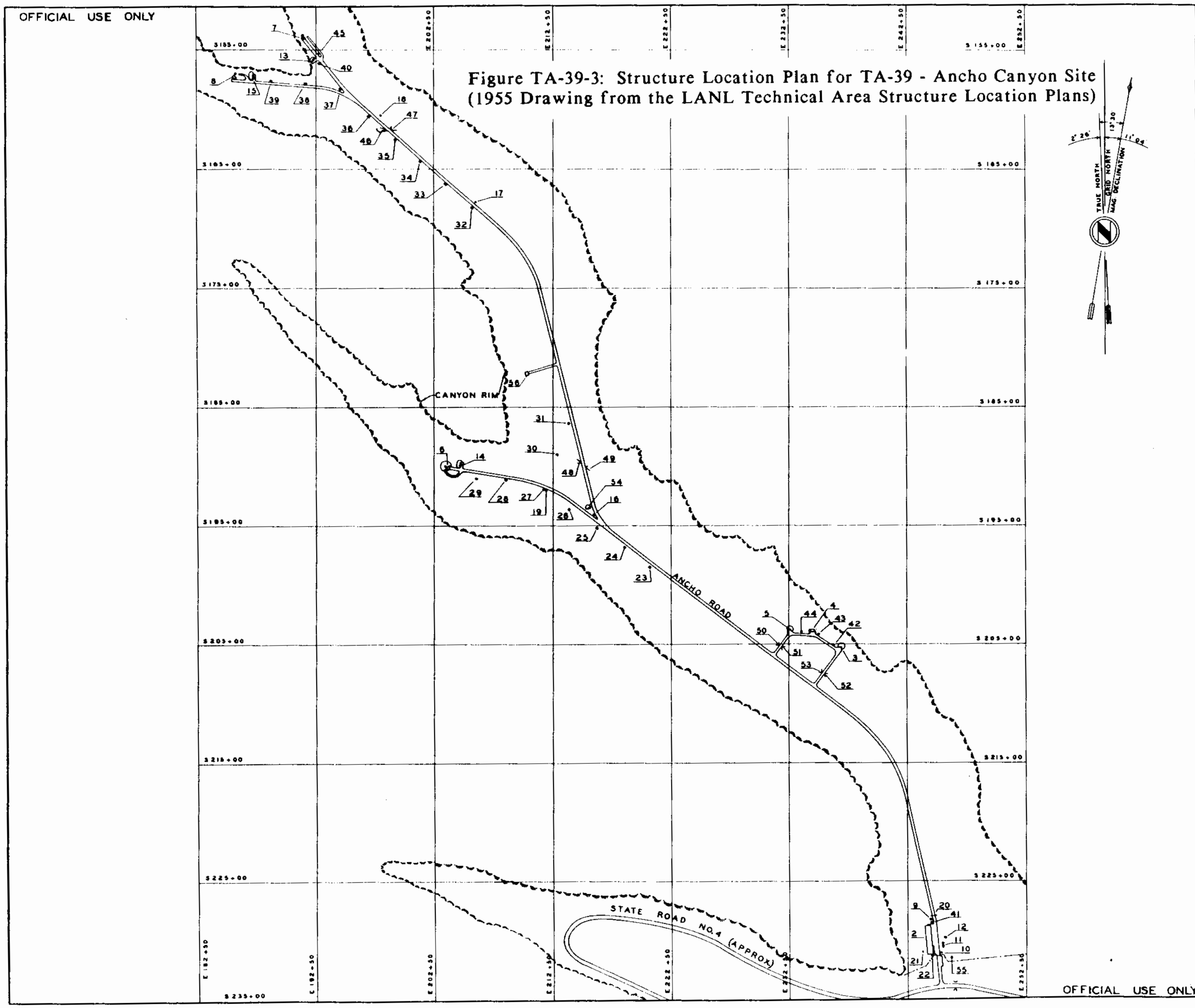

Figure TA-39-3: Structure Location Plan for TA-39 - Ancho Canyon Site (1955 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-39-1	AC-1	RESERVE
TA-39-2	AC-2	LABORATORY & OFFICE BLDG.
TA-39-3	AC-3	MAIN MAGAZINE
TA-39-4	AC-4	TRIM BLDG.
TA-39-5	AC-5	READY MAGAZINE
TA-39-6	AC-6	FIRING CHAMBER NO. 1
TA-39-7	AC-7	FIRING CHAMBER NO. 2
TA-39-8	AC-8	FIRING CHAMBER NO. 3
TA-39-9	AC-9	HOSE HOUSE
TA-39-10	AC-10	HOSE HOUSE
TA-39-11	AC-11	PROPANE TANK
TA-39-12	AC-12	SEPTIC TANK (SANITARY)
TA-39-13	AC-13	BARRICADE
TA-39-14	AC-14	BARRICADE
TA-39-15	AC-15	BARRICADE
TA-39-16	AC-16	WIGWAG
TA-39-17	AC-17	WIGWAG
TA-39-18	AC-18	SIREN
TA-39-19	AC-19	SIREN
TA-39-20	AC-20	ROAD BLOCK
TA-39-21	AC-21	TRANSFORMER STATION
TA-39-22	AC-22	MANHOLE (WATER)
TA-39-23	AC-23	MANHOLE (ELECTRIC)
TA-39-24	AC-24	MANHOLE (ELECTRIC)
TA-39-25	AC-25	MANHOLE (ELECTRIC)
TA-39-26	AC-26	MANHOLE (ELECTRIC)
TA-39-27	AC-27	MANHOLE (ELECTRIC)
TA-39-28	AC-28	MANHOLE (ELECTRIC)
TA-39-29	AC-29	MANHOLE (ELECTRIC)
TA-39-30	AC-30	MANHOLE (ELECTRIC)
TA-39-31	AC-31	MANHOLE (ELECTRIC)
TA-39-32	AC-32	MANHOLE (ELECTRIC)
TA-39-33	AC-33	MANHOLE (ELECTRIC)
TA-39-34	AC-34	MANHOLE (ELECTRIC)
TA-39-35	AC-35	MANHOLE (ELECTRIC)
TA-39-36	AC-36	MANHOLE (ELECTRIC)
TA-39-37	AC-37	MANHOLE (ELECTRIC)
TA-39-38	AC-38	MANHOLE (ELECTRIC)
TA-39-39	AC-39	MANHOLE (ELECTRIC)
TA-39-40	AC-40	MANHOLE (ELECTRIC)
TA-39-41	AC-41	MANHOLE (ELECTRIC)
TA-39-42	AC-42	MANHOLE (ELECTRIC)
TA-39-43	AC-43	MANHOLE (ELECTRIC)
TA-39-44	AC-44	MANHOLE (ELECTRIC)
TA-39-45	AC-45	MANHOLE (ELECTRIC)
TA-39-46	AC-46	CULVERT
TA-39-47	AC-47	CULVERT
TA-39-48	AC-48	CULVERT
TA-39-49	AC-49	CULVERT
TA-39-50	AC-50	CULVERT
TA-39-51	AC-51	CULVERT
TA-39-52	AC-52	CULVERT
TA-39-53	AC-53	CULVERT
TA-39-54	AC-54	MAGAZINE
TA-39-55	AC-55	INCINERATOR
TA-39-56	AC-56	GUN FACILITY BUILDING (PROPOSED)

NO.	DATE	REVISIONS	BY	CHKD
5	7-18-57	REVISED TO STATUS OF 7-1-57	P.R.	JAS
4		REDRAWN TO STATUS OF JULY 1, 1955	NOB	JAS

AUTHORIZED FOR: HEALTH / SAFETY / FIRE PROT. / SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-39
ANCHO CANYON SITE

CHECKED: DESIGNER — RECOMMENDED: GROUP LEADER — APPROVED: ENG. DEPT. OFFICE

DRAWN: N. BYERS — DATE: 10/26/55 — DRAWING NO. ENG-R 161
SCALE: 1" = 400' — SHEET: 1 of 1

OFFICIAL USE ONLY

TA-40 - DETONATOR FIRING (DF) SITE

CURRENT OPERATIONS

TA-40 is occupied by the Reaction Science Group (M-9), which studies the physics of detonation, and the Detonation Systems Group (M-7). The site was built to conduct detonator firing tests, which occur at six different firing points. Larger tests (a maximum of 25 lb of high explosives) are held on outside pads. At TA-40-15 sand is piled up near the test assembly to help contain the shot. After a shot, the larger pieces of shot debris are picked up, and if there are pieces of high explosive, they are picked up and sent to TA-16. The sand and any tiny pieces of high explosive that may be present are then smoothed out to increase the size of a bench extending out into nearby Pajarito Canyon.

TA-40-12 contains inside firing chambers. After a test, residuals are vacuumed or picked up and placed in a dumpster for wastes contaminated with high explosive. TA-40-9 houses a gas gun, fired by nitrogen and helium, to test the effects of copper, aluminum, etc., on explosives. The usual magazines and preparation buildings support these activities as well as a laboratory and office building. The site also has dark-room facilities for photographic work.

POTENTIAL CERCLA/RCRA SITES

Several groups have used TA-40 since it was built in 1950, but the bulk of the work here has always been with the physics of detonation and with detonator testing. At the outset, the site had a burning pit for high-explosive contaminated combustibles. A number of firing pads and firing sites have been used; debris often scattered into the environs from shots, and some was dumped into the canyons. Drains at this site may have received discharges of possible contaminants.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the

CEARP Phase IIA Monitoring Plan for TA-40. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-40 is 2.7 (Appendix B).

FIGURES

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TABLE TA-40 - POTENTIAL CERCLA/RCRA SITES

TA40-1-CA-I-HW (Burning pit)

Background--TA-40 was built in 1950 so that the detonator test group could move from inadequate, old facilities at TA-6 into more suitable quarters (LASL 1950:2). As part of the technical area, both a firing pit and, somewhat to the east of it, a burning pit were located on a small finger of a mesa to the east and away from the main firing areas, as shown on Los Alamos Scientific Laboratory engineering drawing ENG-R5121.

The burning pit was used to burn high-explosive contaminated combustibles. A memo reports that the combustible portions of TA-6-4, when they were removed, were deposited in the burning pit (Courtright 1971). Another report states, "Combustible oils and solvents, paper, and wood contaminated with high explosives are collected and burned in an incinerator at S Site or in a burn pit at TA 40" (Warren 1983). The burn pit appears to have been placed in operation sometime in 1961 (Van Vessem 1961). During the 1987 CEARP field survey, it was noted that the pit is no longer being used and that debris was present.

A series of samples was taken around the burning pit, including one adjacent to the pit. The samples were analyzed for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver, and in all cases, concentrations were below the analytical detection limits (HSE-8 1985).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.

TA40-2-CA-I-HW (Firing pit)

Background--During the early 1950s, disposal of scrap high explosive and detonators generated by GMX-7 was accomplished by detonation at TA-7. However, there were complaints in the townsite about the noise level and the operations were moved to a site about 450 ft east of TA-40-15. In 1958, there was at least one incident in which detonators were not destroyed and were thrown up to 100 yd or more away from the site. On several occasions, search operations were conducted to recover detonators with explosives and parts of pellets. However, in 1959, it was thought that these items had not all been recovered and that they were buried below the surface of the ground (Spaulding 1959; Anderson and Tucker 1959).

Later, the scrap pit was used in various experiments including burn and blast tests (White 1962). During the 1987 CEARP field survey, the pit was determined to be no longer active and the presence of debris was noted.

In 1985, samples were taken on the hillside above the scrap pit, approximately 100 ft to the south, and also on the pad. Concentrations of arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver were below detection limits (HSE-8 1985).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A supplemental Phase I reconnaissance investigation will be conducted for detonators and scrap high explosives, which were not included in the 1985 survey.

TA40-3-CA-A-HW (Firing pads)

Background--TA-40 is occupied primarily by Group M-9, which studies the physics of detonation (reaction science). A series of groups has used the facilities since 1950.

The firing sites differ in size and design. Site DF-15 is used to fire the largest shots on an outside pad. Although the larger pieces of high explosive are picked up, small pieces may be blown into the sand used to contain the shot. This sand is then leveled out to increase the size of the pad, which is near the canyon edge. The firing pad probably contains high explosive and possibly bits of metal, wood, and wire.

Additionally, DF-8 has a small firing pad outside and site DF-5 is a firing point with earth berms. This information is on engineering drawing ENG-R5121 and was verified during the 1986 CEARP field survey.

In past years, thallium azide, lead oxide, and diethanol amine have been fired at TA-40 (H Division 1956:7; Westfall 1959; Campbell 1960; and Wackerle 1965).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active firing sites are covered by routine LANL operations.

TA40-4-OL-I-HW (Canyonside disposal)

Background--A report from a safety inspection held in 1966 indicates that combustible shot debris was disposed of over the canyon, creating a fire hazard (Schott 1966).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the debris that was deposited in the canyon will be evaluated.

TA40-5-S-A-HW (High-explosive removal sump)

Background--Building TA-40-41 is being used as a laboratory. It has a drain for explosives, which connects to a high-explosive separation baffle-type sump outside the building. Decant from the sump goes to an outfall that empties into a small tributary of Pajarito Canyon.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active high-explosive sump is covered by routine LANL operations.

TA40-6-CA/ST/O-A/I-HW (Septic tank, drains, and drain fields)

Background--The sanitary system from buildings 1 and 23 goes to septic tank TA-40-24 and then to seepage pits. A 1973 memo mentions elimination of an inadequate drainage field and installation of two new seepage pits with estimated input of 420 gal./day (LASL 1973:3). Whether this system collects from TA-40-24 is not known. Septic tank TA-40-25 serves the sanitary system from building 11 (preparation and utility) and must be pumped when full (Pan Am 1986a).

Engineering drawing ENG-R1474 indicates that there is a drain from building 23 running to the west. This building contained the spray painting and soldering operations and vapor degreaser (DeField 1969; LASL 1968). What may have been discharged to this drain is not known.

Engineering drawing ENG-R1474 also shows that drains from building 1 are discharged to tank TA-40-22. What has been discharged is not known. During the 1987 CEARP field survey, laser cooling water was observed to be discharging directly to the canyon.

Engineering drawing ENG-R1474 also indicates that buildings 15, 18, 12, 9, 17, 4, and 16 have drains that discharge to canyon outfalls. During short periods of time, film rinse water and cooling water are discharged to the drain in building 15. Film rinse water is also discharged to the drain in building 12. The darkroom in building 9 is not in use. Building 8 has a darkroom and drain in which rinse water is discharged. Engineering drawings do not show the drain for this building. What was discharged in the drain from building 4 is not known. Buildings 18 and 16 were determined to be utility buildings during the 1986 CEARP field survey.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I reconnaissance investigations will be conducted to determine the extent of environmental contamination associated with the inactive facilities/areas. The active facilities are covered by routine LANL operations.

TA40-7-CA-I-PP (Oil spill)

Background--During the 1986 CEARP field survey, there was an indication that pump oil used to be dumped on the ground in back of building 9.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A supplemental Phase I reconnaissance investigation will be conducted to determine the extent of oil contamination.

TA40-8-CA-I-HW (Beryllium)

Background--One memo states, "An operator at DF-Site, TA-40, worked a small piece of beryllium on a mill with no local exhaust ventilation" (H Division 1958:15). Whether beryllium was frequently worked and whether there was any contamination is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I investigations will be conducted to determine if there are any beryllium-related concerns.

TA40-9-CA-A-HW (Scrap storage)

Buildings TA-40-3, -6, -11, -14, and -41 are used for very short periods of time to store scrap high-explosive contaminated waste.

CERCLA Finding--Negative for FFSDIF, PA, and PI.

Planned Future Action--No further action is warranted under CEARP. The scrap storage facilities are covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-40-1	DF-1	LABORATORY & OFFICE BLDG.		N 17+50 E 35+00
TA-40-2	DF-2	MAGAZINE		N 12+50 E 20+00
TA-40-3	DF-3	PREPARATION BUILDING		N 12+50 E 22+50
TA-40-4	DF-4	FIRING POINT		N 12+50 E 20+00
TA-40-5	DF-5	FIRING POINT		N 10+00 E 25+00
TA-40-6	DF-6	PREPARATION BUILDING		N 10+00 E 27+50
TA-40-7	DF-7	MAGAZINE		N 10+00 E 27+50
TA-40-8	DF-8	FIRING POINT		N 10+00 E 30+00
TA-40-9	DF-9	FIRING POINT		N 10+00 E 32+50
TA-40-10	DF-10	MAGAZINE		N 10+00 E 32+50
TA-40-11	DF-11	PREPARATION & UTILITY BLDG.		N 10+00 E 35+00
TA-40-12	DF-12	FIRING POINT		N 10+00 E 35+00
TA-40-13	DF-13	MAGAZINE		N 10+00 E 40+00
TA-40-14	DF-14	PREPARATION BUILDING		N 10+00 E 40+00
TA-40-15	DF-15	FIRING POINT		N 10+00 E 42+50
TA-40-16	DF-16	UTILITY BUILDING		N 12+50 E 22+50
TA-40-17	DF-17	UTILITY BUILDING		N 12+50 E 27+50
TA-40-18	DF-18	UTILITY BUILDING		N 12+50 E 40+00
TA-40-19	DF-19	GUARD HOUSE		N 17+50 E 35+00
TA-40-20	DF-20	TANK, FUEL	RELOCATED TO TA-9-103	
TA-40-21	DF-21	MISSLE BARRICADE		N 10+00 E 42+50
TA-40-22	DF-22	TANK, SEPTIC		N 15+00 E 35+00
TA-40-23	DF-23	WHSE. & CABLE ASSY. BLDG.		N 17+50 E 32+50
TA-40-24	DF-24	TANK, SEPTIC		N 15+00 E 37+50
TA-40-25	DF-25	TANK, SEPTIC		N 10+00 E 35+00
TA-40-26	DF-26	TRANSFORMER STATION		N 17+50 E 35+00
TA-40-27	DF-27	TRANSFORMER STATION		N 12+50 E 35+00
TA-40-28	DF-28	TRANSFORMER STATION		N 12+50 E 40+00
TA-40-29	DF-29	TRANSFORMER STATION		N 12+50 E 27+50
TA-40-30	DF-30	TRANSFORMER STATION		N 15+00 E 22+50
TA-40-31	DF-31	MANHOLE, SANITARY		N 17+50 E 35+00
TA-40-32	DF-32	MANHOLE, SANITARY		N 17+50 E 35+00
TA-40-33	DF-33	STAIRWAY		N 12+50 E 20+00
TA-40-34	DF-34		REMOVED 1961	
TA-40-35	DF-35	MANHOLE, WATER		N 12+50 E 30+00
TA-40-36	DF-36		REMOVED 1979	
TA-40-37	DF-37		CANCELLED	
TA-40-38	DF-38	ROAD BLOCK	FORMERLY TA-14-33	N 12+50 E 27+50
TA-40-39	DF-39	OBSERVATION BARRICADE		N 7+50 E 57+50
TA-40-40	DF-40	BARRICADE		N 10+00 E 25+00
TA-40-41	DF-41	BARRICADE		N 10+00 E 25+00
TA-40-42	DF-42		CANCELLED	
TA-40-43	DF-43	STORAGE BLDG		N 10+00 E 35+00
TA-40-44	DF-44	TRANSFORMER STATION		N 12+50 E 37+50
TA-40-45	DF-45	SOLVENT SHED		N 17+50 E 32+50
TA-40-46	DF-46	TRANSFORMER STATION		N 17+50 E 35+00
TA-40-47	DF-47	METERING STATION	1-SPAN N. OF DF-26~150'	

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV.	DATE	REVISION	BY	CKD	APP
16	8-16-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-26-83	WS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-40 DF-SITE

SEC CLASSIFICATION
CLASS. u
REVIEWER
DATE

SUBMITTED RECOMMENDED APPROVED
DRAWN
CHECKED
DATE 8-16-83
SHEET NO. 1 of 2
DRAWING NO. ENG-R5121

Figure TA-40-1: Structure Location Plan for TA-40 - Detonator Firing Site (1983 Drawing from the LANL Technical Area Structure Location Plans)

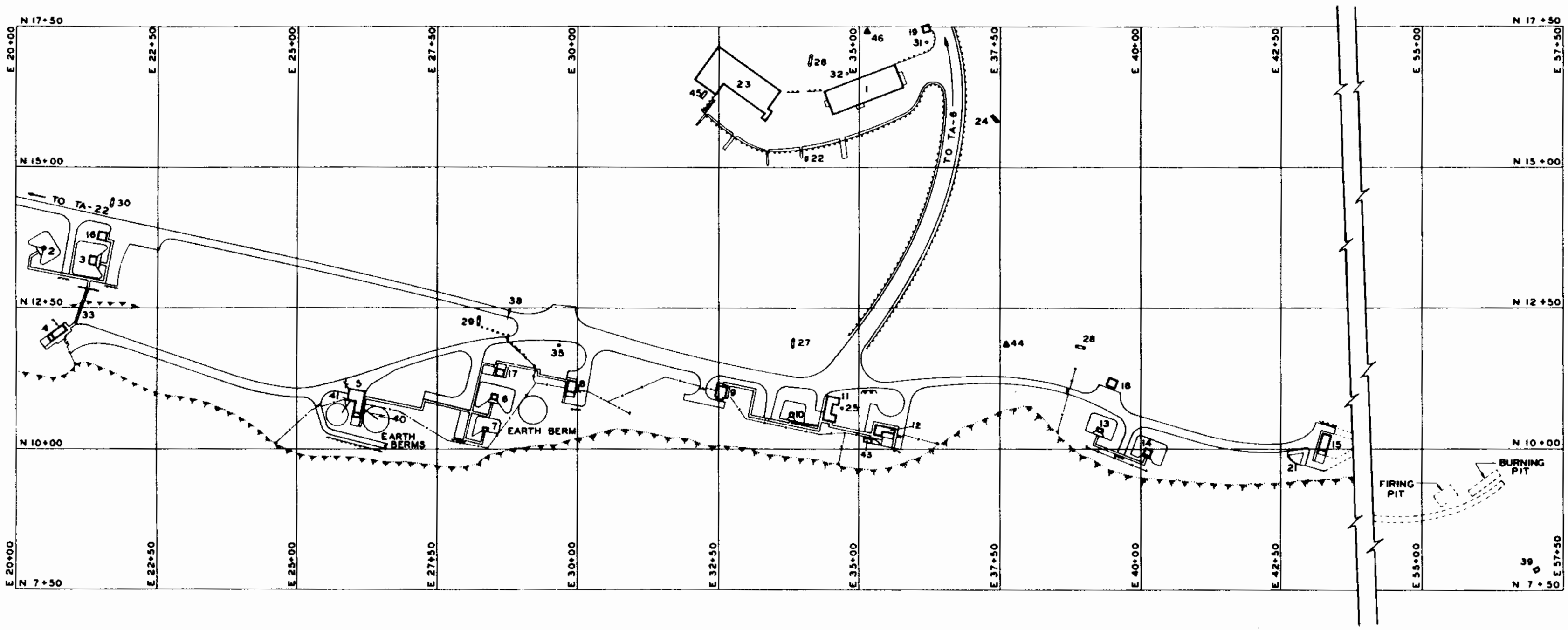
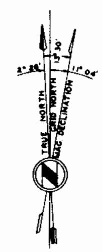


Figure TA-40-1: Structure Location Plan for TA-40 - Detonator Firing Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)



REV.	DATE	REVISION	BY	CKD	APP
16	7-28-83	REVISED TITLE BLOCK & DWG TO STATUS OF 7-27-83	H.S.		

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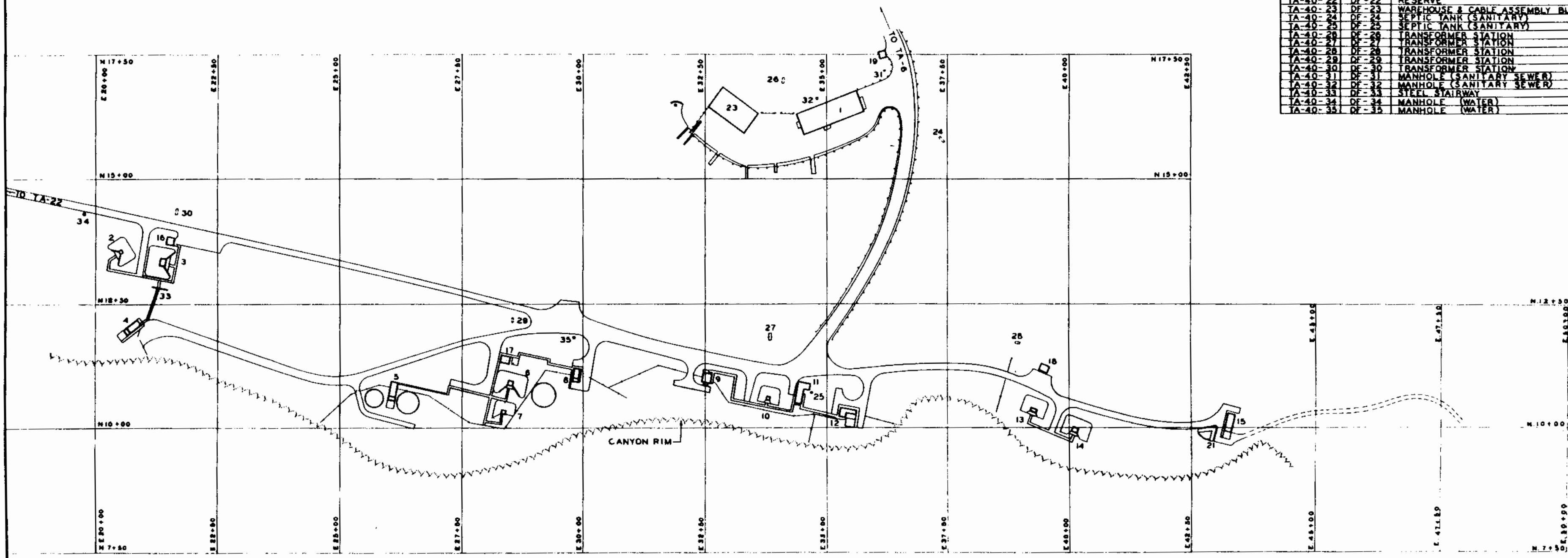
FACILITIES ENGINEERING DIVISION

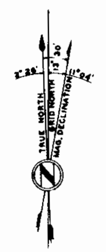
STRUCTURE LOCATION PLAN
TA-40 DF-SITE

SEC CLASSIFICATION
CLASS U
REVIEWER
DATE 4-6-83

SUBMITTED | RECOMMENDED | APPROVED
DRAWN | CHECKED
DATE 7-28-83 | SHEET NO. 2 of 2 | DRAWING NO. ENG-R5121

STRUCTURE NUMBER	DESIG-NATION	REMARKS
TA-40-1	DF-1	LABORATORY & OFFICE
TA-40-2	DF-2	MAGAZINE
TA-40-3	DF-3	PREPARATION BUILDING
TA-40-4	DF-4	FIRING POINT
TA-40-5	DF-5	FIRING POINT
TA-40-6	DF-6	PREPARATION BUILDING
TA-40-7	DF-7	MAGAZINE
TA-40-8	DF-8	FIRING POINT
TA-40-9	DF-9	FIRING POINT
TA-40-10	DF-10	MAGAZINE
TA-40-11	DF-11	PREPARATION & UTILITY BLDG.
TA-40-12	DF-12	FIRING POINT
TA-40-13	DF-13	MAGAZINE
TA-40-14	DF-14	PREPARATION BUILDING
TA-40-15	DF-15	FIRING POINT
TA-40-16	DF-16	UTILITY BUILDING
TA-40-17	DF-17	UTILITY BUILDING
TA-40-18	DF-18	UTILITY BUILDING
TA-40-19	DF-19	GUARD HOUSE (STATION 515)
TA-40-20	DF-20	BUTANE TANK (REMOVED) NOW AE-103 AT TA-9
TA-40-21	DF-21	MISSILE BARRICADE
TA-40-22	DF-22	RESERVE
TA-40-23	DF-23	WAREHOUSE & CABLE ASSEMBLY BLDG.
TA-40-24	DF-24	SEPTIC TANK (SANITARY)
TA-40-25	DF-25	SEPTIC TANK (SANITARY)
TA-40-26	DF-26	TRANSFORMER STATION
TA-40-27	DF-27	TRANSFORMER STATION
TA-40-28	DF-28	TRANSFORMER STATION
TA-40-29	DF-29	TRANSFORMER STATION
TA-40-30	DF-30	TRANSFORMER STATION
TA-40-31	DF-31	MANHOLE (SANITARY SEWER)
TA-40-32	DF-32	MANHOLE (SANITARY SEWER)
TA-40-33	DF-33	STEEL STAIRWAY
TA-40-34	DF-34	MANHOLE (WATER)
TA-40-35	DF-35	MANHOLE (WATER)





REVISED TO STATUS OF 7-1-57
GENERAL REVISION TO STATUS OF JULY 1, 1955
REDRAWN TO STATUS OF 7-1-54

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-40 DF-SITE

DRAWN LC WINKS DATE 7-20-54
SCALE 1" = 100' SHEET 1 OF 1
ENG-R 163

Figure TA-40-2: Structure Location Plan for TA-40 - Detonator Firing Site (1954 Drawing from the LANL Technical Area Structure Location Plans)

TA-41 - W SITE

CURRENT OPERATIONS

Three groups currently work at TA-41: Technical Engineering Support (WX-4), Weapon Subsystems (WX-5), and a branch shop of the Branch Shops Group (MEC-5). WX-4 is involved mainly in theoretical studies and has office space in TA-41-30. This group operates a small darkroom for color and black and white film processing.

Group WX-5 is involved in developing weapon subsystems, with work on boosting systems and long-term studies on critical weapons subsystems. Materials stored or used include uranium, plutonium, tritium, isotopes of lithium, mercury (use of which is discontinued), and metallic beryllium. Lead and cadmium are used in shielding. Nickel-cadmium and mercury batteries are used for power. Small quantities of explosives are used in various tests. Thermite-type heat generators are also involved in a small number of experiments. MEC-5 supports WX-5 operations. Its principal activity is machining steel, copper, aluminum, brass, bronze, and plastics.

POTENTIAL CERCLA/RCRA SITES

TA-41, known as W Site, was constructed in the early 1950s for the weapons groups to use. Radioactive materials, toxic gases, mercury, and various organics are some of the possible contaminants that were handled here, and spills or other accidental releases have been reported. Potentially contaminated sites include pipes, septic tanks, and outfall areas.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-41. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-41 is 8.3 (Appendix B).

FIGURES

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TABLE TA-41 - POTENTIAL CERCLA/RCRA SITES

TA41-1-CA-A/I-HW/RW (Areas receiving operational releases)

Background--TA-41 was constructed in the early 1950s. Materials that are being or have been handled by the weapons groups at TA-41 include lithium hydride, uranium, plutonium, americium, beryllium and beryllium oxide, tritium, toxic gases--including arsine, mercury, arsenic, lithium hydride, and various organics (Cambell 1961; Dunn 1962; H Division 1953, 1954, 1955, 1957, 1960; Mitchell 1961; Reike 1955; Safety Office 1959; Schulte 1952). Accidental releases of these materials have occurred. Tritium was vented on occasion.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Supplemental Phase I reconnaissance investigations will be conducted to determine if past operational releases have caused residual environmental contamination of concern. Active operations are covered by routine LANL operations.

TA41-2-ST-I-RW (Septic tanks)

Background--A septic tank at TA-41 is radioactively contaminated (Balo and Warren 1986:61). The only septic tank is TA-41-11 and it is marked as inactive. Engineering drawing ENG-R1490 shows the origin of the piping to the tank to be building 2, which is a guard house.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--During CEARP Phase II, contents of the inactive septic tank will be sampled for gross alpha and beta/gamma contamination.

TA41-3-CA/O-I/A-HW/RW (Sanitary treatment plant outfall)

Background--The sanitary waste drains from TA-41 are routed to a small sewage plant at TA-41. In 1955, samples were taken of sewage entering tank TA-41-7 and the effluent from the chlorine contact tank. Gross alpha counts ranged from 216 to 244 dis/min/L (Buckland 1955).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The sediments at the outfall will be sampled for residual contamination (gross alpha and beta/gamma) from past operations as part of supplemental Phase I. The active facilities are covered by routine LANL operations.

TA41-4-UST/S-A-RW (Sump pit and tank)

Background--Site drawing ENG-R5122 indicates a sump pit, TA-41-10, and an industrial waste tank, TA-41-45.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active facilities are covered by routine LANL operations.

TA41-5-UST-A-PP (Fuel tank)

Background--Engineering drawing ENG-R5122 indicates a fuel tank, TA-41-W46.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The fuel tank is covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-41-1	W-1	UNDERGROUND VAULT		N 90+00 E 95+00
TA-41-2	W-2	GUARD HOUSE		N 85+00 E 95+00
TA-41-3	W-3	BLOWER HOUSE		N 87+50 E 95+00
TA-41-4	W-4	LABORATORY BUILDING		N 85+00 E 95+00
TA-41-5	W-5	GUARD HOUSE		N 85+00 E 95+00
TA-41-6	W-6	COVERED PASSAGEWAY	BLDG. 1 TO BLDG. 4	N 85+00 E 95+00
TA-41-7	W-7	IMHOFF TANK & CHLORINE ROOM	SEWAGE PLANT	N 85+00 E 97+50
TA-41-8	W-8	TANK, CONTACT	SEWAGE PLANT	N 85+00 E 97+50
TA-41-9	W-9	DRYING BED	SEWAGE PLANT	N 85+00 E 97+50
TA-41-10	W-10	SUMP PIT		N 87+50 E 95+00
TA-41-11	W-11	TANK, SEPTIC	ABANDONED 1953	N 85+00 E 97+50
TA-41-12	W-12	RETAINING WALL		N 85+00 E 95+00
TA-41-13	W-13	RETAINING WALL		N 85+00 E 95+00
TA-41-14	W-14	RETAINING WALL		N 85+00 E 95+00
TA-41-15	W-15	BRIDGE	INCORPORATED IN TA-41-31	
TA-41-16	W-16	GUARD HOUSE		N 85+00 E 90+00
TA-41-17	W-17	BRIDGE		N 85+00 E 95+00
TA-41-18	W-18	MANHOLE	WATER P.R.V.	N 85+00 E 95+00
TA-41-19	W-19	MANHOLE	SANITARY	N 85+00 E 97+50
TA-41-20	W-20	MANHOLE	SANITARY	N 85+00 E 95+00
TA-41-21	W-21	MANHOLE	SANITARY	N 85+00 E 95+00
TA-41-22	W-22	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 92+50
TA-41-23	W-23	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 92+50
TA-41-24	W-24	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 92+50
TA-41-25	W-25	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 95+00
TA-41-26	W-26	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 95+00
TA-41-27	W-27	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 95+00
TA-41-28	W-28	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 95+00
TA-41-29	W-29	PASSAGEWAY		N 85+00 E 92+50
TA-41-30	W-30	ENGINEERING & LAB BLDG.		N 85+00 E 92+50
TA-41-31	W-31	BOX CULVERT		N 85+00 E 92+50
TA-41-32	W-32	RETAINING WALL		N 85+00 E 90+00
TA-41-33	W-33	RETAINING WALL		N 85+00 E 90+00
TA-41-34	W-34	BRIDGE		N 85+00 E 95+00
TA-41-35	W-35	MANHOLE	SANITARY	N 85+00 E 92+50
TA-41-36	W-36	BRIDGE		N 85+00 E 97+50
TA-41-37	W-37	RETAINING WALL		N 85+00E 97+50
TA-41-38	W-38	TRANSFORMER STATION		N 85+00E 95+00
TA-41-39	W-39	TRANSFORMER STATION		N 85+00E 90+00
TA-41-40	W-40	TRANSFORMER STATION		N 85+00E 100+00
TA-41-41	W-41	METERING STATION		N 85+00E 90+00
TA-41-42	W-42	GUARD BUILDING		N 82+50E 87+50
TA-41-44	W-44	STORAGE BUILDING		N 85+00E 97+50
TA-41-45	W-45	TANK, IND. WASTE	NOT SHOWN	
TA-41-46	W-46	TANK, FUEL	NOT SHOWN	
TA-41-47	W-47	STACK		N85+00 E95+00
TA-41-49	W-49	TRANSFORMER STATION	NOT SHOWN	
TA-41-50	W-50	TRASPORTABLE OFFICE BLDG.	FORMERLY TA-0-1032	N82+50 E90+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

Figure TA-41: Structure Location Plan for TA-41 - W Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

REV	DATE	REVISION	BY	CKD	APP
16	9-22-83	REVISED TITLE BLOCK AND DWG. TO STATUS OF 8-1-83	VM		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-41 W-SITE

SEC CLASSIFICATION — CLASS: u — REVIEWER: — DATE: 10-28-83

SUBMITTED — RECOMMENDED — APPROVED

DRAWN: V.E. MORA
CHECKED:
DATE: 9-22-83
SHEET NO: 1 OF 2
DRAWING NO: ENG-R5122

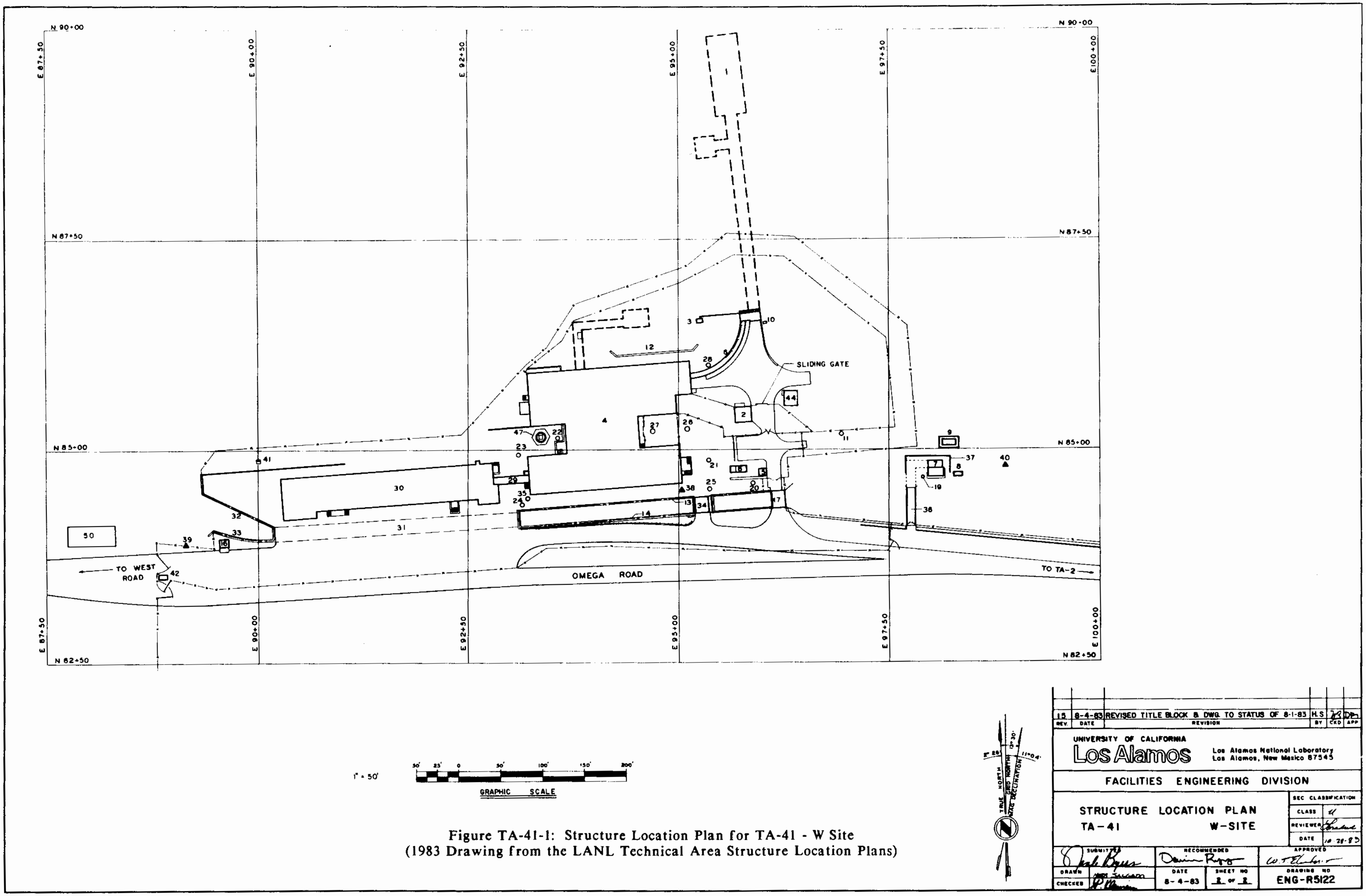


Figure TA-41-1: Structure Location Plan for TA-41 - W Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-41-1	W-1	UNDERGROUND VAULT		N 90+00 E 95+00
TA-41-2	W-2	GUARD HOUSE		N 85+00 E 95+00
TA-41-3	W-3	BLOWER HOUSE		N 87+50 E 95+00
TA-41-4	W-4	LABORATORY BUILDING		N 85+00 E 95+00
TA-41-5	W-5	GUARD HOUSE		N 85+00 E 95+00
TA-41-6	W-6	COVERED PASSAGEWAY	BLDG. 1 TO BLDG. 4	N 85+00 E 95+00
TA-41-7	W-7	IMHOFF TANK & CHLORINE ROOM	SEWAGE PLANT	N 85+00 E 97+50
TA-41-8	W-8	TANK, CONTACT	SEWAGE PLANT	N 85+00 E 97+50
TA-41-9	W-9	DRYING BED	SEWAGE PLANT	N 85+00 E 97+50
TA-41-10	W-10	SUMP PIT		N 87+50 E 95+00
TA-41-11	W-11	TANK, SEPTIC	ABANDONED 1953	N 85+00 E 97+50
TA-41-12	W-12	RETAINING WALL		N 85+00 E 95+00
TA-41-13	W-13	RETAINING WALL		N 85+00 E 95+00
TA-41-14	W-14	RETAINING WALL		N 85+00 E 95+00
TA-41-15	W-15	BRIDGE	INCORPORATED IN TA-41-31	
TA-41-16	W-16	GUARD HOUSE		N 85+00 E 90+00
TA-41-17	W-17	BRIDGE		N 85+00 E 95+00
TA-41-18	W-18	MANHOLE	WATER P.R.V.	N 85+00 E 95+00
TA-41-19	W-19	MANHOLE	SANITARY	N 85+00 E 97+50
TA-41-20	W-20	MANHOLE	SANITARY	N 85+00 E 95+00
TA-41-21	W-21	MANHOLE	SANITARY	N 85+00 E 95+00
TA-41-22	W-22	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 92+50
TA-41-23	W-23	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 92+50
TA-41-24	W-24	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 92+50
TA-41-25	W-25	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 95+00
TA-41-26	W-26	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 95+00
TA-41-27	W-27	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 95+00
TA-41-28	W-28	MANHOLE, STORM DRAINAGE	TRANSFERRED TO ZIA 1961	N 85+00 E 95+00
TA-41-29	W-29	PASSAGEWAY		N 85+00 E 92+50
TA-41-30	W-30	ENGINEERING & LAB BLDG.		N 85+00 E 92+50
TA-41-31	W-31	BOX CULVERT		N 85+00 E 92+50
TA-41-32	W-32	RETAINING WALL		N 85+00 E 90+00
TA-41-33	W-33	RETAINING WALL		N 85+00 E 90+00
TA-41-34	W-34	BRIDGE		N 85+00 E 95+00
TA-41-35	W-35	MANHOLE	SANITARY	N 85+00 E 92+50
TA-41-36	W-36	BRIDGE		N 85+00 E 97+50
TA-41-37	W-37	RETAINING WALL		N 85+00 E 97+50
TA-41-38	W-38	TRANSFORMER STATION		N 85+00 E 95+00
TA-41-39	W-39	TRANSFORMER STATION		N 85+00 E 90+00
TA-41-40	W-40	TRANSFORMER STATION		N 85+00 E 100+00
TA-41-41	W-41	METERING STATION		N 85+00 E 90+00
TA-41-42	W-42	GUARD BUILDING		N 82+50 E 87+50
TA-41-43	W-43	GAS METERING STATION	LOCATED APPROX. 1600' E OF TRLR. PK. ENT.	

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

NO.	DATE	REVISIONS	BY	CHKD	GRP LDR	ENG D.O.
15	4-20-77	REVISED DWG NO (FORMERLY R2474)	M.M.			
14	10-9-74	REVISED TO STATUS OF 10-9-74	B.H.			
13	2-27-74	REVISED TO STATUS OF 2-27-74	DAD			
12	1-26-72	REVISED REF LASL DWG ENG C 39869	JAM			
11	11-19-69	REVISED TO STATUS OF 11-19-69	DAD			
10	8-11-65	REVISED TO STATUS OF 8-1-65	JMD			
9	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R164)	H R			

REVIEWED: M L Wick

CLASS U DATE: 7/28/77

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-41 W-SITE

CHECKED PROJ. ENG	RECOMMENDED GROUP LEADER	APPROVED ENG DEPT OFFICE
DESIGNER	DATE 8-15-61	DRAWING NO. ENG-R 5122
DRAWN ROBINSON	SHEET NO 1	
SCALE NONE		

Figure TA-41-2: Structure Location Plan for TA-41 - W Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)

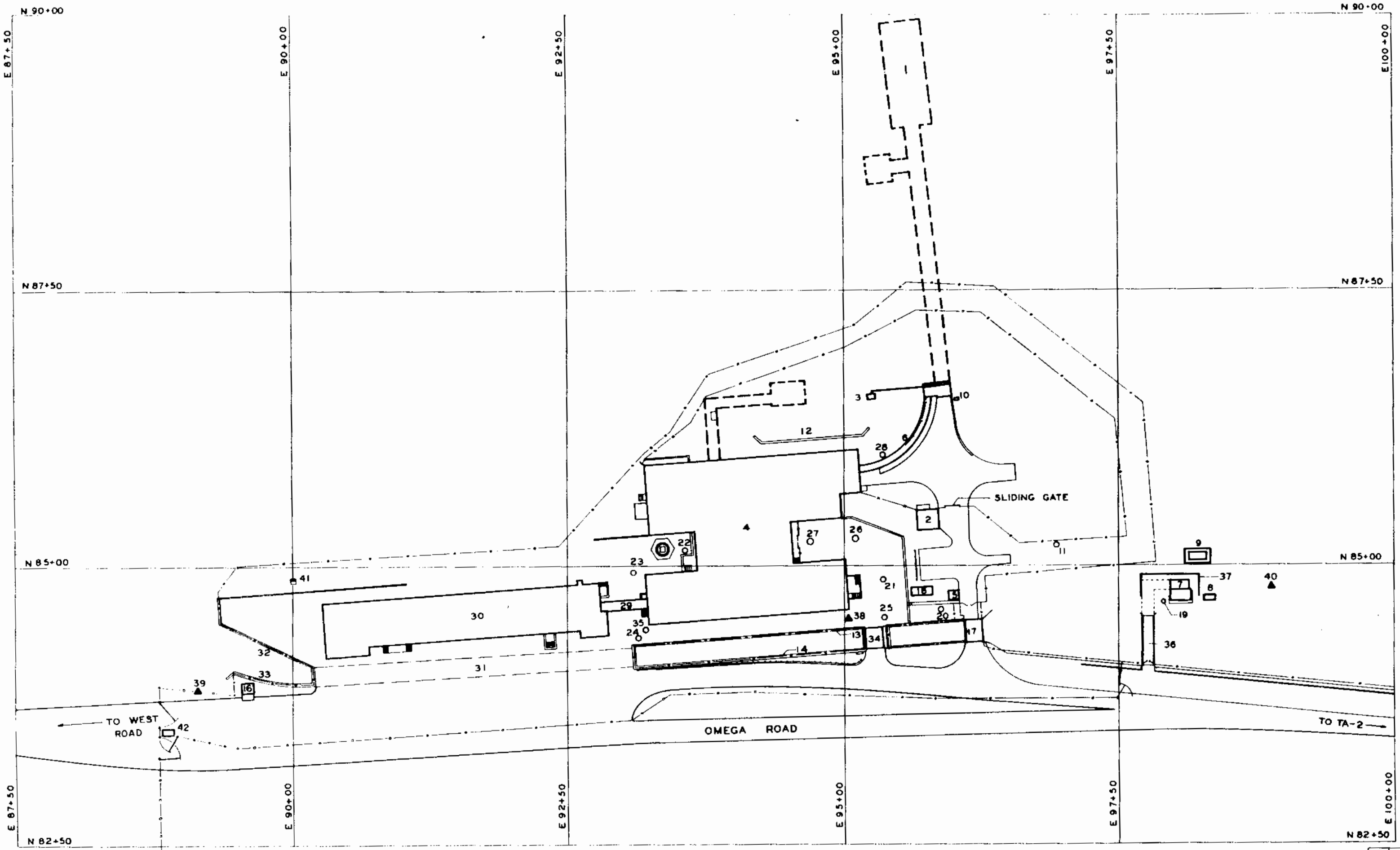
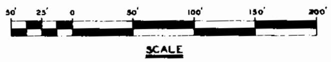
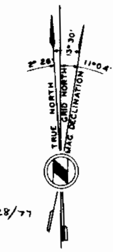


Figure TA-41-2: Structure Location Plan for TA-41 - W Site
(1961 Drawing from the LANL Technical Area Structure Location Plans)





REVIEW: *M. D. Vinks*
...S.____ U. DATE 7/28/77

NO.	DATE	REVISIONS	BY	CHKD	GRP LDR	ENG D.O.
14	4-20-77	REVISED DWG. NO. (FORMERLY R2475)	M.M.			
13	2-27-74	REVISED PER ENG DWG. C-34107	DAD			
12	1-27-72	REVISED REF LASL DWG ENG C 39869	JAM			
11	11-19-69	REVISED TO STATUS OF 11-19-69	DAD			
10	8-11-65	REVISED TO STATUS OF 8-1-65	JMD			
9	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R164)	D.G.			

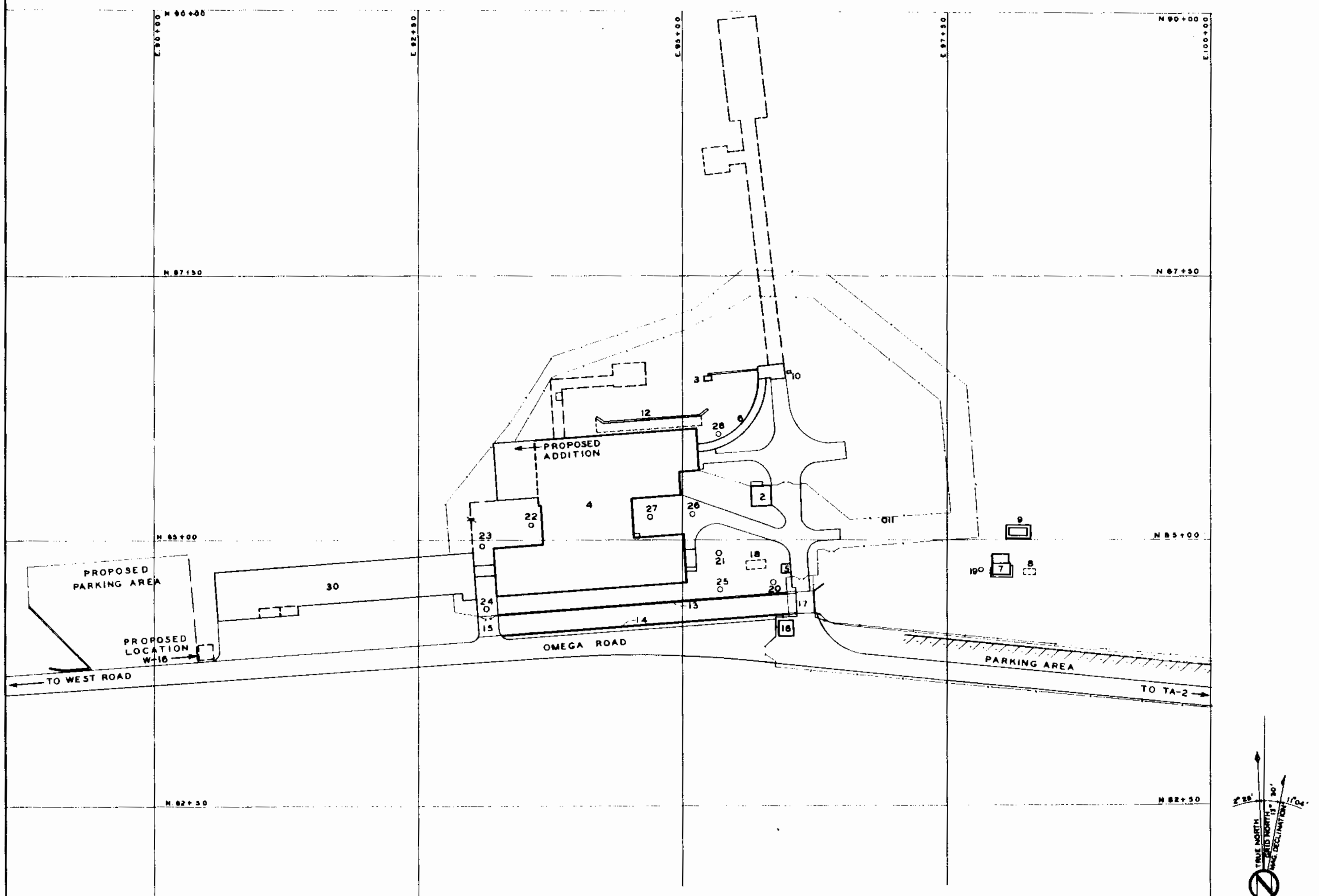
AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

STRUCTURE LOCATION PLAN
TA-41 W-SITE

CHECKED PROJ. ENG.	RECOMMENDED GROUP LEADER	APPROVED ENG. DEPT. OFFICE
DESIGNER	DATE 8-15-61	DRAWING NO.
DRAWN D GLASS	SHEET NO 2	ENG- R 5122
SCALE AS NOTED		

OFFICIAL USE ONLY



STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-41-1	W-1	UNDERGROUND VAULT
TA-41-2	W-2	GUARD HOUSE (STATION 312)
TA-41-3	W-3	BLOWER HOUSE
TA-41-4	W-4	LABORATORY
TA-41-5	W-5	GUARD HOUSE (STATION 311)
TA-41-6	W-6	COVERED PASSAGEWAY
TA-41-7	W-7	IMHOFF TANK & CHLORINE ROOM
TA-41-8	W-8	CONTACT TANK
TA-41-9	W-9	DRYING BED
TA-41-10	W-10	SUMP PIT
TA-41-11	W-11	SEPTIC TANK (SANITARY)
TA-41-12	W-12	RETAINING WALL
TA-41-13	W-13	RETAINING WALL
TA-41-14	W-14	RETAINING WALL
TA-41-15	W-15	BRIDGE
TA-41-16	W-16	GUARD HOUSE (STATION 310)
TA-41-17	W-17	BRIDGE
TA-41-18	W-18	MANHOLE (WATER PRV)
TA-41-19	W-19	MANHOLE (SANITARY SEWER)
TA-41-20	W-20	MANHOLE (SANITARY SEWER)
TA-41-21	W-21	MANHOLE (SANITARY SEWER)
TA-41-22	W-22	MANHOLE (STORM SEWER)
TA-41-23	W-23	MANHOLE (STORM SEWER)
TA-41-24	W-24	MANHOLE (STORM SEWER)
TA-41-25	W-25	MANHOLE (STORM SEWER)
TA-41-26	W-26	MANHOLE (STORM SEWER)
TA-41-27	W-27	MANHOLE (STORM SEWER)
TA-41-28	W-28	MANHOLE (STORM SEWER)
TA 41-29	W-29	RESERVE
TA-41-30	W-30	ENGINEERING & LAB BLDG (PROPOSED)

Figure TA-41-3: Structure Location Plan for TA-41 - W Site
(1957 Drawing from the LANL Technical Area Structure Location Plans)

NO.	DATE	REVISIONS	BY	CHKD	DEP. LDR.	ENG. S. O.
8	7-23-57	REDRAWN TO STATUS OF 7-1-57	MAB	JAS		

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

STRUCTURE LOCATION PLAN
TA-41 W-SITE

CHECKED	RECOMMENDED	APPROVED
PROJ. ENG.	GROUP LEADER	ENG. DEPT. OFFICE
DESIGNER	DATE 7-23-57	DRAWING NO.
DRAWN M. BOND	SHEET 1 OF 1	ENG-R164
SCALE 1" = 50'		

OFFICIAL USE ONLY

TA-42 - INCINERATOR SITE

CURRENT OPERATIONS

TA-42 is not currently being used.

POTENTIAL CERCLA/RCRA SITES

TA-42 was established in 1951 as a site for an incinerator to reduce the volume of low-level plutonium-contaminated wastes. According to engineering drawing ENG-R165, the facility consisted of incinerator building TA-42-1, two holding tanks for the ash residues (TA-42-2 and -3), and septic tank TA-42-4. The facility was north of TA-55, approximately 120 m west of Pecos Drive. After initial testing, the facility was found incapable of handling the job it was intended to do and to be in need of major modifications before it could operate properly. The site was never used for full-scale operation and was shut down for incineration of radioactive waste in the 1950s. The buildings were used for storage and some equipment decontamination work from 1957 to 1969. While the facility was being used for decontamination, a septic tank, a drain tile field, and their outfall area became contaminated with plutonium.

The site was not considered suitable for any future use, and all structures were removed in 1978. The soil from these areas was removed until the area was determined to be decontaminated to levels as low as practicable. The area was then contoured and seeded with native grasses (Harper and Garde 1981).

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plans for TA-42. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-42 is 16.8 (Appendix B).

FIGURES

REFERENCES

Aeby, Jack W. 1952. "Monitoring in Canyon Mortandad," Los Alamos Scientific Laboratory memorandum to Dean D. Meyer, October 28, 1952.

Buckland, Carl W. 1952. "Dumping Liquid Waste from the Incinerator Site TA-42," Los Alamos Scientific Laboratory memorandum to Roy G. Merryman, November 1, 1952.

Buckland, Carl W. 1967. "H-1 Guidelines for Removing Contaminated Waste Water and Sludge from TA-2 and TA-42 Septic Tank," Los Alamos Scientific Laboratory memorandum to Glen A. Vogt, October 19, 1967.

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Harper, J. R., and R. Garde. 1981. "The Decommissioning of the TA-42 Plutonium Contaminated Incinerator Facility," Los Alamos National Laboratory report LA-9077-MS, November 1981.

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Meyer, Dean D. 1977. "Other Sites of Interest," Los Alamos Scientific Laboratory memorandum to Margaret A. Rogers, December 28, 1977.

Miller, E. L. 1970. "Deactivation of TA-42 Incinerator," Los Alamos Scientific Laboratory memorandum to Alan L. Hulk, January 16, 1970.

Perkins, Betty L. 1976. "Incineration Facilities for Treatment of Radioactive Wastes: A Review," Los Alamos Scientific Laboratory report LA-6252, July 1976.

TABLE TA-42 POTENTIAL CERCLA/RCRA SITES

TA42-1-CA-I-RW/HW (Incinerator)

Background--In 1951, a large incinerator was constructed with the intention of burning some of the radionuclide-contaminated wastes generated at the Laboratory. The incinerator was designed to burn waste at the rate of 45.5-90.8 kg/h in a cylindrical combustion chamber located just outside building 1. The combustion products went through an off-gas cleanup system before being discharged through a stack. Incinerator ashes and material recovered in the off-gas cleanup system were discharged to ash-holding tanks 2 and 3. The incinerator's effluent gas cleanup system had many problems, including ice formation in the off-gas filters, which led to their destruction. One report notes, "The effluents from the stack have been very high in activity" (H Division 1954:14).

The incinerator itself was subject to pressure excursions, which led to contamination in building 1. Despite decontamination efforts, by 1953 the area was so contaminated that incinerator operators required full body suiting (Perkins 1976:35-37).

Associated with the incinerator were 140,000-L ash tanks, TA-42-2 and -3. It is not certain how often these tanks were emptied nor where they were emptied. A 1952 memo mentions a request to dispose of some of the liquid waste from the incinerator storage tanks. It appears that the only radionuclide contaminant in the liquid was lanthanum-140, because the incinerator was only in the preliminary stages of being tested. The ashes were estimated to have contained 110 mCi (apparently of lanthanum-140). No mention was made of strontium-90 contamination (Buckland 1952). The facility was so unsatisfactory that it was apparently shut down by the mid-1950s, although a 1954 report indicates that attempts were being made to operate the unit once each week (H Division 1954:14).

During the summer of 1969, an unsuccessful attempt was made to reactivate the incinerator to burn classified uncontaminated wastes (Harper and Garde 1979:601-608). Data on its decommissioning is included in sections TA42-2 and -3.

In 1956, building 1 at the Incinerator Site was loaned to H-1 on a long-term basis to use as a decontamination area. A vacu-blaster was installed for cleaning. Dry boxes and trucks were items included in the decontamination. The area also served as a storage area for contaminated equipment (H Division 1956:4). By 1970, operations were discontinued. Building 1 was reported to be contaminated with radioactivity. Combustibles had been removed from the building (Miller 1970).

No productive use could be found for the site, and a report said, "Preliminary decommissioning work accomplished in 1975 resulted in the removal of walls inside the control office building and removal of most equipment except the incinerator and its associated liquid tanks." At that time, plutonium contamination was left in the incinerator and associated equipment (LASL 1977:30).

In 1977, the decision was made to undertake further decommissioning. The preliminary contamination surveys indicated widespread surface soil contamination within the site, in the equipment, and ash storage tanks, and in the septic tank and effluent line for the tile field. In 1978, building 1 with its foundation and incinerator were removed. Wastes, including 600 m^3 of building debris, were taken to TA-54 to be buried (Harper and Garde 1979).

After decommissioning, gross alpha measurements indicated that 60 of 61 soil samples in the former area of the buildings contained less than 25 pCi of gross alpha/g soil; one sample gave a value of 29 pCi (Harper and Garde 1979).

When the ash tanks were decommissioned, a door was cut in each tank. One tank was found to contain 2,000 L of dry sludge contaminated with 130 nCi of plutonium-239 per gram of sludge. This sludge was sent to TA-54 to be stored. The other tank was found to contain 2,600 L of wet sludge with 1,000 nCi of plutonium-239 per gram of sludge. This sludge was mixed with cement to solidify the material before it was taken to TA-54 to be stored (Harper and Garde 1979). Complete details on the removal of the tanks and the status of underlying structural supports (if any) and of soils are lacking. Although there is an indication that piping apparently connected to the tanks under building 1 was filled to fix the activity, details on the removal of this associated piping are also lacking.

CERCLA Finding--Because of the status of activities (i.e., CEARP Phase V), a CERCLA finding for FFSDIF, PA, and PSI is not appropriate.

Planned Future Action--During CEARP Phase V activities, the adequacy of the decontamination and decommissioning activities will be verified.

TA42-2-ST/O/CA-I-RW (Septic tank)

Background--A septic tank, TA-42-4, served the facility. A 1967 memo suggests that liquids contaminated with radioactivity were being removed from the septic tank at TA-42 and being poured into pit 4 on Mesita del Buey (Buckland 1967).

In 1973, the septic tank was reported to be filled with water and probably overflowing. The tank was sampled, and the unfiltered slurry indicated 4,116,800 counts/min/L of gross alpha, 1,376,000 counts/min/L of gross beta, and 39,000 counts/min/L of gross gamma. The tank was pumped out and the liquid drained into the influent sewer at TA-50.

Engineering drawing ENG-R1493 shows a filter trench and then an outfall to Mortandad Canyon from this septic tank. In 1952, sampling in Mortandad downstream of this outfall showed contamination in the canyon. The incinerator wastewater was disposed of in the same canyon just upstream (Aeby 1952). It is not known whether this report referred to deposition of the ash tanks or to the septic system's outfall.

During the time that the site was used for decontamination, waste water drained into the septic tank and then discharged to Mortandad Canyon. The water contained plutonium-239, uranium-235, tritium, and fission products (Meyer 1977).

When the site was decommissioned in 1978, the supernatant from the septic tank was taken to TA-50 to be treated. The 150 L of sludge containing 350 nCi of plutonium-239 per gram of sludge was solidified by adding cement to the sludge. The tank and sludge were then removed to TA-54. Contaminated soil around the tank was found to have a gross alpha level of less than 1 nCi/g soil. This soil was removed to TA-54. At the outfall area on the edge of the canyon, a hole 3.2 m wide, 3.8 m long, and 3.2 m deep was dug to remove subsoil contamination. Approximately 1,200 m^3 of soil was taken to TA-54 during the decommissioning operations.

After the final removal of soil, a report said that 1) gross alpha measurements indicated all samples in the septic tank area had a value of less than 25 pCi/g soil, 2) 4 of the 17 samples in the tile field had an activity greater than 25 pCi/g of soil and the highest was 99 pCi, and 3) 5 of 8 samples in the excavation under the tile drain lines were greater than 25 pCi and the highest was 400 pCi. Because of the spotty and low-level contamination and the safety hazards associated with further excavation, the area was backfilled (Harper and Garde 1979).

CERCLA Finding--Because of the status of activities (i.e., CEARP Phase V), a CERCLA finding for FFSDIF, PA, and PSI is not appropriate.

Planned Future Action--The adequacy of the decontamination and decommissioning activities will be verified during CEARP Phase V.

TA42-3-OL-I-HW/RW (Debris)

Background--Debris, including pipes, was disposed of over the canyon edge at TA-42.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the debris will be examined for residual contamination.

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STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-0-8	ULR-8	WATER TANK
TA-0-9	ULR-9	MANHOLE (WATER)
TA-0-18	ULR-18	MANHOLE (GAS PRV)
TA-0-21	ULR-21	CHLORINATION STATION

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-42-1	DS-1	INCINERATOR BLDG.
TA-42-2	DS-2	HOLDING TANK (ACID)
TA-42-3	DS-3	HOLDING TANK (ACID)
TA-42-4	DS-4	SEPTIC TANK (SANITARY)
TA-42-5	DS-5	MANHOLE (GAS-DRIP POT)
TA-42-6	DS-6	MANHOLE (WATER)
TA-42-7	DS-7	MANHOLE (WATER)
TA-42-8	DS-8	MANHOLE (GAS)

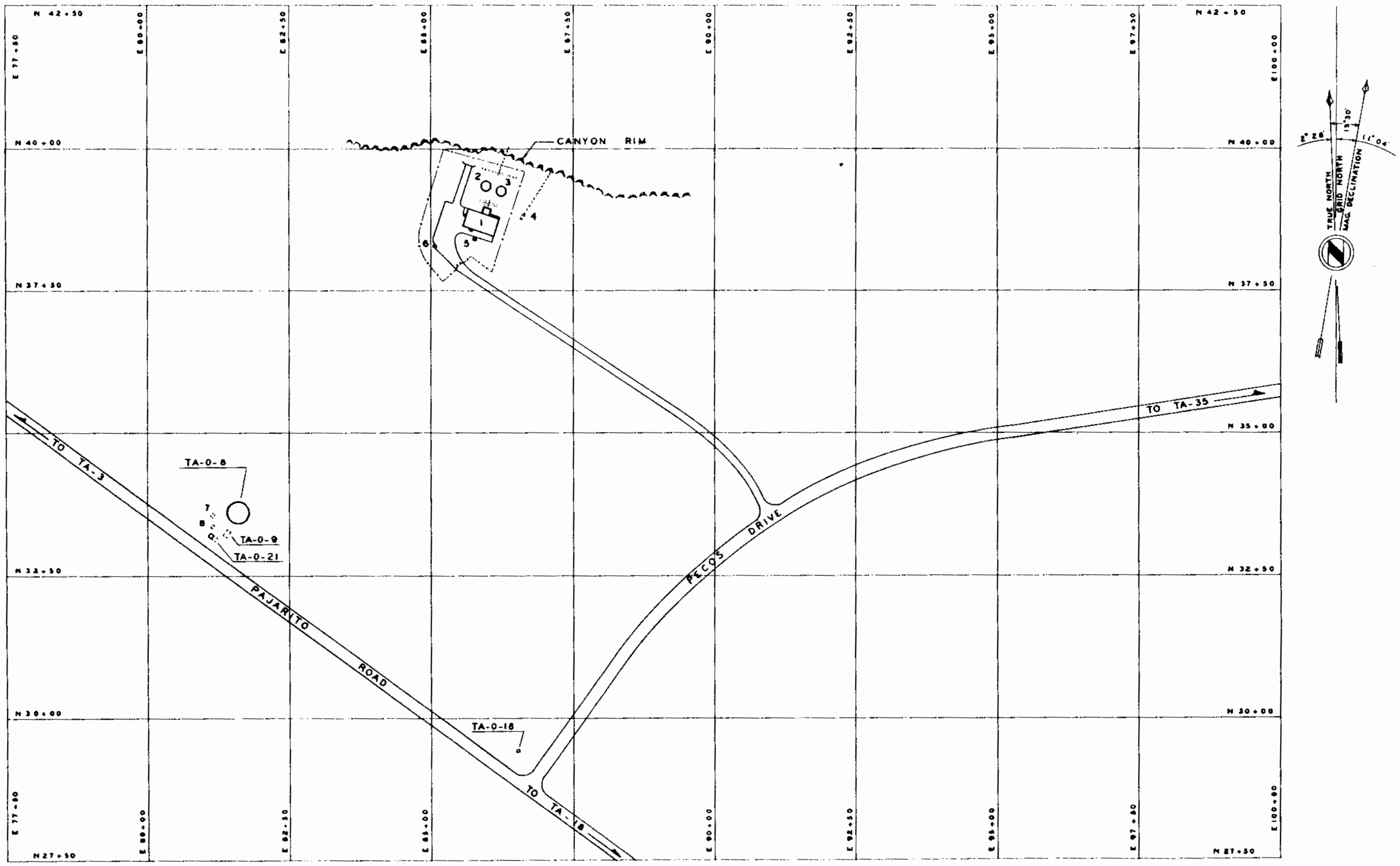

Figure TA-42-1: Structure Location Plan for TA-42 - Incinerator Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

NO.	DATE	REVISIONS	BY	CHKD
8	7-10-57	REQUIRED NO REVISION TO STATUS OF 7-1-57	MAB	JAS
7	10/6/55	REDRAWN TO STATUS OF JULY 1, 1955	NOB	JAS

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-42 INCINERATOR SITE

CHECKED / DESIGNER — RECOMMENDED / GROUP LEADER — APPROVED / ENG. DEPT. OFFICE
DRAWN: N BYERS — DATE: 10/6/55
SCALE: 1" = 100' — SHEET 1 OF 1
DRAWING NO. ENG-R 165

OFFICIAL USE ONLY

TA-43 - HEALTH RESEARCH LABORATORY

CURRENT OPERATIONS

TA-43 is principally in one building, the Health Research Laboratory (TA-43-1), which was built in the early 1950s. Research is also carried out in the smaller biocontainment laboratory (TA-43-22), which was built in the early 1980s. TA-43 presently houses most of the activities of the Life Sciences (LS) Division, which has groups in toxicology (LS-1), genetics (LS-2), pathology (LS-4), and biophysics and neurobiology (LS-7). These groups perform such studies as pulmonary damage to animals (mostly rats) upon exposure to various chemicals, gases, and fibers. The research emphasis is changing from animal exposures to cellular and molecular damage studies. Other investigations include monoclonal and antibody studies using flow cytometers, cancer research, the biochemistry of vision, and some studies with human pathogens. This latter work is conducted in TA-43-22, a level-3 biocontainment laboratory.

POTENTIAL CERCLA/RCRA SITES

The Health Research Laboratory was first occupied in 1953 by groups doing biomedical and industrial hygiene research (H Division 1953:1). Documents in the CEARP files record nine incidents, most of them spills, that could have contaminated the room or area in which they occurred.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-43. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-43 is 8.3 (Appendix B).

FIGURES

REFERENCES

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Emelity, L. A. 1981. "Monthly Major Achievements Report, Group H-7," Los Alamos National Laboratory memorandum to G. A. Voelz, December 15, 1981.

H Division. 1953a. "H Division Progress Report," Los Alamos Scientific Laboratory, July 20-August 20, 1953.

H Division. 1953b. "H Division Progress Report," Los Alamos Scientific Laboratory, October 20-November 20, 1953.

H Division. 1955a. "H Division Progress Report," Los Alamos Scientific Laboratory, December 20, 1954-January 20, 1955.

H Division. 1955b. "H Division Progress Report," Los Alamos Scientific Laboratory, September 20-October 20, 1955.

H Division. 1955c. "H Division Progress Report," Los Alamos Scientific Laboratory, October 20- November 20, 1955.

H Division. 1956a. "H Division Progress Report," Los Alamos Scientific Laboratory, September 20-October 20, 1956.

H Division. 1956b. "H Division Progress Report," Los Alamos Scientific Laboratory, November 20-December 20, 1956.

H Division. 1957. "H Division Progress Report," Los Alamos Scientific Laboratory, October 20-November 20, 1957.

H Division. 1959. "H Division Progress Report," Los Alamos Scientific Laboratory, January 20-February 20, 1959.

LASL. 1969. "Facility Improvements, Building HRL-1," Los Alamos Scientific Laboratory document, April 1, 1969.

LASL. 1973. "Radioactive Waste Management Site Plan," Los Alamos Scientific Laboratory document, July 1, 1973.

LASL. 1975. "A Survey of Liquid Waste Management Problems at the Los Alamos Scientific Laboratory," Los Alamos Scientific Laboratory document.

LASL. 1979. "Radioactive Waste Management Site Plan," Los Alamos Scientific Laboratory document, September 1979.

Mitchell, Robert N. 1967. "Incinerator, Health Research Laboratory Building TA-43," Los Alamos Scientific Laboratory memorandum to H.F. Schulte, April 20, 1967.

TA43-1-CA-A-HW/RW

Background--The Health Research Laboratory was first occupied in 1953 by groups doing biomedical and industrial hygiene research (H Division 1953:1). During the 1960s and perhaps into the 1970s, a 100-lb/hr, 400,000-BTU/hr, gas-burning incinerator was used to incinerate rats, mice, and paper that did not contain radioactive material (Mitchell 1967). During the field survey, it was observed that although the incinerator is still in the building, it has been inactive for a number of years.

Through the years, the CEARP files document the following work or incidents that could have contaminated ducts, floors, inner walls, etc.:

1953: Strontium-90 contaminated the source room; the room was decontaminated and the floor painted (H Division 1953:4).

1954: Beryllium carbide was spilled in a chemical cabinet; the spill was cleaned up (H Division 1955a:10).

1955: Plutonium was spilled in room 236 of building 1 and spread to other areas (H Division 1955b:3).

1955: Room 148 of building 1 and the animal cages were found to be contaminated with strontium-90 (H Division 1955c:3).

1956: Mice were fed tantalum-182 and plutonium and then dissected (H Division 1956:3).

1956: A thoron and radon inhalation experiment was carried out (H Division 1956b:7).

1957: Plutonium was spilled at the base of a staircase leading from the first floor of building 1 (H Division 1957).

1959: Either thorium or ionium contaminated the animal quarters and hood of room 247 in building 1. Contamination included room 137 (H Division 1959:3).

1969: A facility was constructed for implanting plutonium-238 in rats. Gloveboxes were exhausted through filters (LASL 1969).

Present: During the 1986 CEARP field survey, it was observed that small quantities of plutonium-238, plutonium-239, and polonium-210, and other nuclides used as tracers are still being used in animal studies. TA-43-22 is a level-3 biocontainment laboratory.

In 1973, the Health Research Laboratory building 1 was listed as having low contamination levels of transuranics, fission products, and tritium (LASL 1973:69). In 1979, the Health Research Laboratory was noted to be one of the major generators of nonradioactive chemicals (LASL 1979:76). At this facility research was also conducted on carcinogens. Wastes were reported to have gone to TA-54, Area G (LASL 1979:77).

There is no evidence of residual environmental contamination. Contamination, if present, is limited to inside buildings.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. Activities at TA-43 are covered by routine LANL operations.

TA43-2-CA/O-A/I-HW/RW (Industrial drains and treatment)

Background--Initially, the industrial waste drains at TA-43 connected to the TA-45 treatment plant and the treated outfall went to Acid Canyon (see TA-45 for more detail).

During 1963, the TA-43 industrial drains were connected into the county sanitary sewer line. All liquid wastes continued to go to the county sewer line until 1975, when containers for radioactive wastes were placed in laboratories generating contaminated liquids. The containers were then transported to TA-50 to be treated (LASL 1975).

In 1981, the building drains from TA-43 were redirected into the TA-3 sanitary sewer system and waste treatment plant (Emelity 1981).

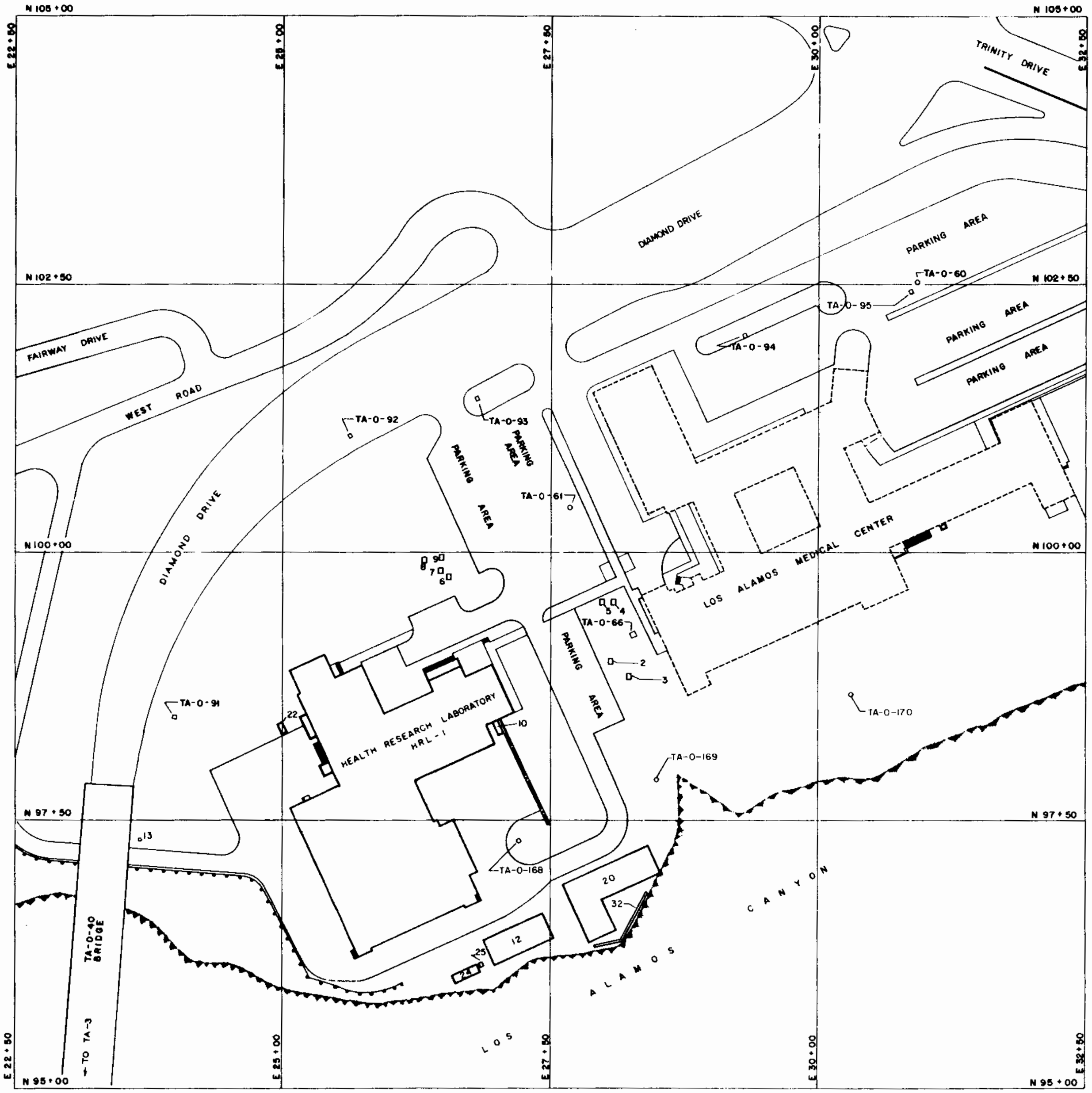
The industrial drain between the Health Research Laboratory and ULR-60 remains in place and is noted to be contaminated with low levels of plutonium and fission products (Balo and Warren 1986:61).

An old National Pollutant Discharge Elimination System (NPDES) map shows once-through cooling water and treated cooling water being discharged to the canyon through a drain on the southwest side of the site.

During the 1987 CEARP field survey, three drain pipes at different elevations were noted to the southwest of the site. These drains are believed to discharge storm and runoff drainage. A pipe that opens to the canyon was seen in back of building 24. It discharges from a drinking fountain.

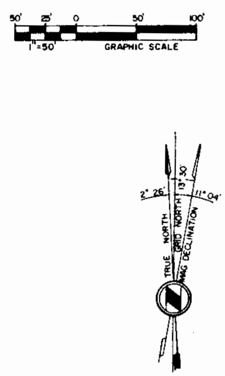
CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, more details will be located on the history of the industrial waste drains and their destination and contents. Reconnaissance surveys will be conducted as appropriate. The active drains and treatment facilities are covered by routine LANL operations.



STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-43-1	HRL-1	HEALTH RESEARCH LAB		N 97+50 E25+00
TA-43-2	HRL-2	MANHOLE	WATER P.I.V.	N100+00 E27+50
TA-43-3	HRL-3	MANHOLE	WATER	N100+00 E27+50
TA-43-4	HRL-4	MANHOLE	WATER	N100+00 E27+50
TA-43-5	HRL-5	MANHOLE	WATER	N100+00 E27+50
TA-43-6	HRL-6	MANHOLE	WATER	N100+00 E27+50
TA-43-7	HRL-7	MANHOLE	WATER	N100+00 E27+50
TA-43-8	HRL-8	MANHOLE	WATER	N100+00 E27+50
TA-43-9	HRL-9	MANHOLE	WATER	N100+00 E27+50
TA-43-10	HRL-10	SEWAGE LIFT STATION	TRANSFERRED TO ZIA AUG.'70	N 97+50 E27+50
TA-43-11	HRL-11	METAL LAWN BUILDING	REMOVED 1985	
TA-43-12	HRL-12	WAREHOUSE		N97+50 E27+50
TA-43-13	HRL-13	MANHOLE, TELEPHONE		N97+50 E25+00
TA-43-14	HRL-14			
TA-43-15	HRL-15			
TA-43-16	HRL-16			
TA-43-17	HRL-17		CANCELLED	
TA-43-18	HRL-18			
TA-43-19	HRL-19			
TA-43-20	HRL-20	TRANSPORTABLE, OFFICE		N97+50 E27+50
TA-43-21	HRL-21		CANCELLED	
TA-43-22	HRL-22	EMERGENCY ACCESS TO 43-1		N97+50 E27+50
TA-43-23	HRL-23		CANCELLED	
TA-43-24	HRL-24	TRAILER, OFFICE		N95+00 E27+50
TA-43-25	HRL-25	TRANSFORMER PAD		N95+00 E27+50
TA-43-26	HRL-26		CANCELLED	
TA-43-27	HRL-27		CANCELLED	
TA-43-28	HRL-28			
TA-43-29	HRL-29			
TA-43-30	HRL-30	STORAGE SHED		
TA 43-31	HRL-31		CANCELLED	
TA-43-32	HRL-32	RETAINING WALL		N97+50 E27+50
TA-43-33	HRL-33			
TA-43-34	HRL-34			
TA-43-35	HRL-35			
TA-43-36	HRL-36			
TA-43-37	HRL-37			
TA-43-38	HRL-38			
TA-43-39	HRL-39			
TA-43-40	HRL-40			
TA-43-41	HRL-41			
TA-43-42	HRL-42			
TA-43-43	HRL-43			
TA-43-44	HRL-44			

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-40	ULR-40	BRIDGE	TRANSFERRED TO ZIA 1956	N 97+50 E22+50
TA-0-60	ULR-60	MANHOLE, ACID	ABANDONED 1965	N102+50 E30+00
TA-0-61	ULR-61	MANHOLE, ACID	ABANDONED 1965	N100+00 E27+50
TA-0-66	ULR-66	MANHOLE, ELECTRICAL	ABANDONED 1965	N100+00 E27+50
TA-0-91	ULR-91	MANHOLE, STEAM		N 97+50 E25+00
TA-0-92	ULR-92	MANHOLE, STEAM		N100+00 E25+00
TA-0-93	ULR-93	MANHOLE, STEAM		N102+50 E27+50
TA-0-94	ULR-94	MANHOLE, STEAM		N102+50 E30+00
TA-0-95	ULR-95	MANHOLE, STEAM		N102+50 E30+00
TA-0-168	ULR-168	MANHOLE, ELECTRICAL		N 97+50 E27+50
TA-0-169	ULR-169	MANHOLE, ELECTRICAL		N97+50 E27+50
TA-0-170	ULR-170	MANHOLE, ELECTRICAL		N97+50 E30+00



REV.	DATE	REVISION	BY	CKD	APP
15	3-28-86	REVISED TO STATUS OF 3-11-86	ALC		
14	7-8-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 6-29-83	H.S.		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING. DIVISION

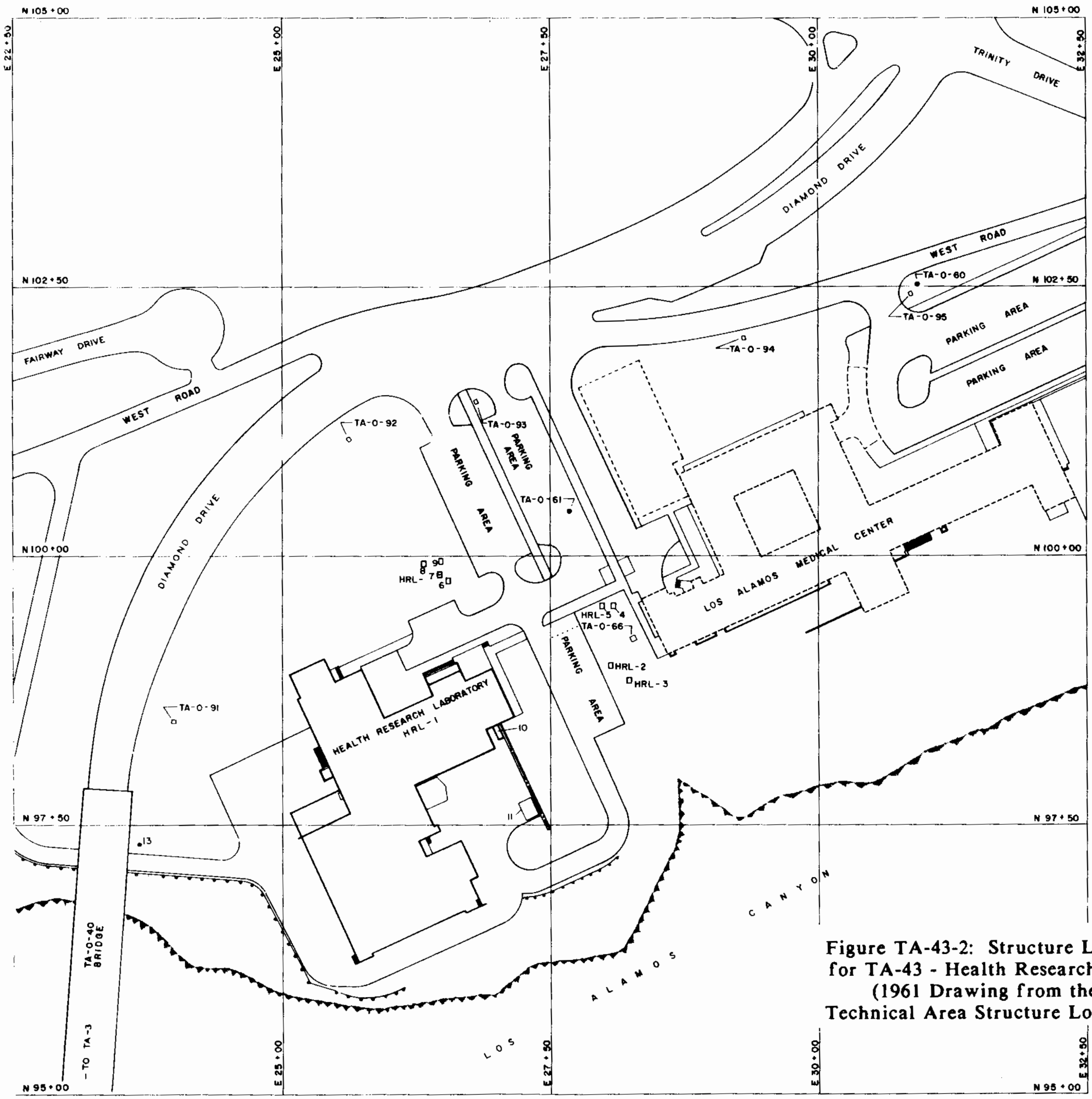
STRUCTURE LOCATION PLAN
TA-43
HEALTH RESEARCH LABORATORY

SEC CLASSIFICATION — CLASS: u — REVIEWER — DATE

SUBMITTED — RECOMMENDED — APPROVED

DRAWN	HERB SALGADO	DATE	SHEET NO	DRAWING NO
CHECKED		7-8-83	1 OF 1	ENG-R5123

Figure TA-43-1: Structure Location Plan for TA-43 - Health Research Laboratory
(1983 Drawing from the LANL Technical Area Structure Location Plans)

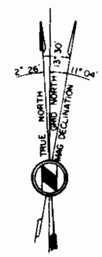


STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-43-1	HRL-1	HEALTH RESEARCH LAB		N 97+50 E25+00
TA-43-2	HRL-2	MANHOLE	WATER P I V	N100+00 E27+50
TA-43-3	HRL-3	MANHOLE	WATER	N100+00 E27+50
TA-43-4	HRL-4	MANHOLE	WATER	N100+00 E27+50
TA-43-5	HRL-5	MANHOLE	WATER	N100+00 E27+50
TA-43-6	HRL-6	MANHOLE	WATER	N100+00 E27+50
TA-43-7	HRL-7	MANHOLE	WATER	N100+00 E27+50
TA-43-8	HRL-8	MANHOLE	WATER	N100+00 E27+50
TA-43-9	HRL-9	MANHOLE	WATER	N100+00 E27+50
TA-43-10	HRL-10	SEWAGE LIFT STATION	TRANSFERRED TO ZIA AUG '70	N 97+50 E27+50
TA-43-11	HRL-11	METAL LAWN BUILDING		N 97+50 E27+50
TA-43-12	HRL-12			
TA-43-13	HRL-13	MANHOLE, TELEPHONE		N97+50 E25+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-34	ULR-34		REMOVED 1967	
TA-0-35	ULR-35		REMOVED 1967	
TA-0-40	ULR-40	BRIDGE	TRANSFERRED TO ZIA 1956	N 97+50 E22+50
TA-0-60	ULR-60	MANHOLE, ACID	ABANDONED 1965	N102+50 E30+00
TA-0-61	ULR-61	MANHOLE, ACID	ABANDONED 1965	N100+00 E27+50
TA-0-66	ULR-66	MANHOLE, ELECTRICAL	ABANDONED 1965	N100+00 E27+50
TA-0-91	ULR-91	MANHOLE	STEAM	N 97+50 E25+00
TA-0-92	ULR-92	MANHOLE	STEAM	N100+00 E25+00
TA-0-93	ULR-93	MANHOLE	STEAM	N102+50 E27+50
TA-0-94	ULR-94	MANHOLE	STEAM	N102+50 E30+00
TA-0-95	ULR-95	MANHOLE	STEAM	N102+50 E30+00

REVIEWER [signature] DAT. 7/29/77

Figure TA-43-2: Structure Location Plan for TA-43 - Health Research Laboratory (1961 Drawing from the LANL Technical Area Structure Location Plans)



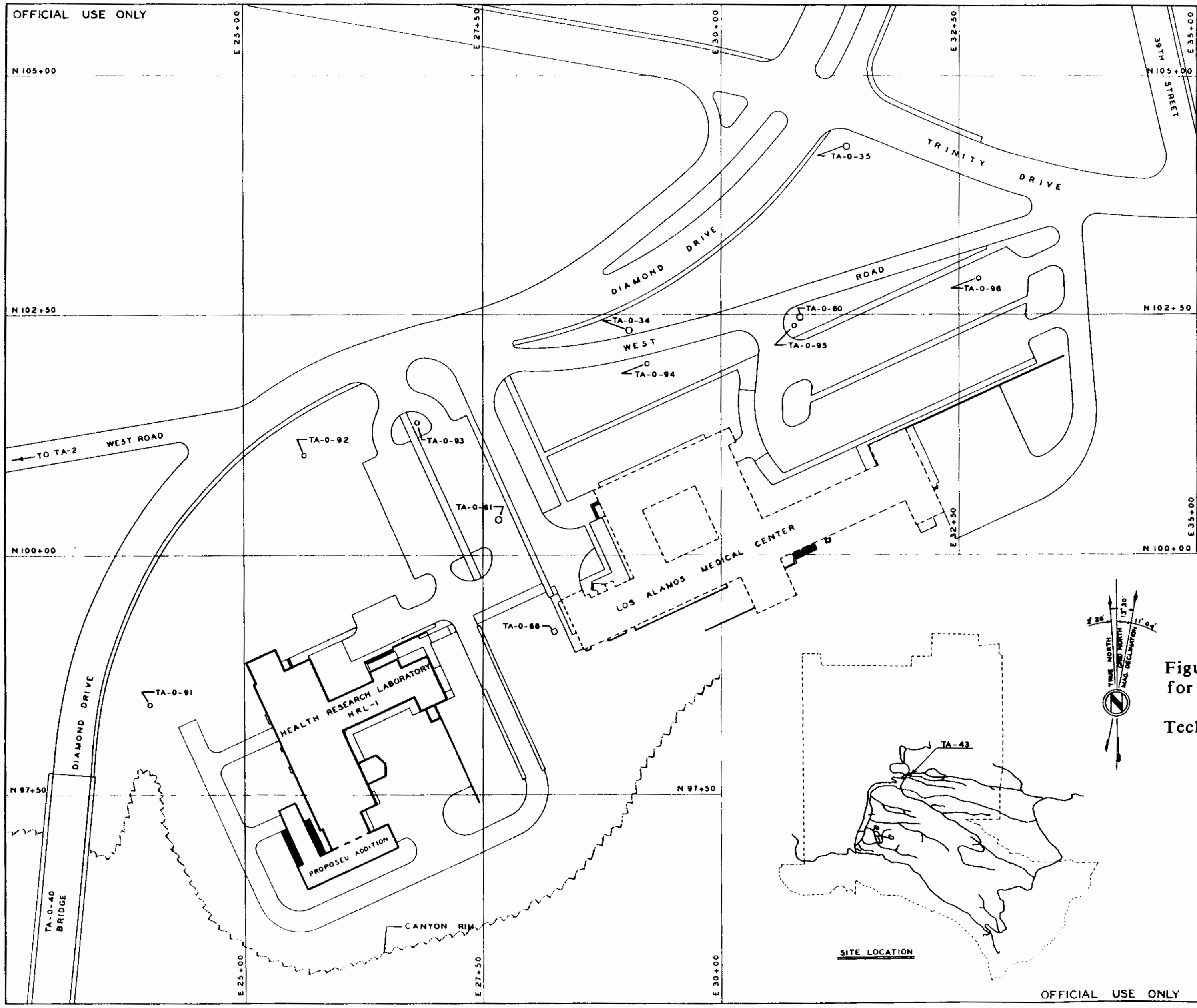
NO.	DATE	REVISIONS	BY	CHKD	GRP. LDR.	ENG. D. O.
MF 13	4-20-77	REVISED DWG NO. (FORMERLY R2477)	M.M.			
12	6-19-75	REVISED PER ENG DWG LA-MM-CI	B.H.			
11	10-24-74	REVISED PER LASL W/O 6-8504-75	B.H.			
10	5-5-72	REVISED TO STATUS OF 5-5-72	JRN			
9	12-2-69	REVISED TO STATUS OF 12-2-69	DAD			
8	12-2-65	REVISED TO STATUS OF 11-24-65	ERW			
7	3-15-65	REDRAWN TO REPLACE LOST ORIGINAL	CDF			
6	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R166)	JEJ			

AUTHORIZED FOR: HEALTH | SAFETY | FIRE PROT. | SEC.

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

STRUCTURE LOCATION PLAN
TA-43
HEALTH RESEARCH LABORATORY

CHECKED / PROJ. ENG.	RECOMMENDED / GROUP LEADER	APPROVED / ENG. DEPT OFFICE
DESIGNER	DATE 8-15-61	DRAWING NO. ENG- R5123
DRAWN JOHNSON	SHEET NO. 1	
SCALE AS NOTED		



STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-43-1	HRL-1	HEALTH RESEARCH LABORATORY

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-0-34	ULR-34	MANHOLE (ACID SEWER)
TA-0-35	ULR-35	MANHOLE (ACID SEWER)
TA-0-40	ULR-40	BRIDGE
TA-0-60	ULR-60	MANHOLE (ACID SEWER)
TA-0-61	ULR-61	MANHOLE (ACID SEWER)
TA-0-66	ULR-66	MANHOLE (ELECTRICAL)
TA-0-91	ULR-91	MANHOLE (STEAM)
TA-0-92	ULR-92	MANHOLE (STEAM)
TA-0-93	ULR-93	MANHOLE (STEAM)
TA-0-94	ULR-94	MANHOLE (STEAM)
TA-0-95	ULR-95	MANHOLE (STEAM)
TA-0-96	ULR-96	MANHOLE (STEAM)

Figure TA-43-3: Structure Location Plan for TA-43 - Health Research Laboratory (1955 Drawing from the LANL Technical Area Structure Location Plans)

NO.	DATE	REVISIONS	BY	CHKD
4	7-1-57	REVISED TO STATUS OF 7-1-57	DDS	NB
3	4/4/57	REDRAWN TO STATUS OF JULY 1, 1955	NOB	JAS

LOS ALAMOS SCIENTIFIC LABORATORY
UNIVERSITY OF CALIFORNIA
ENGINEERING DEPARTMENT — LOS ALAMOS, N. M.

STRUCTURE LOCATION PLAN
TA-43
HEALTH RESEARCH LABORATORY

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

CHECKED: DESIGNER — RECOMMENDED: GROUP LEADER — APPROVED: ENG. DEPT. OFFICE
DRAWN: N BYERS — DATE: 8-31-55 — DRAWING NO. ENG-R 166
SCALE: 1" = 50' — SHEET 1 OF 1

OFFICIAL USE ONLY

TA-44 - LOS ANGELES SHOP

CURRENT OPERATIONS

TA-44, which was located in Los Angeles, California, is no longer operational. The site is now occupied by a company that makes ladders.

POTENTIAL CERCLA/RCRA SITES

A 1949 memo states, "An experimental machine shop has been established in Los Angeles, Calif., at 201 North Ave. 19" (LASL 1949a). By July, there were 65 employees. The work was described as a job or custom machine shop working on small- or medium-size ferrous and nonferrous parts. Some washing of small parts was done with trichlorethylene. No other potentially toxic materials were handled (LASL 1949b). In 1950, several hundred persons were reported to be employed (Shipman 1950). The Laboratory abandoned the site in 1958, according to ENG-R5101, dated 1961.

No potential CERCLA/RCRA sites are identified. No future action is planned under CEARP.

FIGURES

TA-44-1: Structure Location Plan for TA-44 - Los Angeles Shop

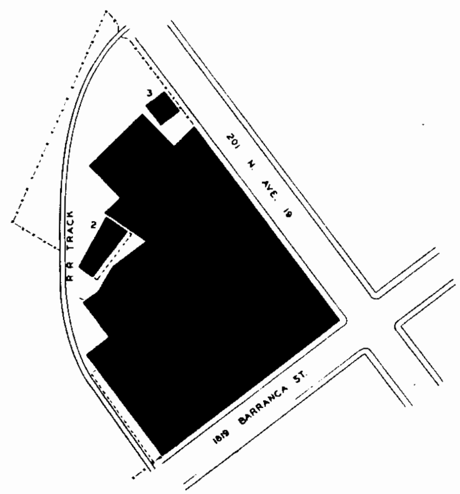
REFERENCES

LASL. 1949a. Office of the Administrative Assistant Director, "Los Angeles Experimental Machine Shop," Los Alamos Scientific Laboratory memorandum, January 13, 1949.

LASL. 1949b. Safety Director, "Los Angeles Experimental Machine Shop: Safety Survey," Los Alamos Scientific Laboratory memorandum to the Department of Engineering, July 13, 1949.

Shipman, Thomas L. 1950. Los Alamos Scientific Laboratory letter to Dr. Stafford Warren, University of California, Los Angeles, March 10, 1950.

STRUCTURE NUMBER	DESIGNATION	REMARKS & FORMER DESIGNATION
TA-44-1	LAS-1	MACHINE SHOP
TA-44-2	LAS-2	STORAGE BLDG.
TA-44-3	LAS-3	SHED



NORTH
(MAGNETIC)

GENERAL REVISION TO STATUS OF JAN 1, 1951 J.A.S. 3-2-51	AUTHORIZED FOR	LOS ALAMOS SCIENTIFIC LABORATORY DEPARTMENT OF ENGINEERING—CONSTRUCTION & MAINTENANCE GROUP		
	HEALTH SAFETY FIRE PR. COMM. SEC.	STRUCTURE LOCATION PLAN TA-44 LOS ANGELES SHOP		
REV. 0		SCALE: 1" = 50'	DRAWN BY: E R HESCH CHKD. BY: APPVD. BY:	DATE: 1-3-51 DATE: DATE:
		DWG. NO. ENG R 168		

Figure TA-44-1: Structure Location Plan for TA-44 - Los Angeles Shop
(1951 Drawing from the LANL Technical Area Structure Location Plans)

TA-45 - WD SITE

CURRENT OPERATIONS

TA-45 is no longer operational.

POTENTIAL CERCLA/RCRA SITES

During the war years and immediately after, most of the liquid effluents from industrial drains at the Main Technical Area (TA-1) were discharged untreated into an outfall in a tributary of Pueblo Canyon known as Acid Canyon. The quantity of radionuclides in the discharge and, therefore, the possible build-up of radionuclides in the soils of the canyon was of concern. By 1951, a treatment plant, known as TA-45, had been built and was processing radioactive and other industrial laboratory wastes; untreated wastes were no longer discharged to the canyon. The plant removed 98 to 99 per cent of plutonium in the effluent before it was discharged to two new outfalls located slightly to the northeast of the abandoned untreated outfall. The treatment plant, including outfalls, was gradually shut down from 1963 to 1966.

The plant itself was decontaminated and decommissioned in 1966, and the refuse was disposed of in a burial area for radioactive waste. Later, the buried lines, manholes, and a great deal of contaminated soil were removed. Radioactively contaminated material was also removed from Acid Canyon.

The following table presents what is known about potential CERCLA/RCRA sites at this location. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-45 is 4.4 (Appendix B).

FIGURES

Figure TA-45-1: Structure Location Plan for TA-45 - WD Site (1955)

REFERENCES

Blackwell, Charles D. 1967. "Removal of Structures and Cleanup of Radioactive Materials Within the TA-45 Area," Los Alamos Scientific Laboratory memorandum to Dean D. Meyer, January 11, 1967.

Buckland, Carl W. 1965. "Radiation Survey Results of TA-45 with Recommendations," Los Alamos Scientific Laboratory memorandum to S.E. Russo, June 17, 1965.

Chelius, Leo G. 1955. "Request for Modifications to Decontamination Pit, TA-45," Los Alamos Scientific Laboratory memorandum to John Bolton, July 7, 1955.

Ferenbaugh, R. W., T. E. Buhl, A. K. Stoker, and W. R. Hansen. 1982. "Environmental Analyses of Acid/Middle Pueblo Canyon," Los Alamos National Laboratory report LA-9409-MS, August 1982.

Gunderson, Thomas, Thomas Buhl, Richard Romero, and John Salazar. 1983. "Radiological Survey Following Decontamination Activities Near the TA-45 Site," Los Alamos National Laboratory report LA-9831-MS, July 1983.

LANL. 1981. "Formerly Utilized MED/AEC Sites Remedial Action Program," Los Alamos National Laboratory report LA-8890-ENV, May 1981.

LASL. 1966. "Radiological Safety Procedures for Personnel During the Removal and Disposal of TA-45 Structures," Los Alamos Scientific Laboratory internal document, August 2, 1966.

LASL. 1968. "Technical Area Structure Number Assignments," Los Alamos Scientific Laboratory internal document, July 25, 1968.

Voelz, George L. 1980. Letter to J. J. Blakeslee, Rocky Flats Plant, August 13, 1980, in the CEARP files at Los Alamos National Laboratory.

TABLE TA-45 - POTENTIAL CERCLA/RCRA SITES

TA45-1-O/CA-I-HW/RW (Outfalls, drains)

Background--During the war years and immediately after, most of the liquid effluents from industrial drains at the Main Technical Area (TA-1) were collected into a central collection system and discharged untreated into an outfall in a tributary of Pueblo Canyon known as Acid Canyon. The outfall was near the present intersection of Canyon and Central. There was concern about the quantity of radionuclides in the discharge and, therefore, the possible build-up of radionuclides in the soils of the canyon.

In 1948, a joint effort was started between the Laboratory and the U.S. Public Health Service to develop a method to remove plutonium and other radionuclides from radioactive liquid waste. Bench-scale experiments showed that conventional physico-chemical water treatment methods could be modified to treat radioactive waste. By June 1951, a treatment plant identified as TA-45 had been designed and constructed. The plant began to process radioactive and other laboratory wastes by a flocculation-sedimentation-filtration process, and discharging untreated radioactive wastes to the canyon ceased.

The plant, located in TA-45-2, typically removed 98 to 99 per cent of the mass of plutonium in the effluent before it was discharged to two new outfalls located slightly to the northeast of the abandoned untreated outfall. In addition, a vehicle decontamination facility, TA-45-1, had a drain out one end that went onto the soil, and that waste drained to the canyon. Later, a drain and pit were put in, so that wastewater could be treated in TA-45-2, the main waste treatment facility, and all liquids could then be discharged to the main outfall.

A sewer line overflow from lift station TA-45-3 also discharged to the canyon. According to engineering drawing ENG-R1513, the outfall for this overflow was to the north of TA-45-3.

From start-up until mid-1953, the TA-45 plant treated liquid wastes only from the original Main Technical Area, TA-1. Starting in June 1953, additional radioactive liquid wastes were piped to TA-45 from the new laboratory complex, TA-3, south of Los Alamos Canyon. This complex included the Chemistry and Metallurgical Research Building, where plutonium research was conducted. In September 1953, liquid wastes from the Health Research Laboratory, TA-43, were added to the system. Initially, the TA-3 waste was very dilute, and levels were monitored to determine if treatment was required to maintain the 2-week effluent average from TA-45 at below 330 dis/min/L, the level adopted as the administrative level for effluent release from TA-45. If treatment was not required to meet the criterion, the TA-3 waste was discharged untreated to Acid Canyon. By December 1953, only about 30 per cent of the TA-3 waste was released untreated. In 1958, liquid wastes from a new radiochemistry facility, TA-48, were added to the line coming from TA-3. The wastes from this facility included primarily fission products and are reflected in the higher gross beta and gamma content of the TA-45 effluents from 1960-1963.

In July 1963, wastes from TA-3 and TA-48 were redirected to a new Central Waste Treatment Plant, TA-50, located south of Los Alamos Canyon, which is still within the present site of Los Alamos National Laboratory. Liquid sanitary-type wastes from TA-43 were redirected to the sanitary sewer. Subsequently, only liquid wastes from TA-1 were processed at TA-45 until it ceased operation near the end of May 1964. Some untreated low-level liquid wastes containing fission products from decommissioning the Sigma Building at TA-1 were released into Acid Canyon.

Industrial

Decontaminating and decommissioning (D&D) the TA-45 liquid waste treatment plant began in October 1966. All contaminated equipment, plumbing, and removable fixtures were taken to Laboratory burial areas for solid radioactive wastes; these areas are still located within the current LANL site. The structures for the waste treatment plant, TA-45-2, and the vehicle decontamination facility, TA-45-1, were demolished and all debris removed to the Laboratory disposal areas.

Buried industrial waste lines, manholes, and a significant amount of contaminated soil at TA-45 were dug out and the debris transported to a Laboratory disposal area for solid radioactive waste. About 516 dump-truck loads of debris were removed during these operations. At the same time, an attempt was begun to decontaminate portions of Acid Canyon. Contaminated tuff was removed from the face of the cliff where the effluent had flowed. Workers using jackhammers and axes were suspended over the edge of the cliff on ropes with safety harnesses to remove contaminated rock. The debris was loaded into dump trucks at the bottom of the cliff. Some contaminated rock, soil, and sediment were also removed from the floor of the canyon. About 94 dump-truck loads of debris were removed from Acid Canyon and disposed of in a Laboratory disposal area.

The operation was suspended in January 1967 because of cold weather. In the spring of 1967, additional decontamination was undertaken and included other portions of buried waste lines in the TA-45 area, more contaminated rock, and the flow-measuring weir from Acid Canyon. By July 1967, the TA-45 site and Acid Canyon were considered sufficiently free of contamination to allow unrestricted access and removal of signs designating it as a contaminated area. Remaining residual radioactivity at that time was documented in some generally inaccessible spots to be less than 500 counts/min of alpha activity (measured using a portable air proportional alpha detector) and the amount was not considered to be a health hazard.

Pursuant to the Community Disposal Act, the Atomic Energy Commission transferred ownership of substantial portions of the Los Alamos townsite to the County of Los Alamos by quitclaim deed on July 1, 1967. The transfer included the former TA-45 site, Acid Canyon, and the portion of Pueblo Canyon encompassing the channel from Acid Canyon east to a point about 1,190 m west of the Los Alamos-Santa Fe County line. The transfer was subject to a reserved easement for continued access to and maintenance of sampling locations and test wells in and adjacent to the channel in Acid and Pueblo Canyons (Ferenbaugh et al. 1982, Blackwell 1967, Chelius 1955).

With increasingly lower levels mandated for radionuclides in soils, further cleanup was performed at TA-45 in 1982 (Gunderson et al. 1983). Sampling in the area around TA-45-2 and the untreated waste line leading to the plant in the early 1980s indicated that the subsurface areas in these regions are contaminated (LANL 1981:35). Apparently, subsurface--greater than 25 cm--contamination was not sampled at the vehicle decontamination facility. Because only surface cleanup was performed in the early 1980s, the areas of subsurface contamination at TA-45 remain.

The DOE Onsite Discharge Inventory System of July 12, 1982, shows, with decay correction through December 1981, the following canyon inventory due to the 1951-1964 treated discharge from TA-45:

Radionuclides	Ci
tritium	10.465
plutonium-239	0.027
strontium-90	0
uranium-235	0
unidentified alpha	0.067
unidentified beta-gamma	3.783

(Discharge inventory numbers for untreated waste to Acid/Pueblo canyon are presented under TA-1.)

A survey in the 1980s determined that plutonium was present at above-background levels in all channels and banks from the discharge points in the Los Alamos Canyon tributary down through lower Los Alamos Canyon (LANL 1981).

The Acid-Pueblo Canyon area, which as indicated above also received untreated waste before TA-45 was constructed, is considered to encompass an area of approximately 256,000 m^2 and to contain plutonium concentrations ranging from 0.122 to 550 pCi/g (Voelz 1980). More information on radionuclides in Acid Canyon and its lower drainage can be found in the Laboratory publication LA-8890-ENV (LANL 1981). Table TA-45.1, taken from page 107 of the publication just cited, notes the chemical quality of surface water where the tributary canyon, into which the TA-45 outfall discharged, joins Pueblo Canyon. The surface water quality improved with time.

Sanitary

In 1968, the sanitary drain lines from TA-45-1 and TA-45-2 were reported to have been removed to manholes TA-45-5 and -6, and the manholes to have been transferred to the Zia Company on July 1, 1967 (LASL 1968). According to a 1965 memo, these manholes were never monitored (Buckland 1965). A memo from 1966 states that the manholes may or may not contain small amounts of radioactive materials. "Since they are probably connected to the shower and wash basins, it is likely they contain small amounts of radioactive materials and should be removed" (LASL 1966). The current status of TA-45-5 and -6 is not known.

According to undated engineering notes, the sewage lift station was transferred to Zia on July 1, 1967. Whether the overflow continued to discharge to the canyon and whether this lift station had any contamination is not known. The 1986 CEARP field survey confirmed that the lift station has been decommissioned and the basement area filled with soil.

Table TA-45.1 Chemical Quality of Surface Water at Acid Weir[a]

Year	No. of Analyses	Na	Cl	F	NO_3	TDS	pH[b]
1953	9	--	29	4.1	157	435	--
1954	10	--	37	5.2	242	545	--
1955	6	--	36	5.2	304	640	--
1956	10	--	32	5.7	50	583	8.6
1957	3	72	23	3.8	36	345	7.9
1958	6	66	25	5.1	23	350	8.1
1959	3	87	45	4.0	26	400	8.3
1960	1	85	44	3.9	16	335	8.6
1961	1	78	29	2.0	29	420	8.5
1962	2	94	39	2.2	26	400	9.4
1963	2	72	24	2.0	13	356	8.3
1965	1	38	14	1.7	4	246	7.6
1970	2	98	165	1.7	4	437	7.7
1971	1	41	52	0.9	4	276	7.1
1972	2	86	73	1.9	4	305	7.4
1973	2	68	41	0.9	5	326	7.4
1974	2	80	89	0.8	7	316	7.4
1975	2	59	50	0.7	26	324	7.7

[a]Average of a number of analyses in mg/L, except as noted.

[b]No units.

CERCLA Finding--Due to status of activities (i.e., CEARP Phase V), a CERCLA finding under FFSDIF, PA, and PSI is not appropriate.

Planned Future Action--CEARP Phase V will be conducted for this area of potential concern.

TA45-2-OL-I-HW/RW/SW (Building debris)

A 1987 CEARP survey noted that building debris was disposed of in the canyon behind the former TA-45. LANL records indicate that debris from TA-45 was taken to Material Disposal Areas C and G. Los Alamos County has used the area for disposal of building debris.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The debris originated from county operations.

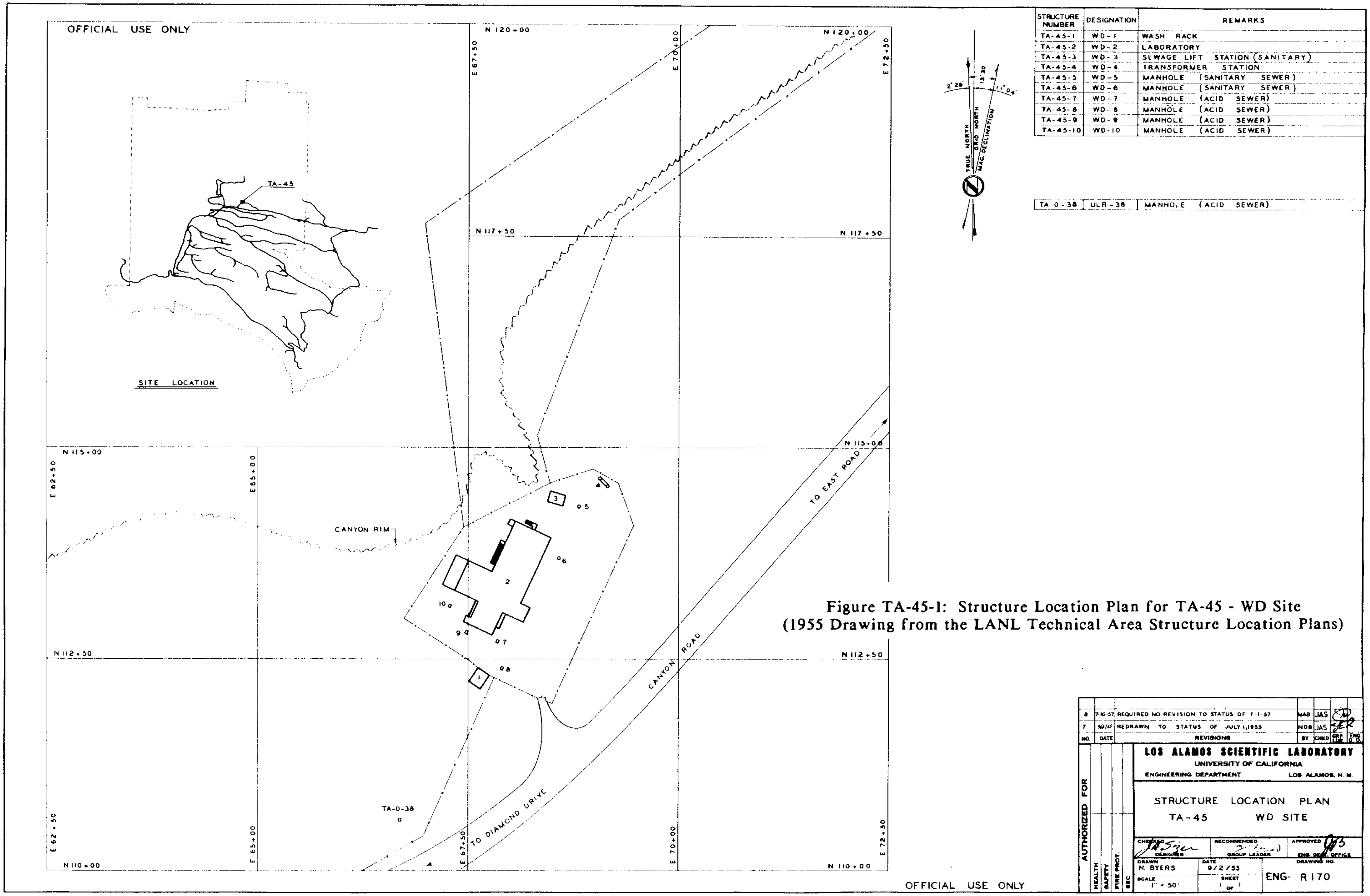


Figure TA-45-1: Structure Location Plan for TA-45 - WD Site
(1955 Drawing from the LANL Technical Area Structure Location Plans)

TA-46 - WA SITE

CURRENT OPERATIONS

The Chemical and Laser Sciences (CLS) Division is one of the main occupants of TA-46. It has four groups stationed there who are all working in laser research. The work in laser physics includes laser-induced breakdown spectroscopy, coherent anti-Raman scattering, and use of a Fourier Transformer Spectrometer, which came partially online in March 1987. The Discharge Lasers and Applications Group (CLS-5) is building a high pulse rate (0.5- to 1.0-kHz), high-power laser, which will have a maximum power of 50 MW. The Theoretical Chemistry and Molecular Physics Group (T-12) and Isotope and Structural Chemistry Group (INC-4) are also located at TA-46. The Accelerator Technology (AT) Division is researching a free-electron laser system. The Nuclear Technology and Engineering Division (N) is conducting research on heat pipes and on various concrete types and constructions for safety studies of structures. Also, the Mechanical and Electronic Engineering (MEE) Division does some light electronics work and computer simulations.

POTENTIAL CERCLA/RCRA SITES

TA-46 was originally built to be a weapons assembly site, but was never used for this purpose. It was first occupied in the early to mid-1950s by N Division groups involved in the Rover program to design a nuclear reactor for use as a rocket. The early work consisted of various flow and structural testing for the program and related activities. During this time, some of the work resulted in contaminants being discharged into the environment. Materials of concern include hydrochloric acid, nitric acid, cesium metal and oxide, uranium, lithium hydroxide, cooling tower blowdown, and oils.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP

Phase IIA Monitoring Plan for TA-46. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-46 is 12.6 (Appendix B).

FIGURES

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TABLE TA-46 - POTENTIAL CERCLA/RCRA SITES

TA46-1-CA/O-I-HW/RW (Outfalls and storm sewer)

Background--TA-46 was originally built to be a weapons assembly site, but was never used for this purpose. Apparently, the site was first used in the early to mid-1950s by N Division groups involved in the Rover program (design of a nuclear reactor for use as a rocket). Rover reactor cores were made of enriched uranium impregnated in a graphite matrix. Core cooling was achieved by passing hydrogen through the fuel/moderator matrix. Early work at TA-46 consisted of various flow and structural testing for the reactor program and related activities (Employee Interviews 1985). Some fuel element assembly and other propulsion work was also carried on in the 1950s and 1960s.

During this time, various activities resulted in potential contaminants being discharged into the environment through outfalls or storm drainage. In 1958, a drain in building 24 serving a cleaning operation using 50 per cent hydrochloric acid and 50 per cent nitric acid was reported as "draining to a storm sewer which goes to a canyon" (Hyatt 1958). The materials that may have been cleaned are not known.

In 1960, an acid drain to a sump was reported for building 31 (Hyatt 1960). Engineering drawing ENG-R5124 shows TA-46-61 as a manhole to an acid sump near building 31. Whether the sump drained to the canyon is not known.

A 1961 memo indicated that cells containing cesium metal were placed in a ditch near the southwest corner of building 1, and a stream of water was run over the cells to remove the cesium. Glassware containing cesium metal and cesium oxide was treated similarly. The glassware was broken and left in the ditch until periodic cleanup (Teatum 1961). This appears to have been a routine operation; however, the total quantities of cesium placed in the ditch are not known.

A 1963 memo indicated that a water-filled, open concrete tank, believed to be TA-46-81, was used to clean alkali metal containers and components in the area north of building 31 (Ehrenkranz 1963). This tank was near the canyon wall, and spent liquid may have been discharged to the canyon. Structure 81 was removed in 1973.

A 1965 memo stated, "H-7's report dated 6-16-65 on uranium content in the effluent from metallurgical polishing indicated a total of 24.1 mg for four fuel element samples and 45.8 mg for four bead samples" (Runyan 1965). This activity occurred in building 1, room 8. Where the effluent went is not known; however, the same memo states, "Samples of the water flowing from TA-46 into Canyon del Buey are to be analyzed. If no activity is reported from there, further sampling is planned within the site, the object being to pinpoint possible accumulations."

A 1969 memo stated that cleanup in the arc jet facility resulted in waste water containing 0.1 M lithium hydroxide, which was mixed with cooling tower blowdown (flow rate 25 gal./min), and that it was discharged to the canyon (Stratton 1969). The expected discharge of lithium was indicated to be 50-100 lb per year.

A 1971 memo reported that building 1 had a cooling tower with a discharge of 10,500 gal./yr and that building 87 had a cooling tower with a discharge of 453,000 gal./yr in operation.

Biodegradable and nontoxic additives for scale and corrosion control were indicated (Miller 1971).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with the outfalls and storm sewers will be determined during supplemental Phase I.

TA46-2-O/CA-A-HW/PP (Outfalls and storm drains)

Background--Cooling towers for buildings 1 and 31 discharge to the canyon. The 1986 CEARP field survey indicated that cooling tower 169 is also discharging to the canyon.

During the field survey, oil was observed in drainage ditches to the east of manifold 71, near shed 197, and by building 158. These oil discharges appear to have occurred recently.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I the extent of residual environmental contamination associated with past activities will be determined. The active outfalls are covered by routine LANL operations.

TA46-3-SI/CA-A-HW/RW (Sanitary lagoons)

Background--Sanitary sewage is treated at lagoons onsite. The discharge to the canyon is through sand filters. Radionuclides and chemicals are of concern, because it appears from the CEARP 1986 field survey that chemical drains connect to the sanitary sewer.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the extent of residual environmental contamination associated with past discharges from the sanitary lagoons will be determined. The active sanitary lagoons are covered by routine LANL operations.

TA46-4-ST-A/I-HW/RW (Septic tanks and drain fields)

Background--In 1974, the contents of septic tank TA-46-53 were pumped out at least twice, and on both occasions a gross alpha count of up to 21,822 dis/min/L was found in the sludge. A memo indicates plutonium as the alpha-emitter in the sludge (McGinnis 1974). A sampling of the tank in 1973 also indicated above-background for gross alpha (Schrager 1973). What the source of the plutonium contamination was and whether there was possible leakage to surrounding soils is not known.

A 1981 memo stated that septic tanks TA-46-8, -22, -49, -53, and -66 were abandoned in 1973 (Stump, Paxton, and Gonzales 1981). Septic tank TA-46-94 was reported to have been abandoned and backfilled. A 1972 memo showed possible radioactive contamination for tanks 8, 22, 49, 53, 66, and 94 (Miller 1972). It is not known whether the tanks leaked and contaminated the surrounding soils. Because uranium, organics, chemicals, and beryllium were among the materials used at TA-46, they are also possible contaminants in the septic tanks and their drain areas.

A 1976 memo indicated that sanitary wastes from building 77 were being discharged without treatment and were the second such source found at TA-46 (Dunne 1976). The present status of discharge is not known, but during the 1986 CEARP field survey an open pipe was observed leading out of the building.

At present, there is a septic tank east of the free-electron lab; however, its overflow system is not known (Pan Am 1986). This tank is pumped, but a strong odor in the area indicates frequent overflows.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with the inactive septic tanks and drain fields will be investigated during Phase II. The active septic systems are covered by routine LANL operations.

TA46-5-CA-A/I-HW/RW/PP (Spills and releases)

Background--During the Rover program, materials undergoing testing, machining, and fabrication included beryllium, uranium-235, depleted and natural uranium, sodium, lithium, cesium, sodium potassium, gadolinium metal, and thorium (H Division 1956:2, 1960a:6; Welty 1958; Mitchell 1960; Ettinger 1962, 1963; LASL 1965; Stratton 1969; Ferran 1970).

Various organics (Ettinger 1963) as well as nickel carbonyl (Westfall 1959) are also reported to have been used. Mercury levels were reported at 10 to 15 times the permissible level as a result of spills and other incidents (H Division 1957a:10-11, b:6).

Regarding uranium-235 emissions from building 31, a memo states, "An attempt is now being made to determine whether appreciable activity is being deflected downwind of building 31 from the stack" (Melton 1960).

After the Rover program was phased out, a general cleanup of TA-46 was conducted. A report reads, "Similarly, the large amounts of U-contaminated waste generated during CY 1973 resulted from cleanup operations and equipment removal from TA-46 upon termination of the Rover program..." (Warren 1974). However, the ducts and drains in lab building 1 and in the test cells 1 and 2 in building 16 continue to be listed as moderately contaminated with uranium (Balo and Warren 1986:60). Other buildings, associated ducts, etc., in which active material was stored or tested may also be contaminated.

After the Rover program, TA-46 was for a time chiefly used for the uranium isotope separation program (LASL 1976:14). In 1978, in addition to natural uranium, nanogram quantities of uranium-237, gram quantities of 50-50 mixes of uranium-235/uranium-238, and millicurie amounts of carbon-14 were reported (LASL 1979:22). This program continued through the early 1980s. A release of uranium hexafluoride gas containing uranium-237 was reported in 1978 (Ahlquist 1978); however, no uranium-237 was detected in air sampling.

Nonradioactive wastes from this program were reported to be oils, solvents, dyes, and chemicals. They were disposed of in Area L (LASL 1979). However, during the CEARP 1986 field survey, evidences of oil spills were observed in back of building 31 all along the canyon edge. These spills are believed to have occurred during the isotope separation programs. In other areas at TA-46 there are oil spills that appear to have happened recently or in the past. In certain areas, discoloration of the ground indicates some possible discharge of chemicals.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual environmental contamination associated with past spills and releases will be investigated during supplemental Phase I. Active operations at TA-46 are covered by routine LANL operations.

TA46-6-CA-A/I-HW/PP (Drum and bottle storage and transformer storage)

Background--In numerous locations, barrels and cans are stored. Some contain (or contained) chemicals and some oils, and the contents are not always labeled. The 1986 CEARP field survey located evidence of spills and/or leaks. There are also some out-of-service transformers and power supplies stored outside.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of environmental contamination associated with past storage will be evaluated during supplemental Phase I. The active operations at TA-46 are covered by routine LANL operations.

TA46-7-S-I-HW/RW/PP (Sumps)

Background--In 1960, an acid drain to a sump was reported by building 31 (Hyatt 1960); see TA-46-1, above. The location of this sump is not known. Engineering drawing ENG-R5124 lists TA-46-69 and TA-46-70 as sumps abandoned in 1973. Their covers were located in the 1986 CEARP field survey. What they contain or contained and whether they ever discharged is not known. Because they are located near a laboratory shop building and the Rover test building, chemicals, organics, and/or uranium might possibly be found in these two sumps.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--Residual environmental contamination associated with the sumps will be investigated during supplemental Phase I.

TA46-8-SI-I-HW (Battery acid, stabilization pit)

Background--Engineering drawing ENG-R5124 indicates a stabilization pit, TA-46-149, at grid location N2+50, E157+50, TA-46-149. During the Rover Program, 901 large submarine batteries, estimated to have contained 25,000 gal. of battery acid, were used (Westcott 1973). When the program was terminated, the batteries had to be removed. One suggestion was to pump at least part of the acid to a "lime-lined pit at TA-46" (Jordan 1973). It is not certain whether this was done and whether stabilization pit TA-46-149 contains the neutralized acid. The final fate of the batteries is also unknown. During the 1986 CEARP field survey, an employee indicated that some batteries were used for other programs and some sold as salvage.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I the stabilization pit will be evaluated.

TA46-9-SI-I-HW (Experimental solar ponds)

Background--As part of the solar energy program at LANL, lined solar ponds were constructed that contained sodium chloride salt solutions. These ponds are no longer in use; however, the 1986 CEARP field survey confirmed that they still contain their solutions. The solar ponds were sampled on March 19, 1987, for extraction procedure toxicity (EP TOX) metals and semi-volatile organics. All analytes were below the minimum detection limit.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP.

TA46-10-L-I-HW-Unknown (Material fill area)

Background--At the head of a tributary to Canyon del Buey is a material fill area. During the 1986 CEARP field survey, it was noted that the fill appears to include soil material and asphalt. Whether any of the material could be contaminated is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The material fill area will be studied during supplemental Phase I.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-46-1	WA-1	LABORATORY BUILDING		N5+00 E145+00
TA-46-2	WA-2	GUARD HOUSE	STATION # 415	N2+50 E142+50
TA-46-3	WA-3	PEDISTAL	REMOVED 1960	
TA-46-4	WA-4	PEDISTAL	REMOVED 1960	
TA-46-5	WA-5	PEDISTAL	REMOVED 1960	
TA-46-6	WA-6	MANHOLE, SANITARY		N5+00 E145+00
TA-46-7	WA-7	MANHOLE, SANITARY		N2+50 E145+00
TA-46-8	WA-8	TANK, SEPTIC	ABANDONED 1973	N2+50 E147+50
TA-46-9	WA-9	DISTRIBUTION BOX		N2+50 E147+50
TA-46-10	WA-10	DISTRIBUTION BOX		N2+50 E147+50
TA-46-11	WA-11	MANHOLE, ELECTRICAL		N2+50 E142+50
TA-46-12	WA-12	MANHOLE, ELECTRICAL	REMOVED 1960	
TA-46-13	WA-13	TRANSFORMER STATION		N2+50 E142+50
TA-46-14	WA-14	LIGHTING TRANSFORMER		N2+50 E142+50
TA-46-15	WA-15	MANHOLE, STORM DRAINAGE		N5+00 E145+00
TA-46-16	WA-16	TEST BUILDING NO. 1		N5+00 E152+50
TA-46-17	WA-17	UTILITY BUILDING		N5+00 E152+50
TA-46-18	WA-18	UTILITY TUNNEL		N5+00 E152+50
TA-46-19	WA-19	TRANSFORMER STATION		N5+00 E152+50
TA-46-20	WA-20	HOSE HOUSE		N2+50 E152+50
TA-46-21	WA-21		CANCELLED	
TA-46-22	WA-22	TANK, SEPTIC	ABANDONED 1973	N2+50 E155+00
TA-46-23	WA-23	ROAD BLOCK	REMOVED 1968	
TA-46-24	WA-24	LABORATORY & OFFICE BLDG.		N2+50 E145+00
TA-46-25	WA-25	BATTERY BUILDING		N5+00 E152+50
TA-46-26	WA-26		CANCELLED	
TA-46-27	WA-27	ROAD BLOCK	REMOVED 1980	
TA-46-28	WA-28	ROAD BLOCK	REMOVED 1967	
TA-46-29	WA-29	DISTRIBUTION BOX	ABANDONED 1973	N2+50 E155+00
TA-46-30	WA-30	HYDRAULICS LABORATORY		N5+00 E147+50
TA-46-31	WA-31	TEST BUILDING NO. 2		N5+00 E150+00
TA-46-32	WA-32	SUBSTATION		N5+00 E150+00
TA-46-33	WA-33	MANIFOLD	REMOVED 1975	
TA-46-34	WA-34	ROAD BLOCK	REMOVED 1967	
TA-46-35	WA-35	MANIFOLD		N5+00 E152+50
TA-46-36	WA-36	STORAGE BUILDING		N5+00 E145+00
TA-46-37	WA-37	PROPELLANT PUMP HSE. NO. 1		N5+00 E152+50
TA-46-38	WA-38		CANCELLED	
TA-46-39	WA-39	COOLING TOWER	REMOVED 1968	
TA-46-40	WA-40	TRANSFORMER STATION		N5+00 E152+50
TA-46-41	WA-41	WAREHOUSE		N2+50 E147+50
TA-46-42	WA-42	SHOP & EQUIP. CHECKOUT BLDG.		N5+00 E142+50
TA-46-43	WA-43	MANHOLE, TELEPHONE		N2+50 E142+50
TA-46-44	WA-44	MANHOLE, ELECTRICAL		N2+50 E142+50
TA-46-45	WA-45	MANHOLE, ELECTRICAL		N2+50 E147+50
TA-46-46	WA-46	MANHOLE, FIRE ALARM		N2+50 E147+50
TA-46-47	WA-47	MANHOLE, TELEPHONE		N2+50 E147+50
TA-46-48	WA-48	MANHOLE	ABANDONED 1973	N5+00 E147+50
TA-46-49	WA-49	TANK, SEPTIC	ABANDONED 1973	0+00 E147+50
TA-46-50	WA-50	DISTRIBUTION BOX	ABANDONED 1973	0+00 E147+50
TA-46-51	WA-51	MANHOLE, ELECTRICAL		N5+00 E147+50
TA-46-52	WA-52	MANHOLE, ELECTRICAL		N5+00 E150+00
TA-46-53	WA-53	TANK, SEPTIC	ABANDONED 1973	N7+50 E147+50
TA-46-54	WA-54	DISTRIBUTION BOX	ABANDONED 1973	N7+50 E147+50
TA-46-55	WA-55	MANHOLE, TELEPHONE		N2+50 E142+50
TA-46-56	WA-56	MANHOLE, TELEPHONE		N2+50 E142+50
TA-46-57	WA-57	SUBSTATION	RELOCATED TO TA-3-432	
TA-46-58	WA-58	LABORATORY & SHOP BUILDING		N5+00 E152+50
TA-46-59	WA-59	ENGINEERING TEST BUILDING		0+00 E145+00
TA-46-60	WA-60	STAIRWAY		N5+00 E147+50
TA-46-61	WA-61	MANHOLE, ACID SUMP		N7+50 E150+00
TA-46-62	WA-62	MANHOLE	ABANDONED	N2+50 E142+50
TA-46-63	WA-63	MANHOLE, ELECTRICAL		N5+00 E142+50
TA-46-64	WA-64	TRANSFORMER STATION	REMOVED 1980	
TA-46-65	WA-65		CANCELLED	
TA-46-66	WA-66	TANK, SEPTIC	ABANDONED 1973	N5+00 E152+50
TA-46-67	WA-67	SIPHON	ABANDONED 1973	N5+00 E152+50
TA-46-68	WA-68	DISTRIBUTION BOX	ABANDONED 1973	N5+00 E152+50
TA-46-69	WA-69	SUMP	ABANDONED 1973	N7+50 E152+50
TA-46-70	WA-70	SUMP	ABANDONED 1973	N7+50 E152+50
TA-46-71	WA-71	MANIFOLD		N5+00 E142+50
TA-46-72	WA-72	MANIFOLD	REMOVED 1975	
TA-46-73	WA-73	TRAILER PAD	REMOVED 1975	
TA-46-74	WA-74	TEST FACILITY		N5+00 E150+00
TA-46-75	WA-75	WAREHOUSE		0+00 E145+00
TA-46-76	WA-76	WAREHOUSE		0+00 E145+00
TA-46-77	WA-77	WAREHOUSE		N5+00 E155+00
TA-46-78	WA-78	MANIFOLD, GAS		N5+00 E152+50
TA-46-79	WA-79	DRUM STORAGE BUILDING		N2+50 E147+50
TA-46-80	WA-80	TRANSFORMER STATION	REMOVED 1980	
TA-46-81	WA-81	CLEANUP TANK, ACID	REMOVED 1975	
TA-46-82	WA-82	TRANSFORMER STATION		N5+00 E150+00
TA-46-83	WA-83	TRANSFORMER STATION		N5+00 E150+00
TA-46-84	WA-84	TANK, VACUUM	REMOVED 1980	
TA-46-85	WA-85	MANHOLE, SANITARY	ABANDONED 1973	N2+50 E145+00
TA-46-86	WA-86	COOLING TOWER		N5+00 E152+50
TA-46-87	WA-87	PUMP HOUSE		N5+00 E152+50
TA-46-88	WA-88	CORE SUPPORT FACILITY		S2+50 E142+50
TA-46-89	WA-89		CANCELLED	
TA-46-90	WA-90	MANHOLE, WATER METER		N2+50 E147+50
TA-46-91	WA-91	STAIRWAY		N5+00 E145+00
TA-46-92	WA-92	MANIFOLD		S2+50 E142+50
TA-46-93	WA-93	MANHOLE, SANITARY	ABANDONED 1974	0+00 E148+00
TA-46-94	WA-94	TANK, SEPTIC	ABANDONED 1974	S2+50 E147+50
TA-46-95	WA-95	MANHOLE, SANITARY	ABANDONED 1974	S2+50 E147+50
TA-46-96	WA-96	CYLINDER STORAGE TANK	RELOCATED TO TA-53	
TA-46-97	WA-97	DISTRIBUTION BOX, SANITARY	ABANDONED 1974	S2+50 E147+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-46-99	WA-99	MANHOLE, ELECTRICAL	ELECTRICAL	N2+50 E142+50
TA-46-100	WA-100		CANCELLED	
TA-46-101	WA-101		CANCELLED	
TA-46-102	WA-102	TRANSFORMER STATION	REMOVED 1968	
TA-46-104	WA-104	MANHOLE, WATER	WATER	0+00 E145+00
TA-46-105	WA-105	SUBSTATION, ELECTRICAL	ELECTRIC	N5+00 E155+00
TA-46-106	WA-106	VOLTAGE REGULATOR	RELOCATED TO TA-3-377	
TA-46-107	WA-107	MANHOLE, TELEPHONE	TELEPHONE	0+00 E142+50
TA-46-108	WA-108	MANHOLE, TELEPHONE	TELEPHONE	0+00 E142+50
TA-46-109	WA-109		CANCELLED	
TA-46-110	WA-110		CANCELLED	
TA-46-111	WA-111	TANK LIQUID NITROGEN		0+00 E142+50
TA-46-112	WA-112		CANCELLED	
TA-46-113	WA-113		CANCELLED	
TA-46-114	WA-114	GAS TRAILER STATION		0+00 E145+00
TA-46-115	WA-115		CANCELLED	
TA-46-116	WA-116	TRANSFORMER STATION	REMOVED 1980	
TA-46-117	WA-117	CAPACITOR STATION	LOC. APPROX. 500' SE OF WA-116, TA-46	
TA-46-118	WA-118	TRANSFORMER STATION	LOC. APPROX. 700' SE OF WA-116, TA-46	
TA-46-119	WA-119	MODULAR OFFICE BLDG.		N2+50 E147+50
TA-46-120	WA-120	MODULAR OFFICE BLDG.		0+00 E142+50
TA-46-121	WA-121	MODULAR OFFICE BLDG.		0+00 E142+50
TA-46-122	WA-122	GAS STORAGE SHED		N2+50 E147+50
TA-46-123	WA-123	TRANSFORMER STATION		0+00 E142+50
TA-46-124	WA-124		CANCELLED	
TA-46-125	WA-125		CANCELLED	
TA-46-126	WA-126		CANCELLED	
TA-46-127	WA-127	TRANSFORMER STATION		N2+50 E147+50
TA-46-128	WA-128	MODULAR OFFICE BLDG		N5+00 E150+00
TA-46-129	WA-129	TRANSFORMER STATION		0+00 E145+00
TA-46-130	WA-130	TRANSFORMER STATION		0+00 E147+50
TA-46-131	WA-131	SOLAR PANELS		N2+50 E152+50
TA-46-132	WA-132	MANHOLE, STORM DRAIN	STORM DRAIN	0+00 E142+50
TA-46-133	WA-133	MANHOLE, EXPERIMENTAL	EXPERIMENTAL	0+00 E145+00
TA-46-134	WA-134	GUARD STATION		0+00 E142+50
TA-46-135	WA-135	COLLECTION TANK PAD		N5+00 E152+50
TA-46-136	WA-136	MANHOLE, SANITARY		0+00 E145+00
TA-46-137	WA-137	MANHOLE, SANITARY		0+00 E147+50
TA-46-138	WA-138	MANHOLE, SANITARY		0+00 E147+50
TA-46-139	WA-139	MANHOLE, SANITARY		N2+50 E147+50
TA-46-140	WA-140	MANHOLE, SANITARY		N2+50 E150+00
TA-46-141	WA-141	MANHOLE, SANITARY		N2+50 E155+00
TA-46-142	WA-142	MANHOLE, SANITARY		N2+50 E155+00
TA-46-143	WA-143	MANHOLE, SANITARY	NOT SHOWN	
TA-46-144	WA-144	MANHOLE, SANITARY		N5+00 E155+00
TA-46-145	WA-145	MANHOLE, SANITARY		N7+50 E155+00
TA-46-146	WA-146	MANHOLE, SANITARY		N5+00 E150+00
TA-46-147	WA-147	MANHOLE, SANITARY		N5+00 E147+50
TA-46-148	WA-148	MANHOLE, SANITARY		N7+50 E147+50
TA-46-149	WA-149	STABILIZATION PIT	NOT SHOWN	N2+50 E157+50
TA-46-150	WA-150		CANCELLED	
TA-46-151	WA-151	TRANSFORMER STATION	POLE MOUNTED-NOT SHOWN	
TA-46-152	WA-152		CANCELLED	
TA-46-153	WA-153	TRANSFORMER STATION	POLE MOUNTED-NOT SHOWN	
TA-46-154	WA-154	LASER ISOTOPE ENRICHMENT FAC.		N7+50 E145+00
TA-46-155	WA-155	TRANSFORMER STATION	POLE MOUNTED-NOT SHOWN	
TA-46-156	WA-156	TRANSFORMER STATION	NOT SHOWN	
TA-46-157	WA-157		CANCELLED	
TA-46-158	WA-158	LASER INDUCED CHEMISTRY LAB		S2+50 E150+00
TA-46-159	WA-159	SUBSTATION	NOT SHOWN	
TA-46-160	WA-160	TRANSFORMER STATION		N5+00 E147+50
TA-46-161	WA-161	ACCELERATOR VAULT FACILITY		S2+50 E150+00
TA-46-162	WA-162	PULL BOX, TELEPHONE		N5+00 E145+00
TA-46-164	WA-164	TRANSFOMER STATION	LOC. APPROX 220' SE OF WA-118, TA-46	
TA-46-165	WA-165	TRANSPORTABLE OFFICE BLDG		N5+06 E150+00
TA-46-166	WA-166		CANCELLED	
TA-46-167	WA-167		CANCELLED	
TA-46-168	WA-168		CANCELLED	
TA-46-169	WA-169	COOLING TOWER		S2+50 E150+00
TA-46-172	WA-172	SWITCHING STATION, ELEC.	NOT SHOWN	
TA-46-173	WA-173	MANHOLE, ELECTRICAL	NOT SHOWN	
TA-46-174	WA-174	MANHOLE, ELECTRICAL	NOT SHOWN	
TA-46-175	WA-175	TRAILER, OFFICE		S2+50 E152+50
TA-46-176	WA-176	TRAILER, OFFICE		S2+50 E150+00
TA-46-177	WA-177	TRAILER, LABORATORY	FORMERLY TA-0-444	S2+50 E150+00
TA-46-178	WA-178	TRANSPORTABLE OFFICE BLDG.	FORMERLY TA-0-1039	N2+50 E142+50
TA-46-179	WA-179	TRANSPORTABLE OFFICE BLDG.	FORMERLY TA-0-1040	N2+50 E142+50
TA-46-180	WA-180	TRAILER, OFFICE	FORMERLY TA-0-704	N5+00 E142+50
TA-46-181	WA-181	TRAILER, OFFICE	FORMERLY TA-0-714	0+00 E142+50
TA-46-182	WA-182	TRANSPORTABLE OFFICE BLDG.	FORMERLY TA-0-1031	N2+50 E145+00
TA-46-183	WA-183	TRAILER, OFFICE	FORMERLY TA-0-682	N5+00 E147+50
TA-46-184	WA-184	TRAILER, OFFICE	FORMERLY TA-0-683	N5+00 E147+50
TA-46-185	WA-185	TRAILER, OFFICE	FORMERLY TA-0-442	N2+50 E147+50
TA-46-186	WA-186	TRAILER, OFFICE	FORMERLY TA-0-384	N2+50 E147+50
TA-46-187	WA-187	TRANSPORTABLE OFFICE BLDG.	FORMERLY TA-0-1030	N5+00 E147+50
TA-46-188	WA-188	TRANSPORTABLE OFFICE BLDG.	FORMERLY TA-0-1027	N5+00 E147+50
TA-46-189	WA-189	TRAILER, OFFICE	FORMERLY TA-0-664	N5+00 E150+00
TA-46-190	WA-190	TRAILER, OFFICE	FORMERLY TA-0-194	N2+50 E150+00
TA-46-191	WA-191	TRAILER, OFFICE	FORMERLY TA-0-386	N2+50 E155+00
TA-46-194	WA-194	SOLAR HOUSE	FORMERLY TA-0-680	S2+50 E147+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-46-195	WA-195	SOLAR HOUSE	FORMERLY TA-0-681	S2+50 E150+00
TA-46-196	WA-196	GAS MANIFOLD		N5+00 E147+50
TA-46-197	WA-197	STORAGE SHED		N2+50 E147+50

REV.	DATE	REVISION	BY	CKD	APP
18	8-1-83	REVISED TITLE BLOCK & DWG TO STATUS OF 6-29-83	H.S		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-46 WA-SITE

SEC CLASSIFICATION — CLASS: U — REVIEWER: — DATE: 9-23-83

SUBMITTED — RECOMMENDED — APPROVED

DRAWN: H. SALGADO — CHECKED: G. Donahue — DATE: 6-29-83 — SHEET NO: 1 of 2 — DRAWING NO: ENG-R 5124

Figure TA-46-1: Structure Location Plan for TA-46 - WA Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

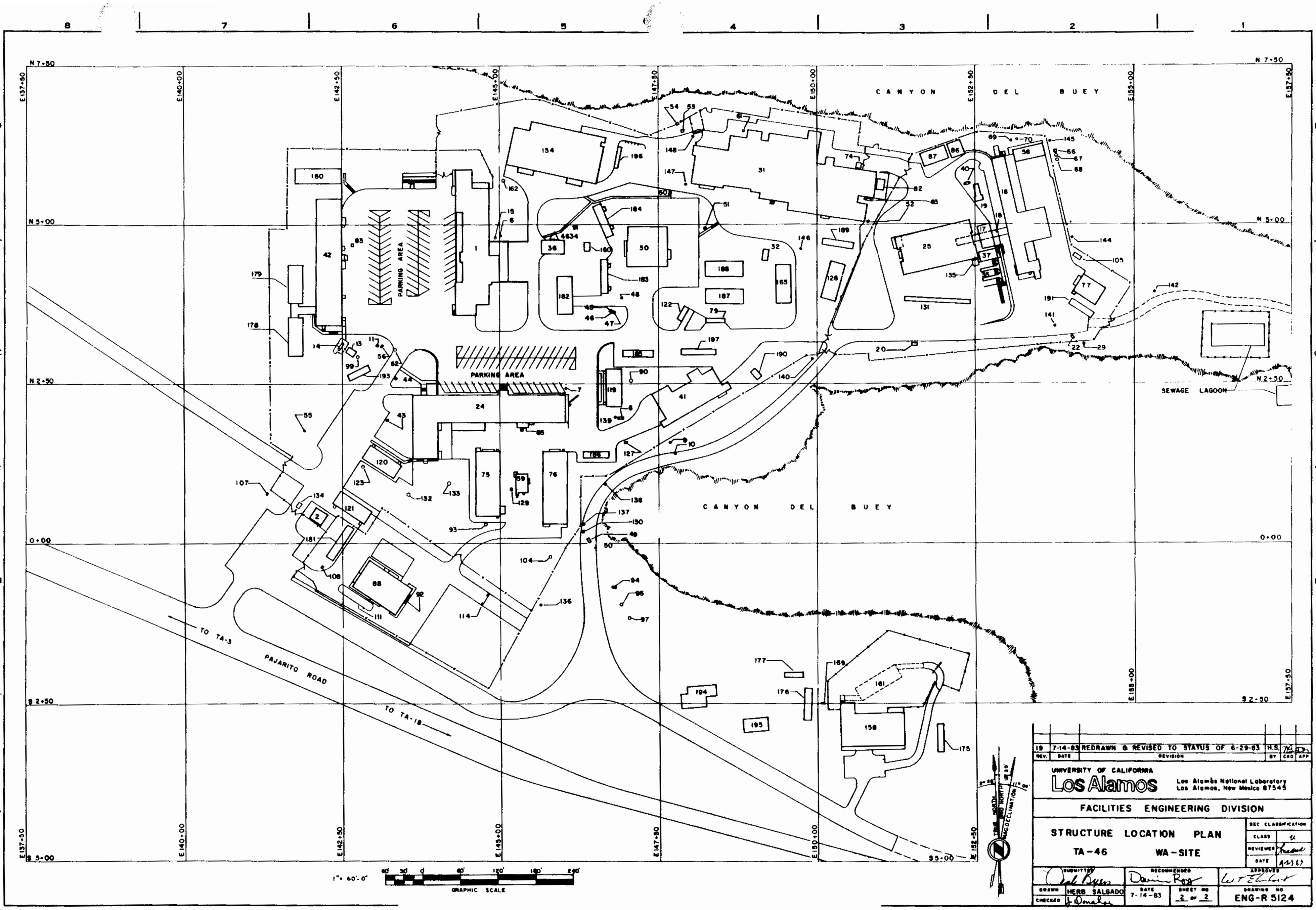


Figure TA-46-1: Structure Location Plan for TA-46 - WA Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-46-1	WA-1	LABORATORY BUILDING		N5+00 E145+00
TA-46-2	WA-2	GUARD HOUSE		N2+50 E142+50
TA-46-3	WA-3	PEDISTAL	REMOVED 1960	
TA-46-4	WA-4	PEDISTAL	REMOVED 1960	
TA-46-5	WA-5	PEDISTAL	REMOVED 1960	
TA-46-6	WA-6	MANHOLE, SANITARY		N5+00 E145+00
TA-46-7	WA-7	MANHOLE, SANITARY		N2+50 E145+00
TA-46-8	WA-8	TANK, SEPTIC	ABANDONED 1973	N2+50 E147+50
TA-46-9	WA-9	DISTRIBUTION BOX		N2+50 E147+50
TA-46-10	WA-10	DISTRIBUTION BOX		N2+50 E147+50
TA-46-11	WA-11	MANHOLE, ELECTRICAL		N2+50 E142+50
TA-46-12	WA-12	MANHOLE, ELECTRICAL	REMOVED 1960	
TA-46-13	WA-13	TRANSFORMER STATION		N2+50 E142+50
TA-46-14	WA-14	LIGHTING TRANSFORMER		N2+50 E142+50
TA-46-15	WA-15	MANHOLE, STORM DRAINAGE		N5+00 E145+00
TA-46-16	WA-16	TEST BUILDING NO. 1		N5+00 E152+50
TA-46-17	WA-17	UTILITY BUILDING		N5+00 E152+50
TA-46-18	WA-18	UTILITY TUNNEL		N5+00 E152+50
TA-46-19	WA-19	TRANSFORMER STATION		N5+00 E152+50
TA-46-20	WA-20	HOSE HOUSE		N2+50 E152+50
TA-46-21	WA-21		CANCELLED	
TA-46-22	WA-22	TANK, SEPTIC	ABANDONED 1973	N2+50 E155+00
TA-46-23	WA-23	ROAD BLOCK	REMOVED 1968	
TA-46-24	WA-24	LABORATORY & OFFICE BLDG.		N2+50 E145+00
TA-46-25	WA-25	BATTERY BUILDING		N5+00 E152+50
TA-46-26	WA-26		CANCELLED	
TA-46-27	WA-27	ROAD BLOCK		N5+00 E152+50
TA-46-28	WA-28	ROAD BLOCK	REMOVED 1967	
TA-46-29	WA-29	DISTRIBUTION BOX	ABANDONED 1973	N2+50 E155+00
TA-46-30	WA-30	HYDRAULICS LABORATORY		N5+00 E147+50
TA-46-31	WA-31	TEST BUILDING NO. 2		N5+00 E150+00
TA-46-32	WA-32	SUBSTATION		N5+00 E150+00
TA-46-33	WA-33	MANIFOLD	REMOVED 1975	
TA-46-34	WA-34	ROAD BLOCK	REMOVED 1967	
TA-46-35	WA-35	MANIFOLD		N5+00 E152+50
TA-46-36	WA-36	STORAGE BUILDING		N5+00 E145+00
TA-46-37	WA-37	PROPELLANT PUMP HSE. NO. 1		N5+00 E152+50
TA-46-38	WA-38		CANCELLED	
TA-46-39	WA-39	COOLING TOWER	REMOVED 1968	
TA-46-40	WA-40	TRANSFORMER STATION		N5+00 E152+50
TA-46-41	WA-41	WAREHOUSE		N2+50 E147+50
TA-46-42	WA-42	SHOP & EQUIP. CHECKOUT BLDG.		N5+00 E142+50
TA-46-43	WA-43	MANHOLE, TELEPHONE		N2+50 E142+50
TA-46-44	WA-44	MANHOLE, ELECTRICAL		N2+50 E142+50
TA-46-45	WA-45	MANHOLE, ELECTRICAL		N2+50 E147+50
TA-46-46	WA-46	MANHOLE, FIRE ALARM		N2+50 E147+50
TA-46-47	WA-47	MANHOLE, TELEPHONE		N2+50 E147+50
TA-46-48	WA-48	MANHOLE	ABANDONED 1973	N5+00 E147+50
TA-46-49	WA-49	TANK, SEPTIC	ABANDONED 1973	0+00 E147+50
TA-46-50	WA-50	DISTRIBUTION BOX	ABANDONED 1973	0+00 E147+50
TA-46-51	WA-51	MANHOLE, ELECTRICAL		N5+00 E147+50
TA-46-52	WA-52	MANHOLE, ELECTRICAL		N5+00 E150+00
TA-46-53	WA-53	TANK, SEPTIC	ABANDONED 1973	N7+50 E147+50
TA-46-54	WA-54	DISTRIBUTION BOX	ABANDONED 1973	N7+50 E147+50
TA-46-55	WA-55	MANHOLE, TELEPHONE		N2+50 E142+50
TA-46-56	WA-56	MANHOLE, TELEPHONE		N2+50 E142+50
TA-46-57	WA-57	SUBSTATION	RELOCATED TO TA-3-432	
TA-46-58	WA-58	LABORATORY & SHOP BUILDING		N5+00 E152+50
TA-46-59	WA-59	ENGINEERING TEST BUILDING		0+00 E145+00
TA-46-60	WA-60	STAIRWAY		N5+00 E147+50
TA-46-61	WA-61	MANHOLE, ACID SUMP		N7+50 E150+00
TA-46-62	WA-62	MANHOLE	ABANDONED	N2+50 E142+50
TA-46-63	WA-63	MANHOLE, ELECTRICAL		N5+00 E142+50
TA-46-64	WA-64	TRANSFORMER STATION		N5+00 E147+50
TA-46-65	WA-65		CANCELLED	
TA-46-66	WA-66	TANK, SEPTIC	ABANDONED 1973	N5+00 E152+50
TA-46-67	WA-67	SIPHON	ABANDONED 1973	N5+00 E152+50
TA-46-68	WA-68	DISTRIBUTION BOX	ABANDONED 1973	N5+00 E152+50
TA-46-69	WA-69	SUMP	ABANDONED 1973	N7+50 E152+50
TA-46-70	WA-70	SUMP	ABANDONED 1973	N7+50 E152+50
TA-46-71	WA-71	MANIFOLD		N5+00 E142+50
TA-46-72	WA-72	MANIFOLD	REMOVED 1975	
TA-46-73	WA-73	TRAILER PAD	REMOVED 1975	
TA-46-74	WA-74	TEST FACILITY		N5+00 E150+00
TA-46-75	WA-75	WAREHOUSE		0+00 E145+00
TA-46-76	WA-76	WAREHOUSE		0+00 E145+00
TA-46-77	WA-77	WAREHOUSE		N5+00 E155+00
TA-46-78	WA-78	MANIFOLD, GAS		N5+00 E152+50
TA-46-79	WA-79	DRUM STORAGE BUILDING		N2+50 E147+50
TA-46-80	WA-80	TRANSFORMER STATION		N7+50 E147+50
TA-46-81	WA-81	CLEANUP TANK, ACID	REMOVED 1973	
TA-46-82	WA-82	TRANSFORMER STATION		N5+00 E150+00
TA-46-83	WA-83	TRANSFORMER STATION		N5+00 E150+00
TA-46-84	WA-84	TANK, VACUUM		N2+50 E145+00
TA-46-85	WA-85	MANHOLE, SANITARY	ABANDONED 1973	N2+50 E145+00
TA-46-86	WA-86	COOLING TOWER		N5+00 E152+50
TA-46-87	WA-87	PUMP HOUSE		N5+00 E152+50
TA-46-88	WA-88	CORE SUPPORT FACILITY		S2+50 E142+50
TA-46-89	WA-89		REMOVED 1973	
TA-46-90	WA-90	MANHOLE, WATER METER		N2+50 E147+50
TA-46-91	WA-91	STAIRWAY		N5+00 E145+00
TA-46-92	WA-92	MANIFOLD		S2+50 E142+50
TA-46-93	WA-93	MANHOLE	ABANDONED	0+00 E145+00
TA-46-94	WA-94	TANK, SEPTIC	ABANDONED	S2+50 E147+50
TA-46-95	WA-95	MANHOLE	ABANDONED	S2+50 E147+50
TA-46-96	WA-96	CYLINDER STORAGE TANK	RELOCATED TO TA-53	
TA-46-97	WA-97	DISTRIBUTION BOX	ABANDONED	S2+50 E147+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-46-99	WA-99	MANHOLE, ELECTRICAL	ELECTRICAL	N2+50 E142+50
TA-46-100	WA-100		CANCELLED	
TA-46-101	WA-101		CANCELLED	
TA-46-102	WA-102		REMOVED 1968	
TA-46-103	WA-103			
TA-46-104	WA-104	MANHOLE, WATER	WATER	0+00 E145+00
TA-46-105	WA-105	SUBSTATION, ELECTRICAL	ELECTRIC	N5+00 E155+00
TA-46-106	WA-106	VOLTAGE REGULATOR	RELOCATED TO TA-3-377	
TA-46-107	WA-107	MANHOLE, TELEPHONE	TELEPHONE	0+00 E142+50
TA-46-108	WA-108	MANHOLE, TELEPHONE	TELEPHONE	0+00 E142+50
TA-46-109	WA-109		CANCELLED	
TA-46-110	WA-110		CANCELLED	
TA-46-111	WA-111	TANK LIQUID NITROGEN		0+00 E142+50
TA-46-112	WA-112			
TA-46-113	WA-113		CANCELLED	
TA-46-114	WA-114	GAS TRAILER STATION		0+00 E145+00
TA-46-115	WA-115		CANCELLED	
TA-46-116	WA-116	TRANSFORMER STATION		0+00 E145+00
TA-46-117	WA-117	CAPACITOR STATION	LOC. APPROX. 500' SE OF WA-116, TA-46	
TA-46-118	WA-118	TRANSFORMER STATION	LOC. APPROX. 700' SE OF WA-116, TA-46	
TA-46-119	WA-119	MODULAR OFFICE BLDG.		N2+50 E147+50
TA-46-120	WA-120	MODULAR OFFICE BLDG.		0+00 E142+50
TA-46-121	WA-121	MODULAR OFFICE BLDG.		0+00 E142+50
TA-46-122	WA-122	GAS STORAGE SHED		N2+50 E147+50
TA-46-123	WA-123	TRANSFORMER STATION		0+00 E142+50
TA-46-124	WA-124			
TA-46-125	WA-125			
TA-46-126	WA-126			
TA-46-127	WA-127	TRANSFORMER STATION		N2+50 E147+50
TA-46-128	WA-128	MODULAR OFFICE BLDG		N5+00 E150+00
TA-46-129	WA-129	TRANSFORMER STATION		0+00 E145+00
TA-46-130	WA-130	TRANSFORMER STATION		0+00 E147+50
TA-46-131	WA-131	SOLAR PANELS		N2+50 E152+50
TA-46-132	WA-132	MANHOLE, STORM DRAIN	STORM DRAIN	0+00 E142+50
TA-46-133	WA-133	MANHOLE, EXPERIMENTAL	EXPERIMENTAL	0+00 E145+00
TA-46-134	WA-134	PRO FORCE STATION		0+00 E142+50
TA-46-135	WA-135	COLLECTION TANK PAD		N5+00 E152+50
TA-46-136	WA-136	MANHOLE, SANITARY		0+00 E145+00
TA-46-137	WA-137	MANHOLE, SANITARY		0+00 E147+50
TA-46-138	WA-138	MANHOLE, SANITARY		0+00 E147+50
TA-46-139	WA-139	MANHOLE, SANITARY		N2+50 E147+50
TA-46-140	WA-140	MANHOLE, SANITARY		N2+50 E150+00
TA-46-141	WA-141	MANHOLE, SANITARY		N2+50 E155+00
TA-46-142	WA-142	MANHOLE, SANITARY		N2+50 E155+00
TA-46-143	WA-143	MANHOLE, SANITARY	NOT SHOWN	N2+50 E157+50
TA-46-144	WA-144	MANHOLE, SANITARY		N5+00 E155+00
TA-46-145	WA-145	MANHOLE, SANITARY		N7+50 E155+00
TA-46-146	WA-146	MANHOLE, SANITARY		N5+00 E150+00
TA-46-147	WA-147	MANHOLE, SANITARY		N5+00 E147+50
TA-46-148	WA-148	MANHOLE, SANITARY		N7+50 E147+50
TA-46-149	WA-149	STABILIZATION PIT	NOT SHOWN	N2+50 E157+50
TA-46-150	WA-150		CANCELLED	
TA-46-151	WA-151	TRANSFORMER STATION	POLE MOUNTED-NOT SHOWN	N5+00 E150+00
TA-46-152	WA-152		CANCELLED	
TA-46-153	WA-153	TRANSFORMER STATION	POLE MOUNTED-NOT SHOWN	N2+50 E150+00
TA-46-154	WA-154	LASER ISOTOPE ENRICHMENT FAC.	PROPOSED	
TA-46-155	WA-155	TRANSFORMER STATION	POLE MOUNTED NOT SHOWN	N2+50 E150+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-194	ULR-194	FIELD OFFICE, ENG. DEPT		N2+50 E140+00
TA-0-384	ULR-384	TRAILER, ELECTRONICS		N2+50 E147+50
TA-0-385	ULR-385	TRAILER, OFFICE		N2+50 E155+00
TA-0-442	ULR-442	TRAILER, OFFICE		N2+50 E147+50
TA-0-664	ULR-664	TRAILER, OFFICE		N5+00 E150+00
TA-0-678	ULR-678	TRAILER, OFFICE		N5+00 E147+50
TA-0-682	ULR-682	TRAILER, OFFICE		N5+00 E147+50
TA-0-683	ULR-683	TRAILER, OFFICE		N2+50 E147+50
TA-0-704	ULR-704	TRAILER, OFFICE		N5+00 E142+50
TA-0-714	ULR-714	TRAILER, OFFICE		S2+50 E142+50
TA-0-719	ULR-719	TRAILER, CRAFT REPORTING		N2+50 E142+50
TA-0-1027	ULR-1027	TRANSPORTABLE, OFFICE		N2+50 E150+00
TA-0-1030	ULR-1030	TRANSPORTABLE, OFFICE		N2+50 E150+00
TA-0-1031	ULR-1031	TRANSPORTABLE, OFFICE		N2+50 E145+00
TA-0-1039	ULR-1039	TRANSPORTABLE, OFFICE		N2+50 E142+50
TA-0-1040	ULR-1040	TRANSPORTABLE, OFFICE		N2+50 E142+50

NO	DATE	REVISIONS	BY	CHKD	GRP LDR	ENG D.O.
17	7-17-79	REVISED TO STATUS OF 7-17-79	ET			
16	8-17-77	REVISED TO STATUS OF 8-17-77, REVISED DWG. NO. (FORMERLY [illegible])	LAM			
15	12-2-75	REVISED TO STATUS OF 12-2-75	BH			
14	6-24-75	REVISED TO STATUS OF 6-24-75	BH			
13	11-22-74	REVISED TO STATUS OF 11-22-74	BH			
12	10-10-74	REVISED TO STATUS OF 10-10-74	BH			
11	3-1-74	REVISED TO STATUS OF 3-1-74	DAD			

REVIEWER

CLASS DATE 7/13/79

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-46 WA-SITE

CHECKED: PROJ. ENG. | RECOMMENDED: GROUP LEADER | APPROVED: ENG. DEPT. OFFICE
DESIGNER | DATE 8-15-61 | DRAWING NO. ENG-R 5124
DRAWN LOGGAINS | SHEET NO. 1
SCALE NONE

Figure TA-46-2: Structure Location Plan for TA-46 - WA Site (1961 Drawing from the LANL Technical Area Structure Location Plans)

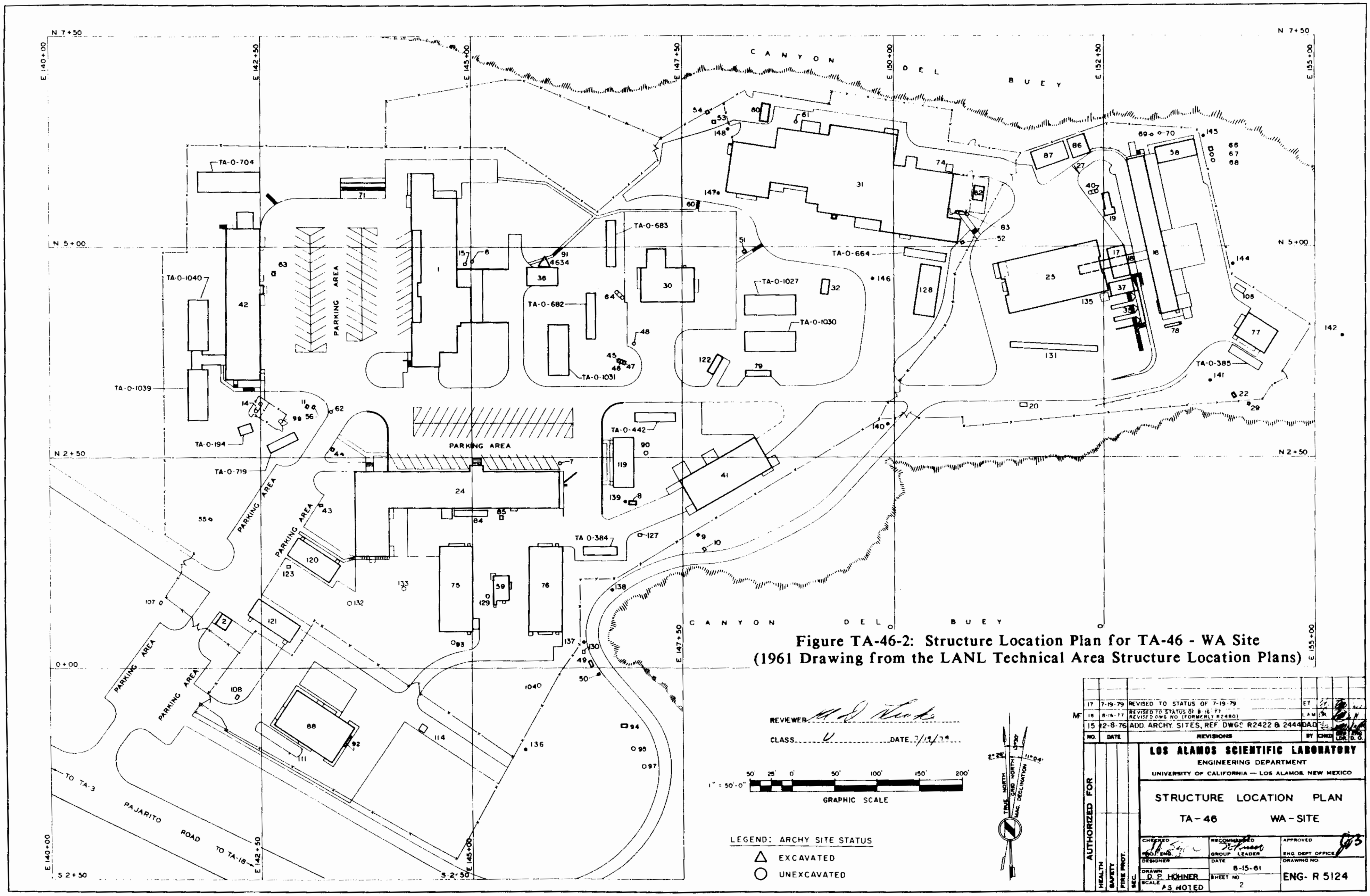
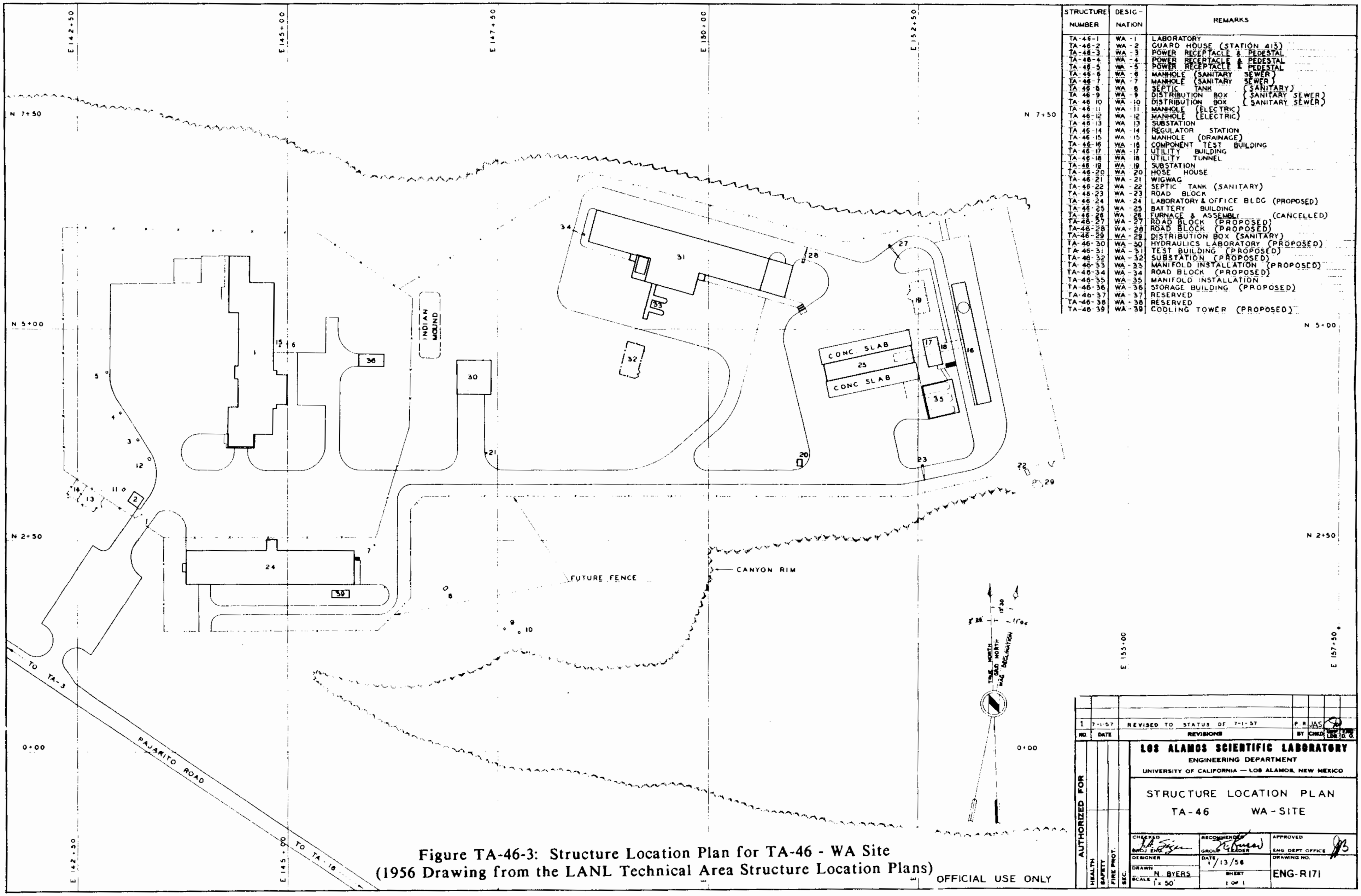


Figure TA-46-2: Structure Location Plan for TA-46 - WA Site (1961 Drawing from the LANL Technical Area Structure Location Plans)

OFFICIAL USE ONLY



STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-46-1	WA-1	LABORATORY
TA-46-2	WA-2	GUARD HOUSE (STATION 415)
TA-46-3	WA-3	POWER RECEPTACLE & PEDESTAL
TA-46-4	WA-4	POWER RECEPTACLE & PEDESTAL
TA-46-5	WA-5	POWER RECEPTACLE & PEDESTAL
TA-46-6	WA-6	MANHOLE (SANITARY SEWER)
TA-46-7	WA-7	MANHOLE (SANITARY SEWER)
TA-46-8	WA-8	SEPTIC TANK (SANITARY)
TA-46-9	WA-9	DISTRIBUTION BOX (SANITARY SEWER)
TA-46-10	WA-10	DISTRIBUTION BOX (SANITARY SEWER)
TA-46-11	WA-11	MANHOLE (ELECTRIC)
TA-46-12	WA-12	MANHOLE (ELECTRIC)
TA-46-13	WA-13	SUBSTATION
TA-46-14	WA-14	REGULATOR STATION
TA-46-15	WA-15	MANHOLE (DRAINAGE)
TA-46-16	WA-16	COMPONENT TEST BUILDING
TA-46-17	WA-17	UTILITY BUILDING
TA-46-18	WA-18	UTILITY TUNNEL
TA-46-19	WA-19	SUBSTATION
TA-46-20	WA-20	HOSE HOUSE
TA-46-21	WA-21	WIGWAG
TA-46-22	WA-22	SEPTIC TANK (SANITARY)
TA-46-23	WA-23	ROAD BLOCK
TA-46-24	WA-24	LABORATORY & OFFICE BLDG (PROPOSED)
TA-46-25	WA-25	BATTERY BUILDING
TA-46-26	WA-26	FURNACE & ASSEMBLY (CANCELLED)
TA-46-27	WA-27	ROAD BLOCK (PROPOSED)
TA-46-28	WA-28	ROAD BLOCK (PROPOSED)
TA-46-29	WA-29	DISTRIBUTION BOX (SANITARY)
TA-46-30	WA-30	HYDRAULICS LABORATORY (PROPOSED)
TA-46-31	WA-31	TEST BUILDING (PROPOSED)
TA-46-32	WA-32	SUBSTATION (PROPOSED)
TA-46-33	WA-33	MANIFOLD INSTALLATION (PROPOSED)
TA-46-34	WA-34	ROAD BLOCK (PROPOSED)
TA-46-35	WA-35	MANIFOLD INSTALLATION
TA-46-36	WA-36	STORAGE BUILDING (PROPOSED)
TA-46-37	WA-37	RESERVED
TA-46-38	WA-38	RESERVED
TA-46-39	WA-39	COOLING TOWER (PROPOSED)

Figure TA-46-3: Structure Location Plan for TA-46 - WA Site (1956 Drawing from the LANL Technical Area Structure Location Plans)

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TA-47 - BRUNS RAILHEAD

CURRENT OPERATIONS

TA-47 no longer exists as a site, having been abandoned by the Laboratory in 1958. Its former location is in downtown Santa Fe, near the intersection of Cerrillos Road and St. Michaels Drive.

POTENTIAL CERCLA/RCRA SITES

TA-47 was a receiving point for materials shipped to the Laboratory during the early years. A spur line of the Santa Fe Railroad went to several warehouses near the Bruns Hospital in Santa Fe, and the site was used only for transferring material. The site was surrounded by security fences, and, because it was near the hospital, it was felt to be a safe location from which to transport materials to the secret laboratory at Los Alamos.

The site consisted of four warehouses, several concrete foundations, and a small boiler house. The buildings were returned to the Atomic Energy Commission before July 1955 "for disposition" and the Laboratory retained only the rail spurs. The Laboratory abandoned the site in 1959. In interviews, former employees mentioned that special nuclear materials came by truck and that the likelihood of environmental contamination was small.

The following table presents what is known about potential CERCLA/RCRA sites at this location. No potential CERCLA/RCRA sites are identified. No future action is planned under CEARP.

FIGURES

Figure TA-47-1: Structure Location Plan for TA-47 - Bruns Railhead (1955)

REFERENCES

Buckland, Carl. 1955. "Radioactive Materials Shipping Information for ALO," Los Alamos Scientific Laboratory memorandum to Horace E. Noyes, October 25, 1956.

H Division. 1956. "H Division Progress Report," Los Alamos Scientific Laboratory, January 20-February 20, 1956.

LASL. 1949. LASL Safety Director, "Transportation of Explosives," Los Alamos Scientific Laboratory memorandum to H. S. Allen, Department of Supply and Property, July 14, 1949.

TABLE TA-47 - POTENTIAL CERCLA/RCRA SITES

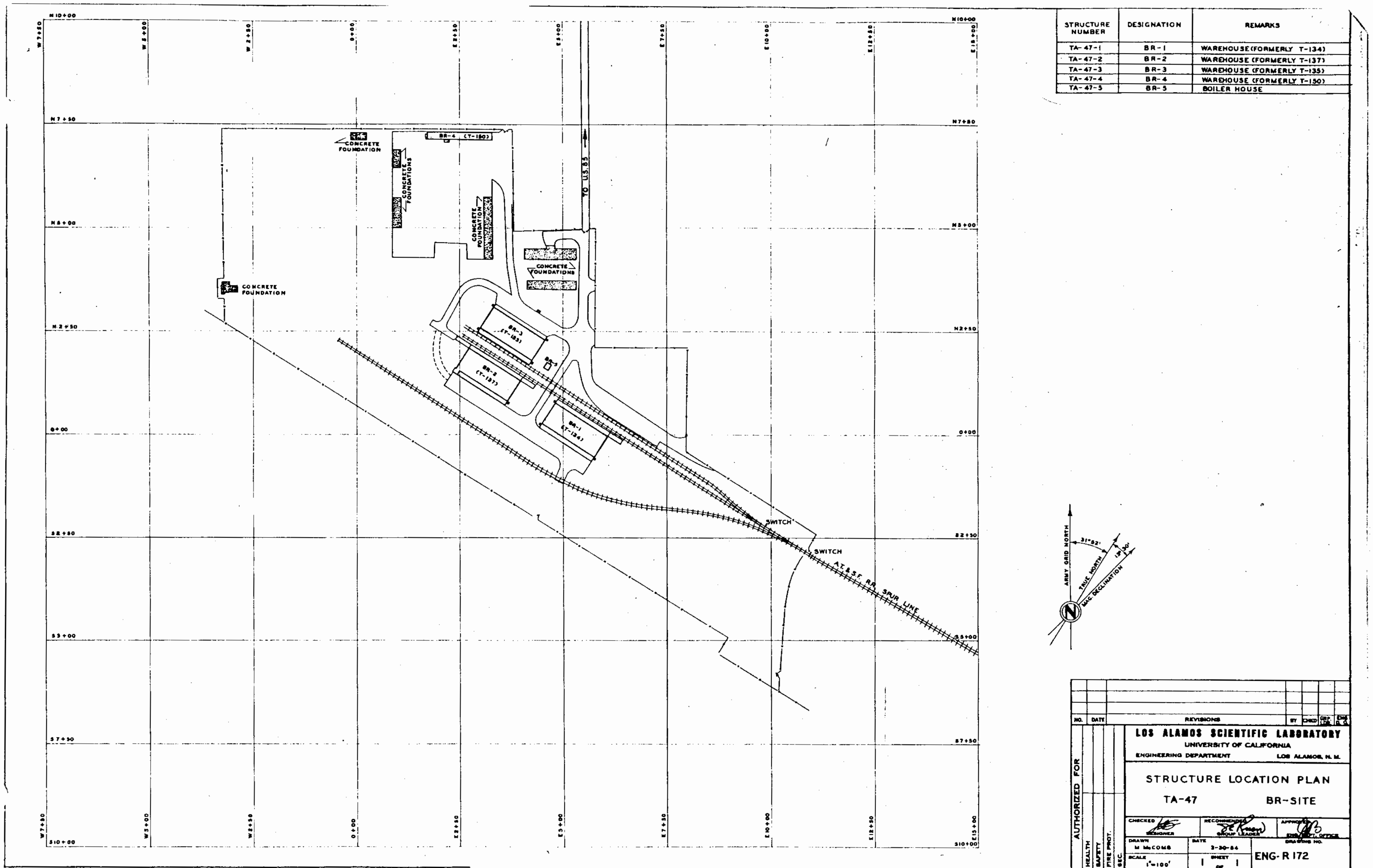
TA47-1-CA-I-RW (Freight car/uranium)

Background--During World War II, material being shipped to Los Alamos required shipment to a "cover address." One such address was the Bruns Hospital in Santa Fe. This location gave access to the railhead and had the advantage of having several small warehouses, which could be controlled. A LANL employee indicated that from this location, materials, including high explosive, were trucked to Los Alamos (see also LASL 1949).

In February 1955, a freight car containing depleted uranium was contaminated when the shoring was torn loose and one box broke open in Santa Fe (Buckland 1955; H Division 1956:1). However, there is no evidence of residual contamination.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted.



LAB. JOB NO.

Figure TA-47-1: Structure Location Plan for TA-47 - Bruns Railhead.
(1955 Drawing from the LANL Technical Area Structure Location Plans)

TA-48 - RADIOCHEMISTRY SITE

CURRENT OPERATIONS

TA-48 is occupied by the Isotope and Nuclear Chemistry (INC) Division Office and the Isotope Geochemistry (INC-7) and Nuclear and Radiochemistry (INC-11) groups. It is used as a facility for chemical and radiochemical analyses. Activities include work related to weapon testing, research on long-term storage of radioactive materials in waste disposal sites, basic research in geochemistry and radiochemistry, and radioisotope production for nuclear medicine (such as radioactive iodine).

In the principal building, TA-48-1, activities can be divided into several different work areas. The Alpha facility in the northeast end of the building is used for processing high-level alpha and/or beta-gamma emitters. The Hot Cell is the facility in which irradiated fuel elements from the Rover Program (nuclear rocket reactor program) were handled. The Hot Cell is now used for radiochemistry on spallation products obtained by irradiating targets at the Los Alamos Meson Physics Facility. TA-48-8 has a machine shop and several laboratories.

POTENTIAL CERCLA/RCRA SITES

TA-48 was built in the mid-1950s for work in radiochemistry, and several additions have been made to the original building. Initially, the major work was to study samples from atmospheric bomb tests; that work evolved into studies related to weapon tests. Materials included uranium, transuranics, fission products, tritium, activation products, various acids, and organics.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-48. CEARP findings are presented based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-48 is 16.8 (Appendix B).

FIGURES

REFERENCES

Balo, Karen A., and John L. Warren. 1986. "Waste Management Site Plan," Los Alamos National Laboratory report LA-UR-86-990, March 1986.

Emelity, L. A. 1982. "Significant Events, FY 1980, 1981, and 1982," Los Alamos National Laboratory memorandum to Jesse Aragon, July 13, 1982.

Houck, D. L. 1978. "Radioactive Liquid Waste Collection System Improvements, L.J. 5253-0, Addendum No. 1," Los Alamos Scientific Laboratory memorandum, July 27, 1978.

LANL. 1985a. "Environmental Surveillance at Los Alamos During 1984," Los Alamos National Laboratory report LA-10421-ENV, April 1985.

LANL. 1985b. "Environmental Surveillance Quarterly Report, July-September 1985," Los Alamos National Laboratory internal report, October 1985.

Miller, E. L. 1971. "Effluent from Plant Cooling Towers," Los Alamos Scientific Laboratory memorandum to C. Christenson, July 30, 1971.

Pan Am World Services, Inc. 1986. "Septic Tank Report," Los Alamos, NM, February 26, 1986.

TABLE TA-48 - POTENTIAL CERCLA/RCRA SITES

TA48-1-CA-A-HW/RW (Buildings' hoods, ducts, and associated structures)

Background--Materials handled in the TA-48 facilities have included uranium, transuranics, fission products, tritium, activation products, various acids (including hydrofluoric, nitric, and perchloric acids), and organics (acetone, alcohol, and benzene). Accidental releases have caused contamination of building structures (Balo and Warren 1986:60).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. Interior contamination of active structures is covered by routine LANL operations.

TA48-2-CA/SST/S-I-HW/RW (Waste tanks, sumps, and lines)

Background--Because a large amount of perchloric acid is used, most of the hoods and ducts are provided with continuous water sprays. In addition, liquid wastes are produced by work performed in the chemical laboratory. The liquid wastes were collected and neutralized, if necessary, in three separate sumps, and then were pumped via the industrial acid sewer line to TA-50. Three neutralization tanks and three wet wells are listed for TA-48 (Houck 1978). These tanks and wet wells were abandoned in place during 1982.

In March 1982, an investigation determined that the source of ponding water at the northwest corner of TA-48-1 was a broken radioactive waste line over a leaking water main. The break and leaks were repaired and the contaminated soil removed (Emelity 1982:6).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I activities, the extent of residual environmental contamination from past releases will be determined.

TA48-3-O/CA-A-HW/RW (Outfalls)

Background--During the 1986 CEARP field survey, four liquid waste outfalls to Mortandad Canyon were noted. About 35 million gal. of water per year is thought to discharge to the canyon from these outfalls. It includes once-through cooling water and cooling tower blowdown from two wet cooling towers. However, the origin of some of the cooling water for each discharge point is not known. Several years ago, dyes were used to try to clarify the situation, but the results were not conclusive. Therefore, because the origin of the water is not known, it may be possible for leaks to have occurred that would have resulted in contamination of the once-through cooling water and hence the outfall areas.

In a 1971 report, two cooling towers are listed, one with an effluent discharge of 208,000 gal./yr and one with 150,000 gal./yr. The treatment used is noted to be organo chlorate (Miller 1971).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I activities, the extent of residual environmental contamination from past discharges will be determined. The active outfalls are covered by routine LANL operations.

TA48-4-CA-A-HW (Mercury storage)

Background--On the south side of TA-48-1 are a number of mercury flasks; they are estimated to have been there for 5 to 10 years. The flasks are corroding; however, no mercury leaks were noted.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted by CEARP. The active mercury storage area is covered by routine LANL operations.

TA48-5-CA-A/I-HW/RW/PP (Drum storage)

Background--It was confirmed in the 1986 CEARP field survey that in a number of areas, drums, labeled and unlabeled, are stored outdoors.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the extent of residual environmental contamination associated with past drum storage will be determined. The active drum storage areas are covered by routine LANL operations.

TA48-6-CA/ST-A/I-HW/RW (Septic tanks)

Background--The 1986 CEARP field survey confirmed that sanitary liquid wastes are piped to lagoons in Mortandad Canyon below TA-35. Before 1986, the wastes went to a septic tank, TA-48-5, and decanted liquid from the tank went to a filter bed, TA-48-6. The status of this tank is not known. The filter bed has either been removed or covered up in the new construction (Pan Am 1986:6).

Another septic tank is located east of TA-48-29. The overflow goes to a seepage pit. Contamination is believed to be unlikely because this tank only serves an office building (Pan Am 1986).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--The extent of residual contamination associated with the inactive septic tank system will be evaluated during supplemental Phase I. The active septic tank is covered by routine LANL operations.

TA48-7-CA-I-RW (Surface deposition)

Background--In the Alpha Wing, filtration is not used on the hoods because of possible problems with clogging and corrosion. No air scrubbers are currently being used. In 1984, measured airborne releases were 1,566, 1.3, and 2.6 microcuries of mixed fission products, uranium, and plutonium, respectively (LANL 1985:113).

Approximately one-half to one-third of the major acids used (hydrochloric, hydrofluoric, nitric, and perchloric acids) is vented to the hoods. Most of this material is exhausted to the atmosphere. Because of the long history of operation of this facility, ground deposition of airborne releases may have resulted in contamination.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A survey of the area that might have received contamination from the hoods from past releases will be made during supplemental Phase I. Current releases from TA-48 are covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-48-1	RC-1	LABORATORY BUILDING		N45+00 E72+50
TA-48-2	RC-2	GUARD HOUSE		N45+00 E70+00
TA-48-3	RC-3	MANHOLE, STORM		N45+0C E72+50
TA-48-4	RC-4	MANHOLE, SANITARY		N45+00 E75+00
TA-48-5	RC-5	SEPTIC TANK, SANITARY		N47+50 E77+50
TA-48-6	RC-6	FILTER BED, SANITARY		N47+50 E77+50
TA-48-7	RC-7	MANHOLE, ELECTRICAL		N45+00 E67+50
TA-48-8	RC-8	GENERAL STORAGE BUILDING		N47+50 E67+50
TA-48-9	RC-9	WEIGHING RACK	REMOVED 1981	
TA-48-10	RC-10	MANHOLE, ACID	NOT SHOWN	
TA-48-11	RC-11	TRANSFORMER STATION		N45+00 E67+50
TA-48-12	RC-12	GAS METERING STATION		N42+50 E70+00
TA-48-13	RC-13		CANCELLED	
TA-48-14	RC-14	TRANSFORMER STATION		N45+00 E67+50
TA-48-15	RC-15	LAWN BUILDING		
TA-48-16	RC-16		CANCELLED	
TA-48-17	RC-17	ASSEMBLY & CHECKOUT BLDG		N42+50 E70+00
TA-48-18	RC-18	ACID MANHOLE	NOT SHOWN	
TA-48-19	RC-19	ACID MANHOLE	NOT SHOWN	
TA-48-20	RC-20	ACID MANHOLE	NOT SHOWN	
TA-48-21	RC-21	ACID MANHOLE	NOT SHOWN	
TA-48-22	RC-22	ACID MANHOLE		N42+50 E70+00
TA-48-23	RC-23	ACID MANHOLE		N42+50 E70+00
TA-48-26	RC-26	STORAGE BLDG		
TA-48-27	RC-27		CANCELLED	
TA-48-28	RC-28	INSTRUMENT BLDG		
TA-48-29	RC-29	TRANSPORTABLE OFFICE BLDG	FORMERLY TA-0-1201	N45+00 E67+50
TA-48-30	RC-30	TRAILER, OFFICE	FORMERLY TA-0-535	N45+00 E67+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV.	DATE	REVISION	BY	CKD	APP
8	7-20-83	REVISED TITLE BLOCK & DWG TO STATUS OF 7-20-83	HS		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-48 RADIOCHEMISTRY SITE

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SUBMITTED
RECOMMENDED
APPROVED
DRAWN Hugo Salgado
CHECKED
DATE 7-20-83
SHEET NO. 1 OF 2
DRAWING NO. ENG-R5125

Figure TA-48-1: Structure Location Plan for TA-48 - Radiochemistry Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

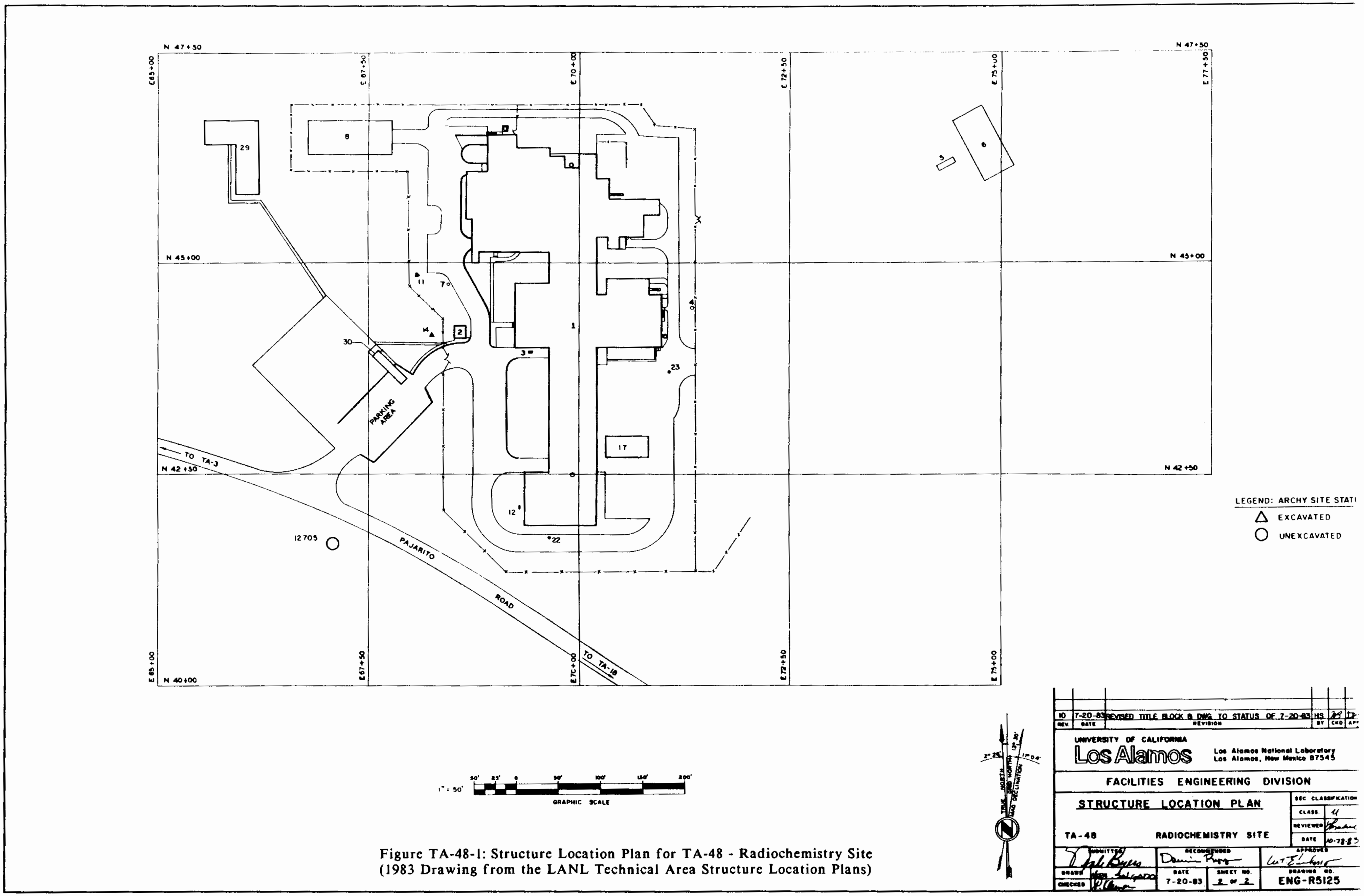

Figure TA-48-1: Structure Location Plan for TA-48 - Radiochemistry Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-48-1	RC-1	LABORATORY BUILDING		N45+00 E72+50
TA-48-2	RC-2	GUARD HOUSE		N45+00 E70+00
TA-48-3	RC-3	MANHOLE	STORM DRAINAGE	N45+00 E72+50
TA-48-4	RC-4	MANHOLE	SANITARY	N45+00 E75+00
TA-48-5	RC-5	SEPTIC TANK	SANITARY	N47+50 E77+50
TA-48-6	RC-6	FILTER BED	SANITARY	N47+50 E77+50
TA-48-7	RC-7	MANHOLE	STREET LIGHTING	N45+00 E67+50
TA-48-8	RC-8	GENERAL STORAGE BUILDING		N47+50 E67+50
TA-48-9	RC-9	WEIGHING RACK		N42+50 E70+00
TA-48-10	RC-10	MANHOLE	ACID PROPOSED	
TA-48-11	RC-11	TRANSFORMER STATION	SERIES LIGHTING	N45+00 E67+50
TA-48-12	RC-12	GAS METERING STATION		N42+50 E70+00
TA-48-13	RC-13		CANCELLED	
TA-48-14	RC-14	TRANSFORMER STATION		N45+00 E67+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-535	ULR-535	TRAILER		N42+50 E67+50
TA-0-651	ULR-651	TRAILER		N42+50 E70+00

REVIEWER [illegible]

CLASS U DATE 7/28/77

NO.	DATE	REVISIONS	BY	CHKD	GRP LDR	ENG D.O.
7	4-20-77	REVISED DWG NO (FORMERLY R 2482)	M M			
6	6-25-75	REVISED TO STATUS OF 6-25-75	B H			
5	10-16-74	REVISED TO STATUS OF 10-16-74	B H			
4	12-16-69	REVISED TO STATUS OF 12-16-69	DAD	R.P.		
3	7-29-65	REVISED TO STATUS OF 7-28-65	E RW			
2	8-15-61	REDRAWN TO STATUS OF 8-1-61 (WAS ENG-R174)	F A			

AUTHORIZED FOR: HEALTH / SAFETY / FIRE PROT / SEC

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-48 RADIOCHEMISTRY SITE

CHECKED PROJ ENG	RECOMMENDED GROUP LEADER	APPROVED ENG DEPT OFFICE
DESIGNER	DATE 8-15-61	DRAWING NO
DRAWN ARZOLA	SHEET NO 1	ENG-R 5125
SCALE NONE		

Figure TA-48-2: Structure Location Plan for TA-48 - Radiochemistry Site (1961 Drawing from the LANL Technical Area Structure Location Plans)

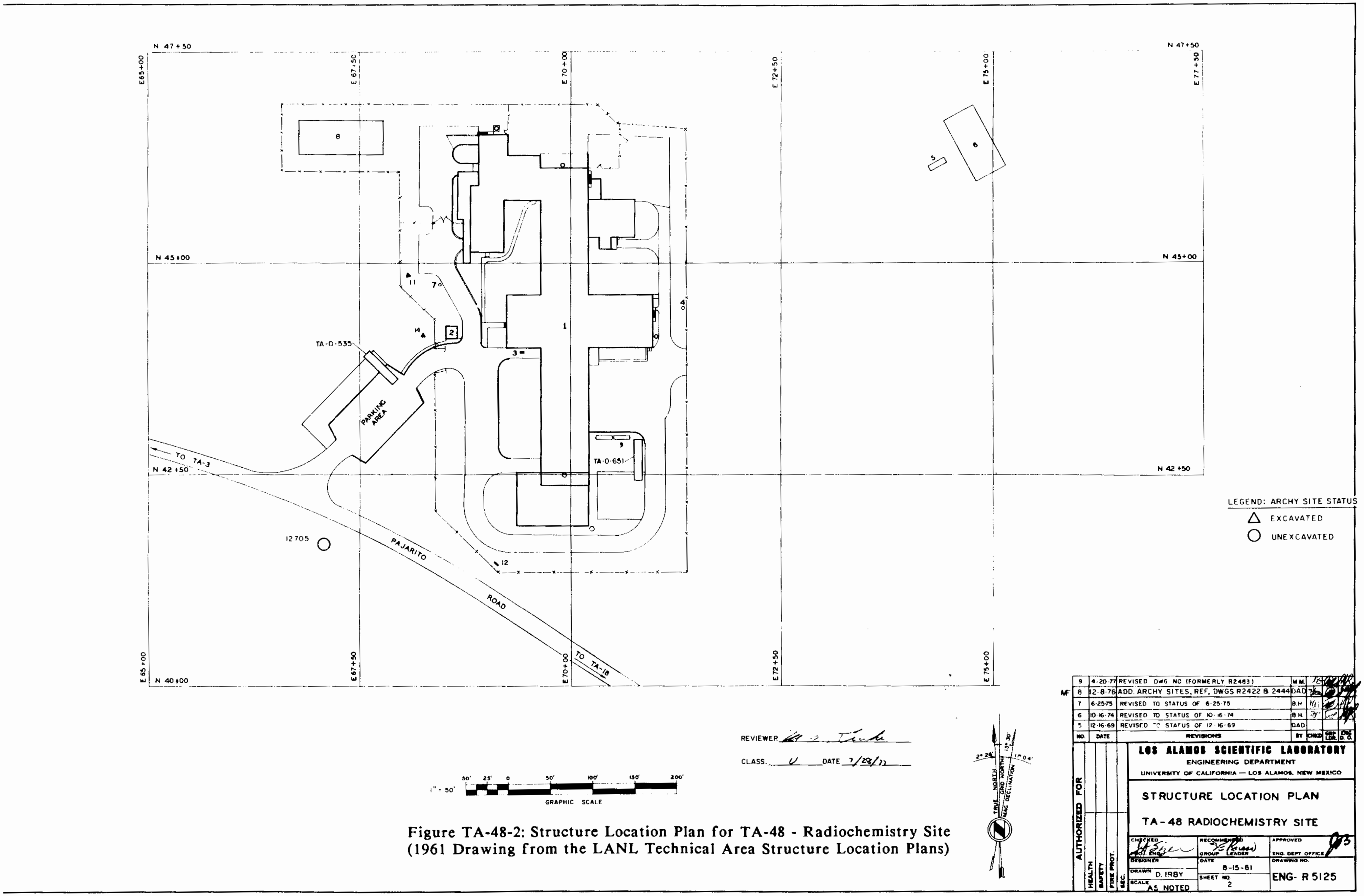

Figure TA-48-2: Structure Location Plan for TA-48 - Radiochemistry Site (1961 Drawing from the LANL Technical Area Structure Location Plans)

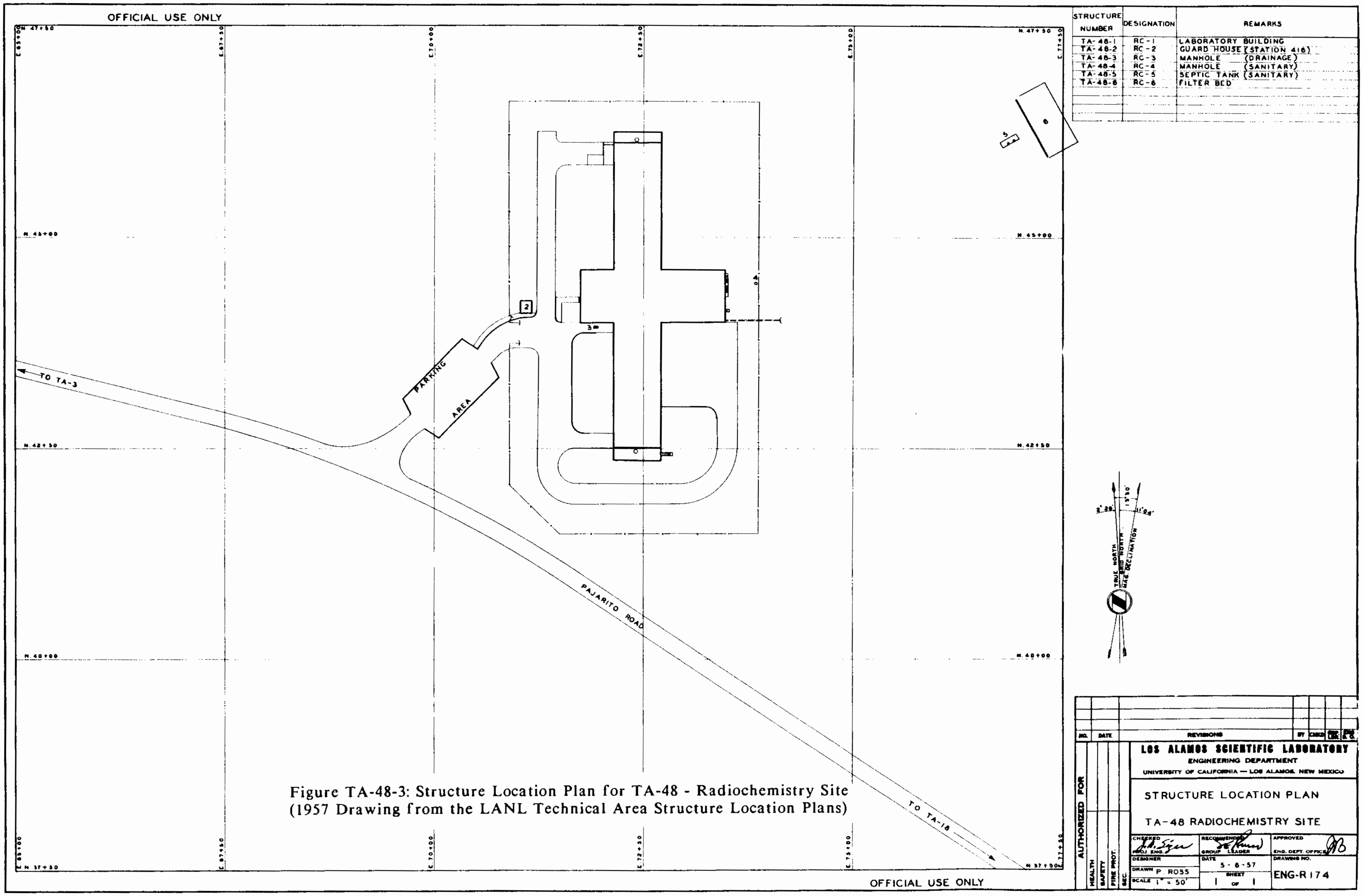

Figure TA-48-3: Structure Location Plan for TA-48 - Radiochemistry Site (1957 Drawing from the LANL Technical Area Structure Location Plans)

TA-49 - FRIJOLES MESA SITE

CURRENT OPERATIONS

Construction on the Blast Overpressure Test Facility at TA-49 was halted in November 1985 because of a change of policy by DOE. This facility was originally designed for hearing tests so that hearing protection criteria for military personnel firing weapons could be established. The Laboratory plans to use this facility for other purposes.

POTENTIAL CERCLA/RCRA SITES

TA-49 has been used for a variety of experiments, and one of its main functions over the years has been to serve as a buffer zone for large explosives tests at TA-15, which is within shrapnel range. Material Disposal Area AB is at TA-49 and is discussed with the other Material Disposal Areas.

Hydronuclear experiments were conducted underground at TA-49 during 1960-1961. The experiments were conducted primarily to answer fundamental questions regarding certain safety aspects of four weapon systems that became operational in 1958. These experiments involved a combination of conventional (chemical) high explosives, usually in a nuclear weapon configuration, and fissile material whose quantity was reduced far below the amount required for a nuclear explosion. Between January 1960 and August 1961, a total of 35 hydronuclear experiments and 9 related calibration, equation-of-state, and criticality experiments, all involving some fissile material, were conducted (Thorn and Westervelt 1987). Other experiments involving high explosives and possibly small amounts of radioactive tracers, but no fissile materials, began in October 1959 (Purtymun and Stoker 1987).

The LANL Waste Management Site Plan mentions a small liquid disposal area contaminated with plutonium (Balo and Warren 1984); this was a drain field for radiochemistry facilities used for the hydronuclear experiments. Several of the structures were destroyed in La Mesa forest fire in 1977, and a cleanup effort in 1984 removed most of the residual surface debris associated with experimental activities.

The debris was not contaminated and was placed in an open pit, called a "trash burning area," and buried.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-49. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for Material Disposal Area AB at TA-49 is 6.7 (Appendix B).

FIGURES

Figure TA-49-1: Structure Location Plan for TA-49 - Frijoles Mesa Site (1983)

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Alexander, L. F., Jr. 1983. "Surface Cleanup," Los Alamos National Laboratory memorandum to C. S. Adams, December 20, 1983.

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Pan Am World Service, Inc. 1986. "Septic Tank Report," Los Alamos, NM, February 26, 1986.

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TABLE TA-49 - POTENTIAL CERCLA/RCRA SITES

TA49-1-CA-I-HW/RW (Leach field)

Background--A laboratory chemist remembered performing experiments during the early operations at TA-49 in a trailer, with spent solutions draining to containers that were later taken for disposal. To replace the trailer, a small building was constructed in Area 11, which was known as the change house. This building included hoods and sinks for performing chemical operations. It is believed that the most highly contaminated solutions were taken for disposal. There is a note that in 1961 gamma emitters in acid solutions were received in containers at Material Disposal Area C. Less contaminated solutions were poured down the sink drains, which led to a seepage field east of the building (Blackwell 1970). An employee indicated that chemicals probably included 8-hydroxyquinoline, sulfuric acid, and sodium hydroxide. Large amounts of water were flushed with the chemicals. Solvents were also poured into the drains. In addition, plutonium, uranium, and small quantities of fission fragments would be expected to have been discharged.

In the 1971 cleanup of Area 11, two signs reading "TA-49-15 Drain Field" were positioned along the drain field. Alpha contamination had been detected in the drain pipes (Blackwell 1971).

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--The site will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

TA49-2-L-I-HW/RW (Landfill/trash-burning area)

Background--The early structure location plan (engineering drawing ENG-R2485) shows a trash burning area located in the north part of the site. This burning area was used in the 1959-1961 time period to burn combustibles from the TA-49 operation. Whether there were any hazardous materials in the ash is not known. In the 1971 cleanup, a pit was excavated in the area that appears to have been the former burning area. All of the uncontaminated material from Area 11 was taken to that pit (Blackwell 1971). Then, again in 1984, the area was reopened by digging a 15- by 30- by 100-ft area for burial of debris collected from cleanup of TA-49 (Zia Work Order 1-7 W.O. 6-5550-37, February 2, 1984).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A Phase I reconnaissance survey of the debris pit will be conducted.

TA49-3-CA-I-HW/RW (Hydronuclear experimental areas)

Background--The hydronuclear experiments were conducted in 3- or 6-ft-diam experimental holes at depths of 31 to 108 ft. Several such experimental holes were augered and prepared for use in sequence. The experimental configuration was emplaced at the bottom of the hole, which was then stemmed (backfilled) with sand to contain the physical force of the high-explosive detonation. As the experiment was detonated, measurements and samples were taken through access tubes or pipes. After completion of measurements and sample collection, the experimental holes were backfilled with additional sand and sealed with concrete. Results of analyses were used to modify the next configuration in the series. The first series of nine hydronuclear experiments was conducted between January 12 and February 11, 1960 (Thorn and Westervelt 1987).

Most materials were left in the experimental holes in which the experiments were conducted. The principal materials of interest from an environmental standpoint include plutonium, uranium, beryllium, and lead. About 40.1 kg of plutonium, 93 kg of enriched uranium, at least 82 kg of depleted uranium, and 13 kg of beryllium were used. (No estimate of the amount of lead left from the experiments is presently available.) A small amount (less than 1 mCi) of fission products would also be present. The tuff and sand readily absorbed the energy of explosions and confined most of the materials within a maximum of 10 to 20 ft from the experimental holes. This is believed because in only one case was contamination from an adjacent, previously used experimental hole encountered during drilling of a new experimental hole. Most of the experimental holes were bored on 25-ft centers in 100-ft square grid patterns. Four such experimental areas (Areas 1, 2, 3, and 4) were prepared at TA-49. These four areas have been designated as Material Disposal Area AB (see Material Disposal Area AB).

Other contaminated materials were also left in the experimental areas. One or more holes in each experimental area were used to permit confined expansion of gases, including particulates, passing through the sample collection devices and probably contain some radionuclide contamination. Some of the 6-ft-diam holes were used to dispose of pipes and other equipment contaminated during the experiments. Steel boxes buried adjacent to the experimental holes were used to contain sample collection equipment and often became contaminated. These boxes were filled with concrete and left in place.

Above-background levels of gross alpha were measured at the surface in experimental Area 2 in December 1960 and were traced to cuttings from experimental hole 2-M. Active material had apparently been dispersed through fractures in the tuff by detonation of an experiment in an adjacent experimental hole. All surface soil contamination measurable by standard procedures and instruments was collected and placed back in experimental hole 2-M. The experimental hole was then filled with clean sand and capped with concrete. The entire surface of Area 2 was covered with 6 ft of compacted aggregate in January 1961 and sealed with a 4- to 6-in.-thick asphalt pad in September 1961. This inadvertent contamination incident left some remaining trace amounts of radionuclides on the surface in the vicinity of TA-49. The experimental holes constructed in the area to the west (Area 2A) and south (Area 2B) were not covered and sealed. Occasionally, sample recovery resulted in some slight surface contamination in Areas 2 and 4.

Structures located in Area 11 were used for radiochemistry. They were decontaminated, demolished, and removed in September of 1971. Contaminated materials were packaged and transported to the Laboratory's radioactive waste disposal facility at TA-54. Uncontaminated materials and debris were buried in a landfill about 0.5 mile northwest of the TA-49 experimental area (identified as the trash burning area). A contaminated subsurface drain field that served the radiochemistry facility was left in place and represents a source of near-surface contamination remaining in the TA-49 vicinity. Other areas at TA-49 related to the subsurface experiments include the control compound (Area 5), the support functions (Area 6), and a calibration facility (Area 10). None of these are believed to have significant if any contamination.

The La Mesa fire in June 1977 burned across Frijoles Mesa and TA-49. The asphalt pad on Area 2 was not damaged. Some remaining buildings, structures, and cable ways from the 1959-61 experimental era and subsequent unrelated activities at TA-49 were damaged or destroyed.

In 1984 special funding permitted cleanup of surface debris at TA-49. Debris was removed to a landfill pit at the western end of the mesa and covered with crushed tuff. Additional fill (clay and gravel) was placed over Areas 1 and 4. Cracks in the asphalt pad of Area 2 were sealed. Surface drainage of the area was improved.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--The site will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

TA49-4-SST-I-PP (Propane storage tanks)

Background--During the 1959-1961 operations, propane tank TA-49-16 and TA-49-56 served Area 11, whereas TA-49-65 served Area 5, according to engineering drawing ENG-R2484. In 1971, TA-49-16 and TA-49-56 were found free of contamination and disposed of (Russo 1971). A note from the 1984 cleanup says, "L. P. storage tank will be inspected and demolished and/or removed depending on the physical condition of the tank" (Alexander 1983). It is assumed this refers to TA-49-65.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP.

TA49-5-ST-A-HW (Active septic systems)

Background--The TA-49 site is currently served by two septic systems, which are maintained by periodic pumping (Pan Am 1986).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS
TA-49-1	FM-1	GUARD HOUSE	AREA 7
TA-49-2	FM-2	OFFICE BUILDING RELOCATED	TO TA-53, NOW TA-0-149
TA-49-3	FM-3	CRAFT SHACK	RELOCATED TO TA-35-51
TA-49-4	FM-4		REMOVED 1971
TA-49-5	FM-5	CRAFT SHACK	RELOCATED TO TA-52-27
TA-49-6	FM-6	CRAFT SHACK	RELOCATED TO TA-8-73
TA-49-7	FM-7		REMOVED 1970
TA-49-8	FM-8	THE SHED	AREA 5
TA-49-9	FM-9		REMOVED 1970
TA-49-10	FM-10		REMOVED 1970
TA-49-11	FM-11		REMOVED 1970
TA-49-12	FM-12		REMOVED 1970
TA-49-13	FM-13		REMOVED 1970
TA-49-14	FM-14	TRANSFORMER STATION	AREA 5
TA-49-15	FM-15		REMOVED 1971
TA-49-16	FM-16		REMOVED 1971
TA-49-17	FM-17		REMOVED 1970
TA-49-18	FM-18		AREA 1 ELECTRICAL
TA-49-19	FM-19		REMOVED 1970
TA-49-20	FM-20	GRAY HOUSE NO. 1	AREA 5
TA-49-21	FM-21	LATRINE	AREA 12
TA-49-22	FM-22		REMOVED 1970
TA-49-23	FM-23	BOTTLE HOUSE	AREA 12
TA-49-24	FM-24	MANHOLE	AREA 12 ELECTRICAL
TA-49-25	FM-25	TRANSFORMER	AREA 12
TA-49-26	FM-26	POWER PANEL	AREA 12 ELECTRICAL
TA-49-27	FM-27	MANHOLE	AREA 12 ELECTRICAL
TA-49-28	FM-28		REMOVED 1970
TA-49-29	FM-29		REMOVED 1969
TA-49-30	FM-30		REMOVED 1969
TA-49-31	FM-31		REMOVED 1970
TA-49-32	FM-32		REMOVED 1969
TA-49-33	FM-33	PORTABLE SHIELD	AREA 2-A
TA-49-34	FM-34	PORTABLE GENERATOR	REMOVED 1979
TA-49-35	FM-35		REMOVED 1970
TA-49-36	FM-36	SIGNAL PANEL	AREA 5 ELECTRICAL
TA-49-37	FM-37	SIGNAL PANEL	AREA 2 ELECTRICAL
TA-49-38	FM-38	MANHOLE	AREA 2-B ELECTRICAL
TA-49-39	FM-39	MANHOLE	AREA 2 ELECTRICAL
TA-49-40	FM-40		DESTROYED 1980
TA-49-41	FM-41		REMOVED 1970
TA-49-42	FM-42		REMOVED 1969
TA-49-43	FM-43		REMOVED 1969
TA-49-44	FM-44		REMOVED 1970
TA-49-45	FM-45	SIGNAL PANEL	AREA 3 ELECTRICAL
TA-49-46	FM-46		REMOVED 1970
TA-49-47	FM-47	CABLE BUILDING	AREA 4
TA-49-48	FM-48	SIGNAL PANEL	AREA 4 ELECTRICAL
TA-49-49	FM-49		REMOVED 1969
TA-49-50	FM-50		REMOVED 1969
TA-49-51	FM-51		REMOVED 1964
TA-49-52	FM-52		REMOVED 1970
TA-49-53	FM-53		REMOVED 1971
TA-49-54	FM-54		REMOVED 1971
TA-49-55	FM-55	STORAGE BUILDING	AREA 11
TA-49-56	FM-56		REMOVED 1971
TA-49-57	FM-57	LATRINE	AREA 10
TA-49-58	FM-58		REMOVED 1970
TA-49-59	FM-59	POWER & SIGNAL PANEL	REMOVED 1979
TA-49-60	FM-60	MANHOLE	REMOVED 1979
TA-49-61	FM-61	PORTABLE SHIELD	AREA 10
TA-49-62	FM-62	ELEVATOR BUILDING	REMOVED 1979
TA-49-63	FM-63		REMOVED 1970
TA-49-64	FM-64	LATRINE	AREA 7
TA-49-65	FM-65	TANK	AREA 5 FUEL
TA-49-66	FM-66	TANK, WATER	RELOCATED TO TA-3-178
TA-49-67	FM-67		REMOVED 1970
TA-49-68	FM-68		REMOVED 1969
TA-49-69	FM-69	LATRINE	Transferred to Zia 9-1-71
TA-49-70	FM-70	LATRINE	AREA 5
TA-49-71	FM-71	MANHOLE (PORTABLE)	AREA 5 ELECTRICAL
TA-49-72	FM-72	MANHOLE (PORTABLE)	AREA 5 ELECTRICAL
TA-49-73	FM-73	MANHOLE (PORTABLE)	AREA 5 ELECTRICAL
TA-49-74	FM-74	MANHOLE (PORTABLE)	AREA 5 ELECTRICAL
TA-49-75	FM-75	MANHOLE (PORTABLE)	AREA 5 ELECTRICAL
TA-49-76	FM-76	MANHOLE (PORTABLE)	AREA 5 ELECTRICAL
TA-49-77	FM-77	MANHOLE (PORTABLE)	AREA 5 ELECTRICAL
TA-49-78	FM-78	MANHOLE (PORTABLE)	AREA 5 ELECTRICAL
TA-49-79	FM-79	MANHOLE (PORTABLE)	AREA 5 ELECTRICAL
TA-49-80	FM-80	MANHOLE (PORTABLE)	AREA 5 ELECTRICAL
TA-49-81	FM-81	MANHOLE (PORTABLE)	AREA 5 ELECTRICAL
TA-49-82	FM-82		REMOVED 1970
TA-49-83	FM-83	CARPENTRY & ELECTRICIAN SHED	AREA 6
TA-49-84	FM-84	TOOL BUILDING	RELOCATED TO TA-3-179
TA-49-85	FM-85		REMOVED 1970
TA-49-86	FM-86		REMOVED 1970
TA-49-87	FM-87		REMOVED 1970
TA-49-88	FM-88	POWER PANEL A	AREA 5 ELECTRICAL
TA-49-89	FM-89	POWER PANEL B	AREA 5 ELECTRICAL
TA-49-90	FM-90	POWER PANEL C	AREA 5 ELECTRICAL
TA-49-91	FM-91	POWER PANEL D	AREA 5 ELECTRICAL
TA-49-92	FM-92	SIGNAL PANEL W	AREA 5 ELECTRICAL
TA-49-93	FM 93	SIGNAL PANEL X	AREA 5 ELECTRICAL
TA-49-94	FM-94	SIGNAL PANEL Y	AREA 5 ELECTRICAL
TA-49-95	FM-95	SIGNAL PANEL Z	AREA 5 ELECTRICAL
TA-49-96	FM-96	PHOTO TOWER	AREA 5 FORMERLY TA 29-3
TA-49-97	FM-97	PORTABLE SHIELD	AREA 2-B

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS
TA-49-98	FM-98	PORTABLE SHIELD	AREA 2-B
TA-49-99	FM-99		REMOVED 1970
TA-49-100	FM-100	TEST WELL NO. 10	
TA-49-101	FM-101	TEST WELL NO. 5	AREA 5
TA-49-102	FM-102	TEST WELL NO. 9	
TA-49-103	FM-103		REMOVED 1970
TA-49-104	FM-104		REMOVED 1970
TA-49-105	FM-105		REMOVED 1970
TA-49-106	FM-106	RECORDING BUILDING	AREA 5
TA-49-107	FM-107	TRANSFORMER STATION	S100+00 E40+00
TA-49-108	FM-108	TRANSFORMER STATION	S100+00 E70+00
TA-49-109	FM-109	TRANSFORMER STATION	Relocated TA-35-83
TA-49-110	FM-110	TRANSFORMER STATION	E 80+00 S110+00
TA-49-111	FM-111	TRANSFORMER STATION	AREA 5

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS

REV	DATE	REVISION	BY	CKD	APP
6	9-22-83	REVISED TITLE BLOCK AND DWG TO STATUS OF 8-1-83	VM		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-49 FRIJOLES MESA SITE

SEC CLASSIFICATION — CLASS U — REVIEWER — DATE 10-28-83

SUBMITTED — RECOMMENDED — APPROVED
DRAWN — CHECKED
DATE 9-22-83 — SHEET NO 1 OF 4 — DRAWING NO ENG-R5126

Figure TA-49-1: Structure Location Plan for TA-49 - Frijoles Mesa Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

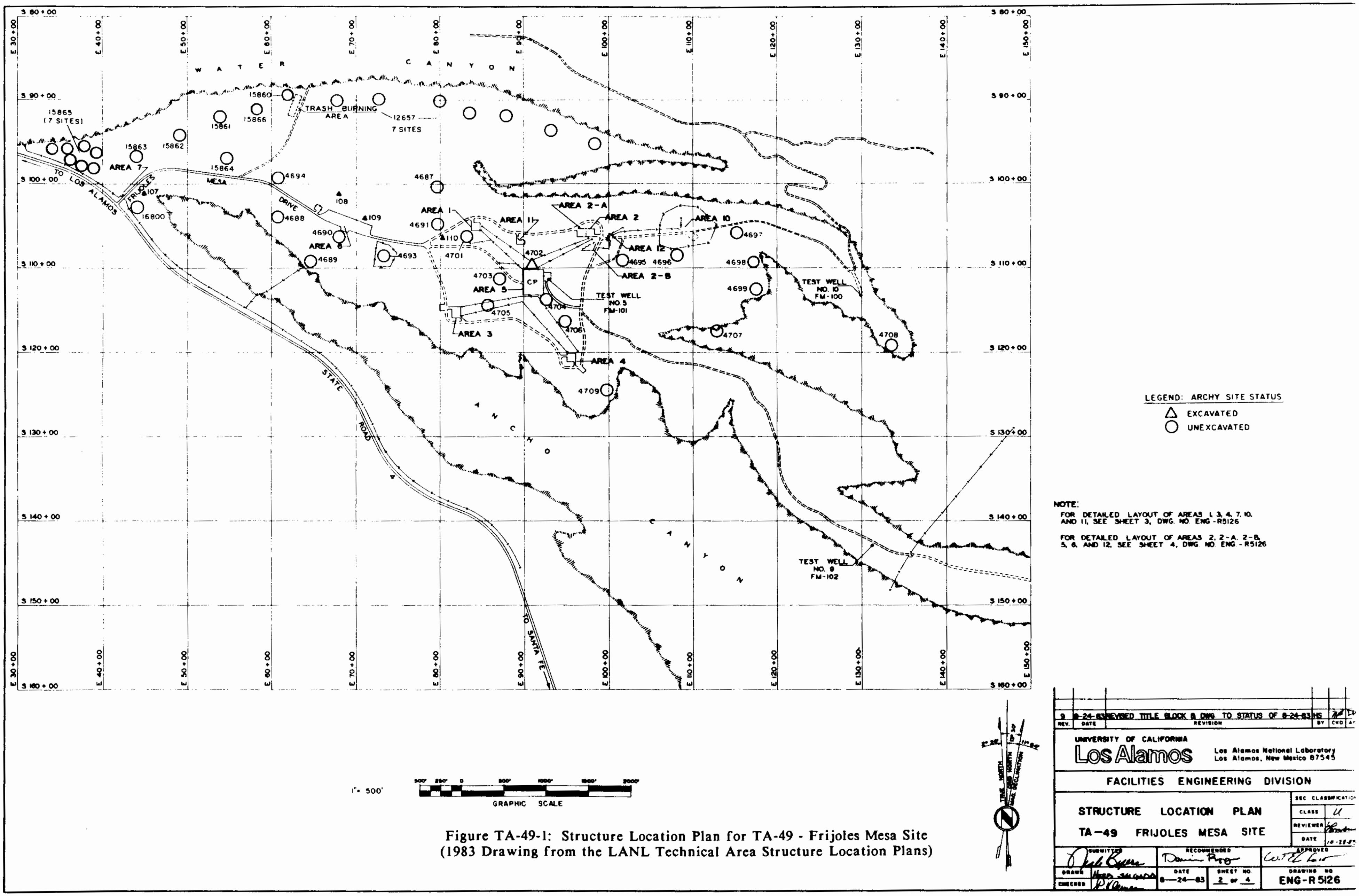

Figure TA-49-1: Structure Location Plan for TA-49 - Frijoles Mesa Site (1983 Drawing from the LANL Technical Area Structure Location Plans)

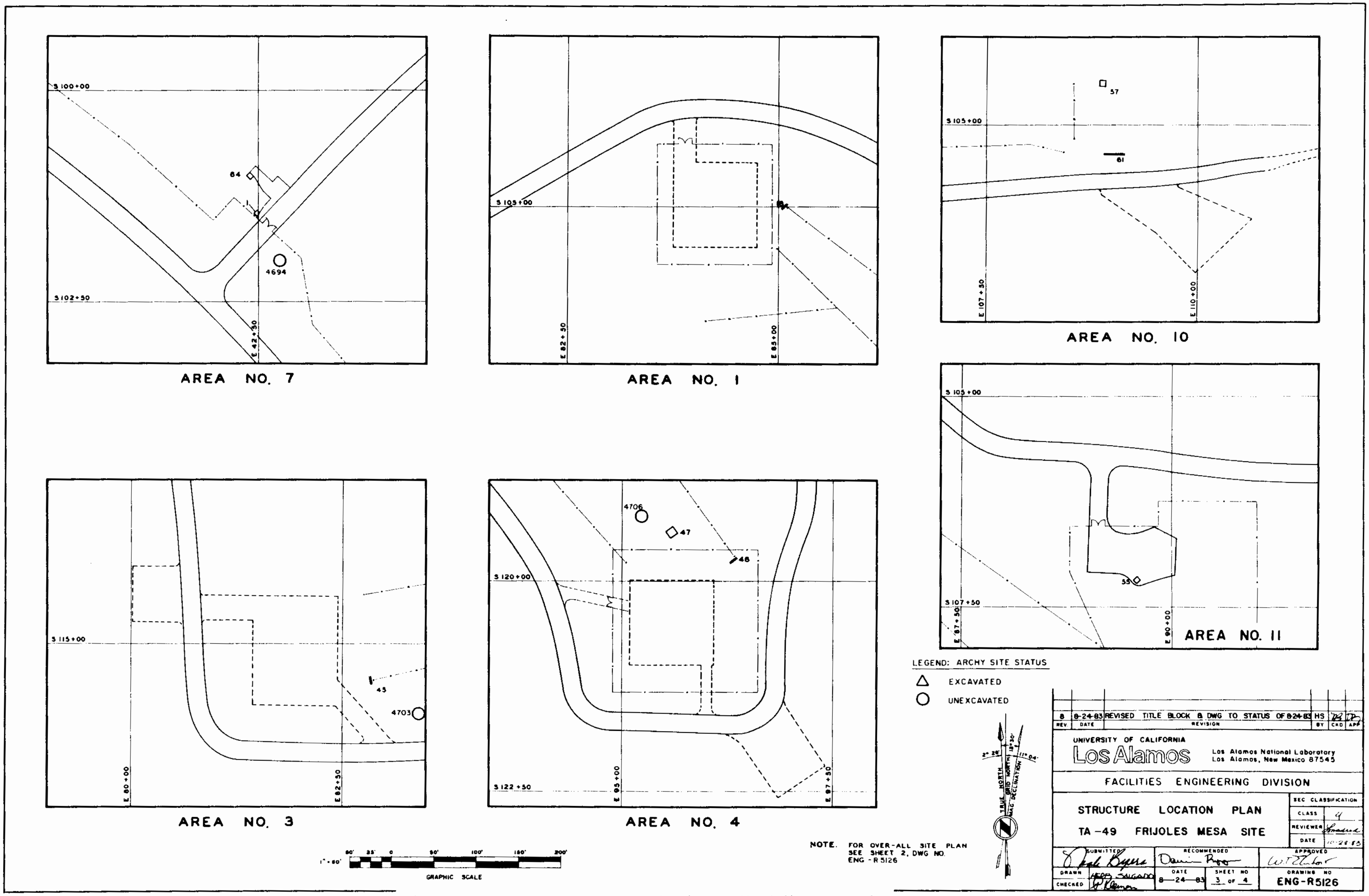

Figure TA-49-1: Structure Location Plan for TA-49 - Frijoles Mesa Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

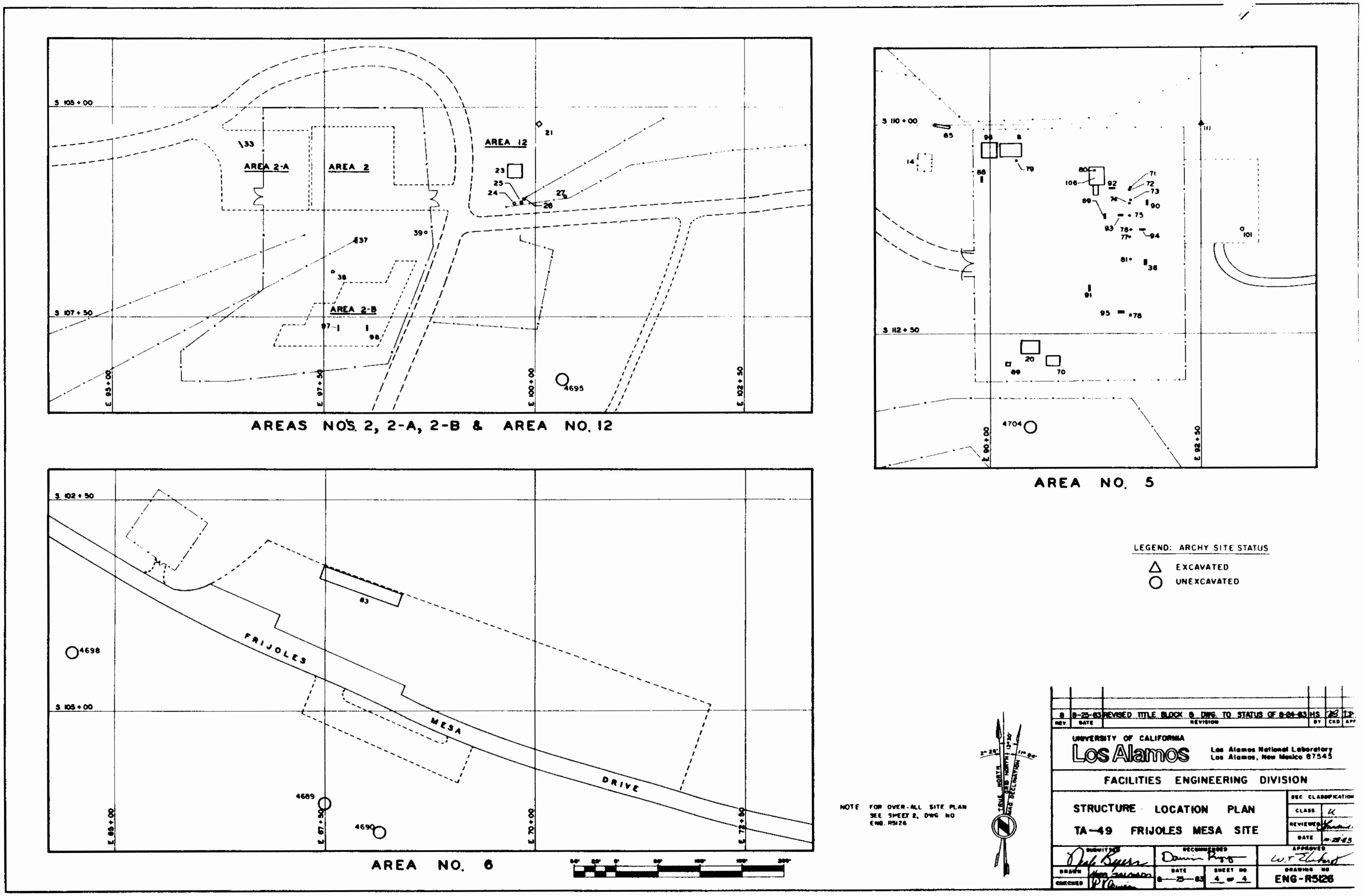

Figure TA-49-1: Structure Location Plan for TA-49 - Frijoles Mesa Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

TA-50 - WM SITE

CURRENT OPERATIONS

TA-50 serves as the waste treatment plant for radioactive liquid wastes from Laboratory facilities including TA-2, TA-3, TA-43, and several technical areas along Pajarito Road. Operations began in 1963 in TA-50-1 and continue to the present. The industrial waste line coming into TA-50-1 from outlying sites is doubly encased with leak monitors in the manholes to which the outer line drains. In addition to collecting radioactive wastes via the industrial waste line network and by truck pick up, certain hazardous chemical wastes are collected in batches and trucked to TA-50 for treatment at TA-50. Other chemical wastes and oils are trucked directly to storage at Area L, TA-54, for eventual disposal by contract offsite organizations.

The Treatment Development Facility, located at TA-50-37, contains a controlled air incinerator (CAI) that was designed to develop methods to reduce volume, stabilize chemical composition, and eliminate combustibility of defense transuranic (TRU) wastes. The TRU program was successfully completed and CAI has been subsequently modified to process other wastes, including beta-gamma radioactive waste, ion exchange resins, carcinogens, and other hazardous chemical wastes in both liquid and solid form. Building TA-50-69 houses the TRU Waste Size Reduction Facility, which is a production-oriented prototype designed to reduce the volume and repackage various types of metallic waste items such as gloveboxes, process equipment, ductwork, and the like. The radioactive decontamination facility for the Laboratory is located in the lower level at the south end of TA-50-1.

POTENTIAL CERCLA/RCRA SITES

Operations at TA-50 have always been primarily related to waste treatment. Spills have occurred and were, for the most part, cleaned up. Because radioactive liquid waste streams from such diverse operations as shops, analytical chemical laboratories, target preparation facilities, and research facilities are sent to TA-50, the possibility exists that spills could contain solvents and other organics, heavy metals, and low pH liquids, as well as radionuclides. Since it began operation in 1963, the liquid waste treatment plant has been discharging effluent to Mortandad Canyon.

In 1975, discoloration in the soil at the southeast corner of TA-50 was noted. The soil was found to have about 50,000 pCi of gross alpha. Later, additional samples indicated that contamination extended along the drainage into Ten-Site Canyon. The most probable cause of the contamination was the overflow of the LD-2 (WM-2) sump.

Radiochemical analyses of soils at TA-50 have been made, and one study reports that all five of the samples collected here since 1975 have contained plutonium in excess of fallout levels. Another report indicates that above-background levels at the site may be due to airborne emissions from operating the radioactive liquid waste treatment plant.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-50. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-50 is 16.8 (Appendix B).

FIGURES

REFERENCES

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Voelz, G. L. 1980. Los Alamos Scientific Laboratory, letter to J.J. Blakeslee, Rocky Flats Plant, August 13, 1980, in the CEARP files at Los Alamos National Laboratory.

TABLE TA50 - POTENTIAL CERCLA/RCRA SITES

TA50-1-UST-A-HW/RW (Underground processing tanks)

Background--TA-50 was first occupied in 1963 by a waste treatment plant constructed to replace the TA-45 and TA-35 plants (Emelity n.d.). Additional waste treatment facilities were added in later years.

The waste liquids are collected at a large tank farm collectively known as TA-50-2, which includes five flow-through process underground tanks, the largest having a volume of 75,000 gal. Two tanks handle the incoming wastes, one is for sludge, and two are for treated liquid waste storage. From the treated waste liquid storage, the liquid wastes are discharged to Mortandad Canyon. An emergency 100,000-gal. steel storage tank at grade was added in the early 1980s.

Two tanks in an underground vault (TA-50-66) handle the caustic and acid liquid process wastes, respectively, from two underground lines from the plutonium facility at TA-55. Another underground tank at TA-50 is a grit chamber located in TA-50-1, room 16A. Two underground sludge tanks of 5,000 gal. each are in room 60A of TA-50-1. Engineering drawing ENG-R5127 indicates two monitoring pits, TA-50-56 and -57.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active underground processing tanks are covered by routine LANL operations.

TA50-2-UST-I-HW/RW (Empty tanks)

Background--Three stainless steel underground storage tanks in concrete encasement at the TA-50-3 tank farm range from 1,000 to 4,500 gal. These tanks had been used to store wastes from the Omega West reactor and could be used in an emergency for storage of other wastes.

CERCLA Finding--Uncertain for FFSDIF, PA, and PI.

Planned Future Action--During supplemental Phase I, the extent of potential residual environmental contamination associated with the underground processing tanks will be determined.

TA50-3-CA-A-RW (Radioactive liquid waste processing facility)

Background--The radioactive liquid waste treatment facility at TA-50 is designed primarily to remove transuranics. The facility provides neutralization, flocculation/clarification, pH control, ion exchange, and filtration. The waste management facility at TA-50 is indicated by the Laboratory to be moderately contaminated with radionuclides (Balo and Warren 1986).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The liquid waste processing facility is covered by routine LANL operations.

TA50-4-O/CA-A-HW/RW (Outfall into Mortandad)

Background--Since it began operation in 1963, the liquid waste treatment plant has been discharging treated effluent from an outfall pipe into Mortandad Canyon. Recently, treated liquid from the liquid waste treatment plant at TA-21 has been piped to TA-50 for discharge into Mortandad along with the waste treated at TA-50. The DOE Onsite Discharge Information System of July 12, 1982, indicates the inventory after decay through December 1981 in Mortandad, because of discharge from 1963-1981 from the TA-50 outfall, to be:

Radionuclide	Total Curies
americium-241	0.042
cesium-137	1.517
tritium	296.722
plutonium-238	0.058
plutonium-239	0.106
strontium-89	0.004
strontium-90	0.330
natural uranium	0.000
uranium-234	0.002
uranium-235	0.002
uranium-238	0.000
unidentified gross alpha	0.039
unidentified gross beta/gamma	8.524

Data for 1982-1985 come from the applicable environmental surveillance documents and are given below in millicuries (mCi). Note that tritium has not been decay-corrected, but is given as the curies (Ci) discharged.

Isotope	1982	1983	1984	1985
plutonium-238	3.0	11.0	6.1	3.9
plutonium-239	16.6	42.2	8.1	5.8
americium-241	17.8	37.7	8.2	5.4
strontium-89	11.8	56.7	262.0	9.0
strontium-90	12.8	2.3	6.8	1.2
tritium	14200.0	8690.0	12700.0	69400.0
cesium-137	209.0	44.7	19.5	--
uranium-234	1.2	0.6	3.8	0.43

In 1977, concentrations above background for plutonium extended to 5.12 km from the outfall and had a maximum of approximately 400 pCi/g of total plutonium where the discharge intercepts the canyon floor. No samples were taken of the rock outcrop over which the discharge previously fell (LASL 1977:48). The approximate size of the area believed to be contaminated by the outfall in Mortandad is 40,000 m^2 (Voelz 1980).

For nonradioactive constituents in 1985, the mean concentration in the discharge is given below (LANL 1986:142):

Constituent	Mean Concentration (mg/L)
cadmium	0.001
calcium	47.0
chlorine	100.0
chromium (total)	0.06
copper	1.0
fluorine	28.0
mercury	0.001
manganese	1.6
sodium	896.0
lead	0.016
zinc	0.10
CN	0.3
COD	84.0
NO_3 (N)	376.0
PO_4	1.6
TDS	3570.0
pH	6.9 - 11.7

In recent sampling in 1985 at an area that appears to be near the outfall, concentrations of plutonium-239/plutonium-240, americium-241, and strontium-90 soil are reported to be, respectively, 64.4 ± 2.42, 57.0 ± 8.1, and 6.8 ± 0.20 pCi/g (LANL 1986:170).

CERCLA Finding--Uncertain for FFSDIF, PA, and PI.

Planned Future Action--During supplemental Phase I the extent of residual environmental contamination from past discharges to Mortandad Canyon will be determined. The active outfall is covered by routine LANL operations.

TA50-5-CA-I-HW/RW (Spills from the liquid waste processing facility)

Background--In 1975, discoloration in the soil at the southeast corner of TA-50 was noted. The soil was found to have about 50,000 pCi of gross alpha. Later, additional samples indicated that contamination extended along the drainage into Ten-Site Canyon. The most probable cause of the contamination was the overflow of the LD-2 sump (Emelity 1975). One report indicates that two areas of contamination are known (LASL 1977:44). The top 30 m of channel is reported to be readily accessible by vehicle for cleanup. The next 300 m of channel are extremely inaccessible to vehicles and have gross alpha surface contamination up to 300 pCi/g. Of the 27 samples collected in the bottom of the canyon, the maximum activity was 70 pCi/g. To decontaminate the area, estimates are that 4,500 m^3 of nonretrievable soil would need to go to TA-54 and approximately 5 m^3 would have to go into retrievable storage containers.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--During Phase II, the extent of residual environmental contamination associated with past spills will be determined.

TA50-6-CA-A-RW (Airborne contaminants)

Background--Radiochemical analyses of soils at TA-50 have been made. One study reports that all five of the samples collected at TA-50 since 1975 have contained plutonium in excess of fallout levels. Concentrations for plutonium-238 ranged from 0.003 - 0.017 pCi/g, whereas concentrations for plutonium-239 ranged from 0.088 - 6.98 pCi/g (Purtymun, Peters, and Stoker 1980).

One report indicates that above-background levels at TA-50 may be due to airborne emissions from operating the radioactive liquid waste treatment plant (Hansen 1980).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the extent of residual environmental contamination from past releases will be determined. Active airborne releases are covered by routine LANL operations.

TA50-7-CA-I/A-HW (Batch processing plant)

Background--A liquid waste batch treatment system is located in building 1 at TA-50. Wastes that have been treated include cyanide, chromate plating solutions, and solutions of acids, bases, and heavy metals. There is no indication of residual environmental contamination.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted. The active batch processing plant is covered by routine LANL operations.

TA50-8-CA-A-RW (Size Reduction Facility)

Background--The Size Reduction Facility (TA-50-69) is a prototype facility designed to repackage and reduce the volume of various types of metallic waste items contaminated with transuranics. Operations were initiated in August 1983. Through FY 1985, a total volume of 3,106 ft^3 of transuranic-contaminated waste has been reduced by a factor of 3.7 to 1. This facility is moderately contaminated with transuranics and associated radionuclides (Balo and Warren 1986:28-30).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The size reduction facility is covered by routine LANL operations.

TA50-9-IN-A-HW/RW (Incinerator)

Background--The Treatment Development Facility (TA-50-37) was designed and constructed to develop incineration methods for wastes containing transuranics. A controlled air incinerator has been operated for these types of wastes and for wastes emitting beta/gamma, ion exchange resins, carcinogens, and other hazardous wastes (including PCBs) in both solid and liquid form (Balo and Warren 1986:30).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The incinerator is covered by routine LANL operations.

TA50-10-CA-A-RW (Decontamination)

Background--A radioactive decontamination facility for the Laboratory is located in the lower level at the south end of TA-50-1. Liquid wastes go to the tank farm.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--Decontamination activities are covered by routine LANL operations.

TA50-11-CA-A-HW/RW (Storage)

Background--Several old drums were noted during the 1986 CEARP field survey at various locations at TA-50. Additionally, several small "boneyards" were noted.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active storage areas are covered by routine LANL operations.

TA50-12-CA-I-HW/RW (Acid line removal)

Background--In 1975, the radioactive-contaminated waste line was removed at TA-50 in the region in which the incinerator is now located. Contaminated soil and pipe were taken to Area G to be buried (Smith 1975).

CERCLA Finding--Due to the status of activities (i.e., CEARP Phase V), a CERCLA finding under FFSDIF, PA, and PSI is not appropriate.

Planned Future Action--A CEARP Phase V verification study will be conducted.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-50-1	WM-1	LIQUID DISPOSAL PLANT		N32+50 E95+00
TA-50-2	WM-2	PUMPING STATION, ACID		N30+00 E95+00
TA-50-3	WM-3	TANK, HOLDING ACID		N30+00 E95+00
TA-50-4	WM-4	SUBSTATION		N32+50 E95+00
TA-50-5	WM-5	TANK, ACID		N32+50 E95+00
TA-50-6	WM-6	MANHOLE, ACID		N32+50 E95+00
TA-50-7	WM-7	MANHOLE, ACID		N30+00 E95+00
TA-50-8	WM-8	MANHOLE, ACID		N30+00 E95+00
TA-50-9	WM-9	MANHOLE, SANITARY	REMOVED 1983	
TA-50-10	WM-10	TANK, SEPTIC	REMOVED 1983	
TA-50-11	WM-11	DISTRIBUTION BOX, SANITARY	REMOVED 1983	
TA-50-12	WM-12	PIT, ACID NEUTRALIZING		N32+50 E95+00
TA-50-13	WM-13	CALIBRATION HOLE	REMOVED 1977	
TA-50-14	WM-14	CALIBRATION HOLE	REMOVED 1977	
TA-50-15	WM-15	CALIBRATION HOLE	REMOVED 1977	
TA-50-16	WM-16	TEST HOLE	REMOVED 1977	
TA-50-17	WM-17	TEST HOLE	REMOVED 1977	
TA-50-18	WM-18	TEST HOLE	REMOVED 1977	
TA-50-19	WM-19	TEST HOLE	REMOVED 1977	
TA-50-20	WM-20	TEST HOLE	REMOVED 1977	
TA-50-21	WM-21	TEST WELL	REMOVED 1977	
TA-50-22	WM-22	TEST WELL	REMOVED 1977	
TA-50-23	WM-23	TEST HOLE	REMOVED 1977	
TA-50-24	WM-24	TEST HOLE	REMOVED 1977	
TA-50-25	WM-25	TEST HOLE	REMOVED 1977	
TA-50-26	WM-26	TEST HOLE	REMOVED 1977	
TA-50-27	WM-27	TEST HOLE	REMOVED 1977	
TA-50-28	WM-28	TEST HOLE	REMOVED 1977	
TA-50-29	WM-29	TEST WELL	REMOVED 1977	
TA-50-30	WM-30	TEST WELL	REMOVED 1977	
TA-50-31	WM-31	TEST WELL	REMOVED 1977	
TA-50-32	WM-32	TEST WELL	REMOVED 1977	
TA-50-33	WM-33	TEST HOLE	REMOVED 1977	
TA-50-34	WM-34	MANHOLE, WATER METER		N32+50 E97+50
TA-50-35	WM-35	MANHOLE, TELEPHONE		N35+00 E95+00
TA-50-36	WM-36	TRANSFORMER STATION	RENUMBERED TA-0-481	
TA-50-37	WM-37	TRANSURAMIC BUILDING		N32+50 E92+50
TA-50-38	WM-38	INSPECTION STATION		N35+00 E92+50
TA-50-39	WM-39	CONCRETE PAD	REMOVED 1980	
TA-50-40	WM-40	GAS METERING STATION	RENUMBERED TA-35-220	
TA-50-41	WM-41	TRANSFORMER STATION	RENUMBERED TA-55-23	
TA-50-42	WM-42	LIQUID CO_2 TANK		N32+50 E95+00
TA-50-43	WM-43	MANHOLE, SANITARY		N35+00 E92+50
TA-50-44	WM-44	MANHOLE, SANITARY		N35+00 E95+00
TA-50-45	WM-45	MANHOLE, SANITARY		N35+00 E100+00
TA-50-46	WM-46	TRANSFORMER PAD		N32+50 E90+00
TA-50-47	WM-47	TRAILER SLAB		N32+50 E90+00
TA-50-48	WM-48	COOLING TOWER SLAB		N32+50 E90+00
TA-50-49	WM-49	COOLING TOWER RESERVOIR		N32+50 E90+00
TA-50-50	WM-50	BLOWER PAD		N32+50 E90+00
TA-50-51	WM-51	STACK FOUNDATION		N32+50 E90+00
TA-50-52	WM-52	TRANSFORER, STATION	NOT SHOWN	
TA-50-53	WM-53	MANHOLE, SANITARY		N35+00 E100+00
TA-50-54	WM-54	TDF WAREHOUSE		N30+00 E90+00
TA-50-55	WM-55	MANHOLE, ACID		N30+00 E92+50
TA-50-56	WM-56	MONITORING PIT, ACID		N30+00 E92+50
TA-50-57	WM-57	MONITORING PIT, ACID		N30+00 E92+50
TA-50-58	WM-58	BUTTERFLY VALVE FOUNDATION	NOT SHOWN	N32+50 E90+00
TA-50-59	WM-59	BUTTERFLY VALVE FOUNDATION	NOT SHOWN	N32+50 E90+00
TA-50-60	WM-60	EXTERIOR DUCT	NOT SHOWN	N32+50 E90+00
TA-50-61	WM-61	EXTERIOR DUCT	NOT SHOWN	N32+50 E90+00
TA-50-62	WM-62	EXTERIOR DUCT	NOT SHOWN	N32+50 E90+00
TA-50-63	WM-63	EXTERIOR DUCT	NOT SHOWN	N32+50 E90+00
TA-50-64	WM-64	EXTERIOR DUCT	NOT SHOWN	N32+50 E90+00
TA-50-65	WM-65	EXTERIOR DUCT	NOT SHOWN	N32+50 E90+00
TA-50-66	WM-66	PIT, ACID AND CAUSTIC		N30+00 E95+00
TA-50-67	WM-67	TANK, PROCESS		N30+00 E95+00
TA-50-68	WM-68	TANK, PROCESS		N30+00 E95+00
TA-50-69	WM-69	SIZE REDUCTION FACILITIES		N30+00 E90+00
TA-50-70	WM-70	MANHOLE, ACID		N35+00 E90+00
TA-50-71	WM 71	MANHOLE, ACID		N35+00 E92+50
TA-50-72	WM-72	MANHOLE, ACID		N32+50 E95+00
TA-50-73	WM-73	MANHOLE, INDUSTRIAL WASTE		N30+00 E90+00
TA-50-74	WM-74	MANHOLE, ACID		N32+50 E92+50
TA-50-76	WM-76	MANHOLE, ACID		N30+00 E90+00
TA-50-77	WM-77	UNLOADING STATION		N30+00 E95+00
TA-50-78	WM-78	MANHOLE, ACID		N32+50 E95+00
TA-50-81	WM-81	MANHOLE, SANITARY		N32+50 E90+00
TA-50-82	WM-82	TRANSFORMER STATION		N32+50 E90+00
TA-50-83	WM-83	STORAGE, BUILDING		N30+00 E97+00
TA-50-84	WM-84	TRANSPORTABLE OFF BLDG		N30+00 E90+00
TA-50-85	WM-85	OIL STORAGE	NOT SHOWN	
TA-50-86	WM-86	PUMP HOUSE	NOT SHOWN	
TA-50-87	WM-87	MANHOLE SANITARY	NOT SHOWN	
TA-50-88	WM-88	MANHOLE SANITARY	NOT SHOWN	
TA-50-89	WM-89	WIG WAG	NOT SHOWN	
TA-50-90	WM-90	HOLDING TANK	NOT SHOWN	
TA-50-91	WM-91	LIFT STATION	NOT SHOWN	
TA-50-92	WM-92	LIFT STATION	NOT SHOWN	
TA-50-94	WM-94	TRAILER, OFFICE	FORMERLEY TA-665	N30+00 E92+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-526	ULR-526	CONSTRUCTION SHACK	REMOVED	N35+00 E95+00
TA-0-665	ULR-665	OFFICE TRAILER	REMOVED	N32+50 E90+00

REV.	DATE	REVISION	BY	CKD	APP.
7	9-26-85	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-19-83	LEM		

UNIVERSITY OF CALIFORNIA
Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

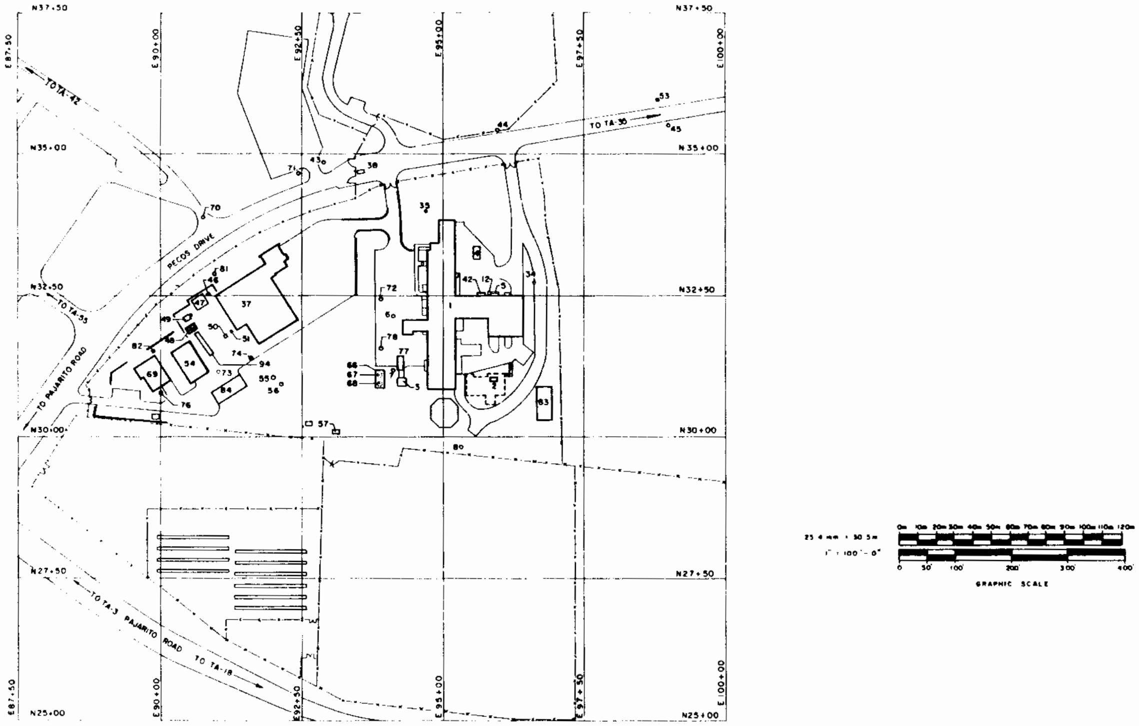
FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-50 WM-SITE

SEC CLASSIFICATION
CLASS U
REVIEWER
DATE 11-2-89

SUBMITTED | RECOMMENDED | APPROVED W.T. [illegible]
DRAWN | CHECKED
DATE 7-19-83
SHEET NO. 1 of 2
DRAWING NO. ENG-R5127

Figure TA-50-1: Structure Location Plan for TA-50 - WM Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)



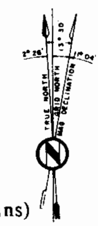


Figure TA-50-1: Structure Location Plan for TA-50 - WM Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

REV.	DATE	REVISION	BY	CHD	APP
7	9-26-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-13-83	HS		

UNIVERSITY OF CALIFORNIA

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

STRUCURE LOCATION PLAN

TA-50 WM-SITE

SEC. CLASSIFICATION

CLASS 4

REVIEWER

DATE 11-5-85

SUBMITTED RECOMMENDED APPROVED

DRAWN

CHECKED

DATE 9-26-83

SHEET NO 2 of 2

DRAWING NO ENG-R5127

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-50-1	WM-1	LIQUID DISPOSAL PLANT		N32+50 E95+00
TA-50-2	WM-2	PUMPING STATION, ACID		N30+00 E95+00
TA-50-3	WM-3	TANK, HOLDING ACID		N30+00 E95+00
TA-50-4	WM-4	SUBSTATION	PAD MOUNTED	N32+50 E95+00
TA-50-5	WM-5	TANK, ACID		N32+50 E95+00
TA-50-6	WM-6	MANHOLE, ACID		N32+50 E95+00
TA-50-7	WM-7	MANHOLE, ACID		N30+00 E95+00
TA-50-8	WM-8	MANHOLE, ACID		N30+00 E95+00
TA-50-9	WM-9	MANHOLE, SANITARY		N30+00 E95+00
TA-50-10	WM-10	TANK, SEPTIC		N30+00 E95+00
TA-50-11	WM-11	DISTRIBUTION BOX, SANITARY		N30+00 E95+00
TA-50-12	WM-12	PIT, ACID NEUTRALIZING		N32+50 E95+00
TA-50-13	WM-13	CALIBRATION HOLE	REMOVED 1977	
TA-50-14	WM-14	CALIBRATION HOLE	REMOVED 1977	
TA-50-15	WM-15	CALIBRATION HOLE	REMOVED 1977	
TA-50-16	WM-16	TEST HOLE	REMOVED 1977	
TA-50-17	WM-17	TEST HOLE	REMOVED 1977	
TA-50-18	WM-18	TEST HOLE	REMOVED 1977	
TA-50-19	WM-19	TEST HOLE	REMOVED 1977	
TA-50-20	WM-20	TEST HOLE	REMOVED 1977	
TA-50-21	WM-21	TEST WELL	REMOVED 1977	
TA-50-22	WM-22	TEST WELL	REMOVED 1977	
TA-50-23	WM-23	TEST HOLE	REMOVED 1977	
TA-50-24	WM-24	TEST HOLE	REMOVED 1977	
TA-50-25	WM-25	TEST HOLE	REMOVED 1977	
TA-50-26	WM-26	TEST HOLE	REMOVED 1977	
TA-50-27	WM-27	TEST HOLE	REMOVED 1977	
TA-50-28	WM-28	TEST HOLE	REMOVED 1977	
TA-50-29	WM-29	TEST WELL	REMOVED 1977	
TA-50-30	WM-30	TEST WELL	REMOVED 1977	
TA-50-31	WM-31	TEST WELL	REMOVED 1977	
TA-50-32	WM-32	TEST WELL	REMOVED 1977	
TA-50-33	WM-33	TEST HOLE	REMOVED 1977	
TA-50-34	WM-34	MANHOLE, WATER METER		N32+50 E97+50
TA-50-35	WM-35	MANHOLE, TELEPHONE		N35+00 E95+00
TA-50-36	WM-36	TRANSFORMER STATION	RENUMBERED TA-0-481	
TA-50-37	WM-37	TRANSURAMIC BUILDING		N32+50 E92+50
TA-50-38	WM-38	INSPECTION STATION		N35+00 E92+50
TA-50-39	WM-39	CONCRETE PAD	REMOVED 1980	
TA-50-40	WM-40	GAS METERING STATION	RENUMBERED TA-35-220	
TA-50-41	WM-41	TRANSFORMER STATION	RENUMBERED TA-55-23	
TA-50-42	WM-42	LIQUID CO_2 TANK		N32+50 E95+00
TA-50-43	WM-43	MANHOLE, SANITARY		N35+00 E92+50
TA-50-44	WM-44	MANHOLE, SANITARY		N35+00 E95+00
TA-50-45	WM-45	MANHOLE, SANITARY		N35+00 E100+00
TA-50-46	WM-46	TRANSFORMER PAD		N32+50 E90+00
TA-50-47	WM-47	TRAILER SLAB		N32+50 E90+00
TA-50-48	WM-48	COOLING TOWER SLAB		N32+50 E90+00
TA-50-49	WM-49	COOLING TOWER RESERVOIR		N32+50 E90+00
TA-50-50	WM-50	BLOWER PAD		N32+50 E90+00
TA-50-51	WM-51	STACK FOUNDATION		N32+50 E90+00
TA-50-52	WM-52	500 KVA TRANSFORMER STATION	NOT SHOWN POLE MOUNTED	N30+00 E90+00
TA-50-53	WM-53	MANHOLE, SANITARY		N35+00 E100+00
TA-50-54	WM-54	T.D.F. WAREHOUSE		N30+00 E90+00
TA-50-55	WM-55	MANHOLE, ACID		N30+00 E92+50
TA-50-56	WM-56	MONITORING PIT, ACID		N30+00 E92+50
TA-50-57	WM-57	MONITORING PIT, ACID		N30+00 E92+50
TA-50-58	WM-58	BUTTERFLY VALVE FOUNDATION	NOT SHOWN	N32+50 E90+00
TA-50-59	WM-59	BUTTERFLY VALVE FOUNDATION	NOT SHOWN	N32+50 E90+00
TA-50-60	WM-60	EXTERIOR DUCT	NOT SHOWN	N32+50 E90+00
TA-50-61	WM-61	EXTERIOR DUCT	NOT SHOWN	N32+50 E90+00
TA-50-62	WM-62	EXTERIOR DUCT	NOT SHOWN	N32+50 E90+00
TA-50-63	WM-63	EXTERIOR DUCT	NOT SHOWN	N32+50 E90+00
TA-50-64	WM-64	EXTERIOR DUCT	NOT SHOWN	N32+50 E90+00
TA-50-65	WM-65	EXTERIOR DUCT	NOT SHOWN	N32+50 E90+00
TA-50-66	WM-66	PIT, ACID AND CAUSTIC		N30+00 E95+00
TA-50-67	WM-67	TANK, PROCESS		N30+00 E95+00
TA-50-68	WM-68	TANK, PROCESS		N30+00 E95+00
TA-50-69	WM-69	SIZE REDUCTION FACILITIES		N30+00 E90+00
TA-50-70	WM-70	MANHOLE, ACID		N35+00 E90+00
TA-50-71	WM-71	MANHOLE, ACID		N35+00 E92+50
TA-50-72	WM-72	MANHOLE, ACID		N32+50 E95+00
TA-50-74	WM-74	MANHOLE, ACID		N32+50 E92+50
TA-50-76	WM-76	MANHOLE, ACID		N30+00 E90+00
TA-50-77	WM-77	UNLOADING STATION		N30+00 E95+00
TA-50-78	WM-78	MANHOLE, ACID		N32+50 E95+00
TA-50-81	WM-81	MANHOLE, SANITARY		N32+50 E90+00
TA-50-82	WM-82	TRANSFORMER	PAD MOUNTED	N32+50 E90+00
TA-50-84	WM-84	BUILDING, OFFICE	TRANSPORTABLE	N30+00 E90+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-526	ULR-526	CONSTRUCTION SHACK		N35+00 E95+00
TA-0-665	ULR-665	OFFICE TRAILER		N32+50 E90+00

NO.	DATE	REVISIONS	BY	CHKD		
6	11-24-81	REVISED TO STATUS OF 11-30-81	SV			
5	4-20-77	REVISED DWG NO (FORMERLY R2492)	M.M.			
4	1-14-77	REVISED TO STATUS OF 1-14-77	L.M.			
3	10-23-74	REVISED TO STATUS OF 10-23-74	B.H.			
2	12-18-69	REVISED TO STATUS OF 12-18-69	DAD			
1	10-13-65	REVISED TO STATUS OF 9-7-65	ERM			

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT, SEC

LOS ALAMOS NATIONAL LABORATORY
FACILITIES AND ADMINISTRATIVE SUPPORT DIVISION
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN

TA-50 WM-SITE

CHECKED: PROJ ENG | RECOMMENDED: GROUP LEADER | APPROVED: DEPT OFFICE

DESIGNER | DATE 1-7-63 | DRAWING NO. ENG-R 5127

DRAWN FRANK | SHEET NO 1 OF 2

SCALE NONE

REVIEWER ______ CLASS ______ DATE ______

Figure TA-50-2: Structure Location Plan for TA-50 - WM Site (1963 Drawing from the LANL Technical Area Structure Location Plans)

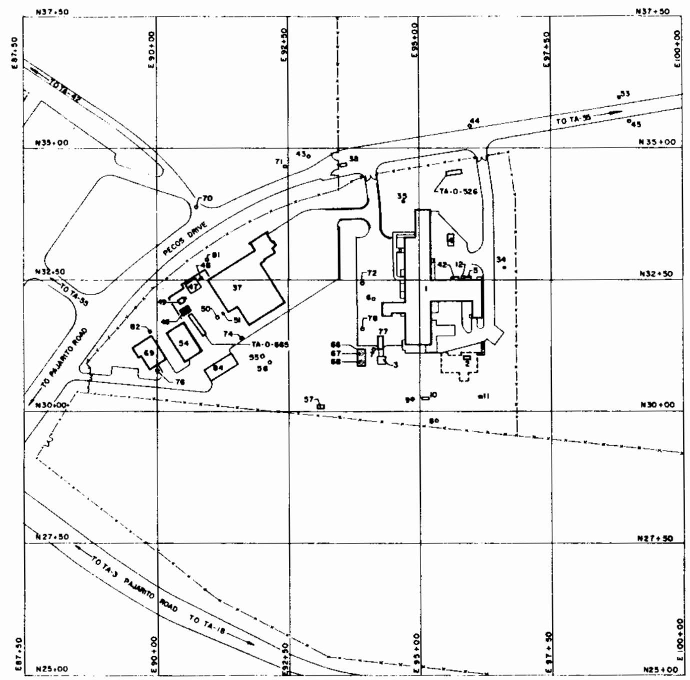


Figure TA-50-2: Structure Location Plan for TA-50 - WM Site
(1963 Drawing from the LANL Technical Area Structure Location Plans)

NO.	DATE		REVISIONS
6	9-24-81		REVISED TO STATUS OF 11-30-81
5	4-20-77		REVISED DWG. NO. (FORMERLY R2493)
4	1-14-77		REVISED & REDRAWN

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DWG. CLASSIFICATION: U

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STRUCTURE LOCATION PLAN

TA-50 WM-SITE

DRAWN D. A. DAVIS

ENG-R 5127

TA-51 - RADIATION EXPOSURE FACILITY

CURRENT OPERATIONS

In the building formerly used for radiation exposures (TA-51-1), experiments are being conducted on the physiology of rodents being exposed to the oxides of nitrogen. The other buildings are being used for storage.

An Experimental Engineering Test Facility (EETF) was built in 1980-81 on a 21-acre site west of the animal care facility. The EETF was built to develop effective isolation techniques for buried waste materials in semi-arid climates. Experiments are designed to determine rates and mechanisms of surface and subsurface hydrologic transport of contaminants. Studies under way at the EETF involve a rainfall simulator to determine the hydrologic response of soil profiles and to study chemical transport, subsurface caissons to conduct mass balances on subsurface water and solute transport, and various experiments that evaluate biological intrusion of both plants and animals into experimental trench caps.

In February 1986, new offices were occupied at TA-51 by the Environmental Science Group (HSE-12), which is responsible for the EETF and other projects involved in environmental research.

POTENTIAL CERCLA/RCRA SITES

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during Supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-51 is 14.1 (Appendix B).

FIGURES

REFERENCES

Frechette, Murial A. 1963. "Standard Operating Procedure for TA-51," Los Alamos Scientific Laboratory memorandum, April 30, 1963.

LASL. 1979. "Facilities/Operations Ranked by Hazard," Los Alamos Scientific Laboratory report 5481.1.

TABLE TA-51 - POTENTIAL CERCLA/RCRA SITES

TA51-1-CA-I/A-HW (Buildings and associated facilities)

Background--The first buildings at TA-51 were two magazines associated with the Pajarito laboratory. They were located north of the existing water tank and TA-51-15, according to engineering drawing ENG-R136.

During the 1986 CEARP field survey, these magazines were presumed to have been burned, because only the residual dirt mounds remain today. No high explosive was observed at the site. No information on decommissioning these structures was found.

In 1962, a new animal exposure facility was built, including utility, TA-51-2, control, TA-51-3, and source, TA-51-1. The source building housed three cobalt-60 sources of up to 1,000 Ci (Frechette 1963). No reports of source leaks were found in the literature survey, and during the 1986 CEARP field survey, people working at the site could not remember any leaks. The control chamber is now used for nitrogen dioxide and nitric oxide inhalation studies on animals. The dog holding facility, TA-51-7, was added later and today is being used for storage. A large-animal building, TA-51-15, was built and was later used for studies on the toxicity of oil shale--a small amount of retorting of the shale occurred. All residues are believed to have been bagged and none are thought to remain in the building.

In the 1980s, an experimental complex was built to study water and tracer movement under unsaturated flow. The complex included several prefabricated buildings.

There is no evidence of residual environmental contamination of concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active facilities are covered by routine LANL operations.

TA51-2-ST-A-HW (Septic Tanks)

Background--Several septic tanks serve the facility. The earlier tanks have received animal residues; however, so far as can be determined, they did not include toxic or radioactive material. Nevertheless, carcinogens are listed for TA-51. Whether this meant radioactive or other materials is not known (LASL 1979).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active septic tanks are covered by routine LANL operations.

TA51-3-S-A-HW (Caissons)

Background--Several deep caissons are in the experimental complex. The open caissons are fenced and signs are posted. The 1986 CEARP field survey observed that some of the caissons have been filled and that small quantities of chemicals have been used.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted. The current activities are covered by routine LANL operations.

TA51-4-CA/O-A-HW (Outfalls)

Background--The caissons are sometimes pumped to remove liquid. On some occasions, the 1986 CEARP field survey observed that small quantities of chemicals such as strontium may be in the water. This water is discharged to the Canada del Buey.

There is no evidence of residuals that could be of environmental concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

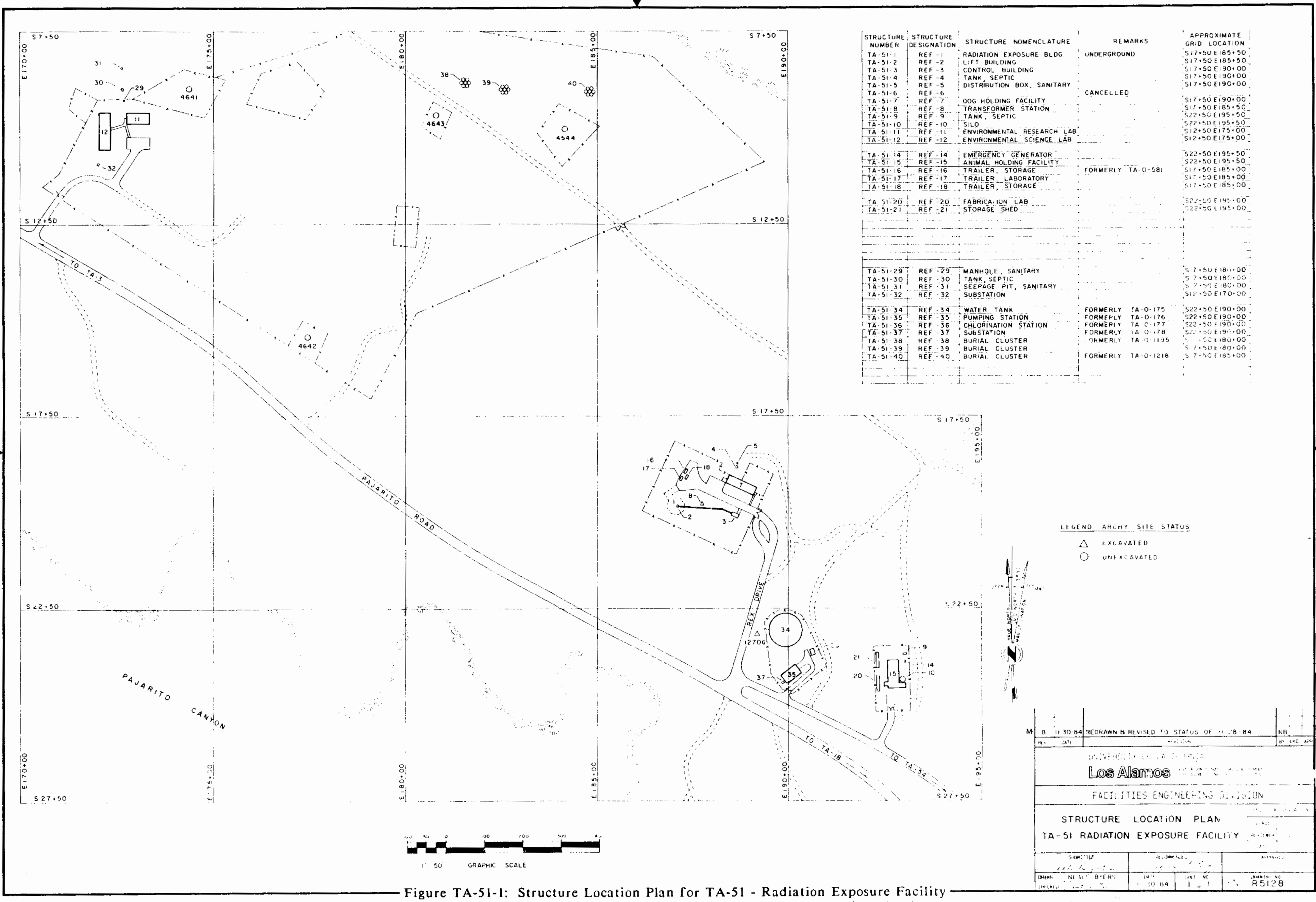
Planned Future Action--No further action is warranted under CEARP. The active outfall is covered by routine LANL operations.

TA51-5-CA-A-HW (Storage)

Background--Numerous unmarked drums are sitting at the experimental complex. They look old, but no leaks were observed. Whether they contain waste is not known. TA-51 has numerous unused pieces of debris lying around. Possible contamination is not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A Phase I reconnaissance survey will be conducted to determine if there are residuals of environmental concern from past operations. Active storage operations are covered by routine LANL operations.



STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-51-1	REF-1	RADIATION EXPOSURE BLDG.	UNDERGROUND	S17+50 E185+50
TA-51-2	REF-2	LIFT BUILDING		S17+50 E185+50
TA-51-3	REF-3	CONTROL BUILDING		S17+50 E190+00
TA-51-4	REF-4	TANK, SEPTIC		S17+50 E190+00
TA-51-5	REF-5	DISTRIBUTION BOX, SANITARY		S17+50 E190+00
TA-51-6	REF-6		CANCELLED	
TA-51-7	REF-7	DOG HOLDING FACILITY		S17+50 E190+00
TA-51-8	REF-8	TRANSFORMER STATION		S17+50 E185+50
TA-51-9	REF-9	TANK, SEPTIC		S22+50 E195+50
TA-51-10	REF-10	SILO		S22+50 E195+50
TA-51-11	REF-11	ENVIRONMENTAL RESEARCH LAB		S12+50 E175+00
TA-51-12	REF-12	ENVIRONMENTAL SCIENCE LAB		S12+50 E175+00
TA-51-14	REF-14	EMERGENCY GENERATOR		S22+50 E195+50
TA-51-15	REF-15	ANIMAL HOLDING FACILITY		S22+50 E195+50
TA-51-16	REF-16	TRAILER, STORAGE	FORMERLY TA-0-581	S17+50 E185+00
TA-51-17	REF-17	TRAILER, LABORATORY		S17+50 E185+00
TA-51-18	REF-18	TRAILER, STORAGE		S17+50 E185+00
TA-51-20	REF-20	FABRICATION LAB		S22+50 E195+00
TA-51-21	REF-21	STORAGE SHED		S22+50 E195+00
TA-51-29	REF-29	MANHOLE, SANITARY		S17+50 E180+00
TA-51-30	REF-30	TANK, SEPTIC		S17+50 E180+00
TA-51-31	REF-31	SEEPAGE PIT, SANITARY		S17+50 E180+00
TA-51-32	REF-32	SUBSTATION		S12+50 E170+00
TA-51-34	REF-34	WATER TANK	FORMERLY TA-0-175	S22+50 E190+00
TA-51-35	REF-35	PUMPING STATION	FORMERLY TA-0-176	S22+50 E190+00
TA-51-36	REF-36	CHLORINATION STATION	FORMERLY TA-0-177	S22+50 E190+00
TA-51-37	REF-37	SUBSTATION	FORMERLY TA-0-178	S22+50 E190+00
TA-51-38	REF-38	BURIAL CLUSTER	FORMERLY TA-0-1195	S17+50 E180+00
TA-51-39	REF-39	BURIAL CLUSTER		S17+50 E180+00
TA-51-40	REF-40	BURIAL CLUSTER	FORMERLY TA-0-1218	S17+50 E185+00

Figure TA-51-1: Structure Location Plan for TA-51 - Radiation Exposure Facility
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-51-1	REF-1	RADIATION EXPOSURE BUILDING	UNDERGROUND	S20+00 E187+50
TA-51-2	REF-2	LIFT BUILDING		S20+00 E187+50
TA-51-3	REF-3	CONTROL BUILDING		S20+00 E190+00
TA-51-4	REF-4	TANK	SEPTIC	S20+00 E190+00
TA-51-5	REF-5	DISTRIBUTION BOX	SANITARY	S20+00 E190+00
TA-51-6	REF-6			
TA-51-7	REF-7	DOG HOLDING FACILITY		S20+00 E190+00
TA-51-8	REF-8	TRANSFORMER STATION		S20+00 E187+50
TA-51-9	REF-9	TANK	SEPTIC	S27+50 E190+00
TA-51-10				
TA-51-11				
TA-51-12				
TA-51-13				
TA-51-14				
TA-51-15	REF-15	ANIMAL HOLDING FACILITY		S27+50 E190+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

NO.	DATE	REVISIONS	BY
5	4-20-77	REVISED DWG. NO. (FORMERLY R2494)	M.M.
4	11-6-75	REVISED TO STATUS OF 11-6-75	BH
3	5-12-72	REVISED TO STATUS OF 5-12-72	JRN
2	12-30-69	REVISED TO STATUS OF 12-30-69	DAD
1	10-13-65	REVISED TO STATUS OF 10-11-65	JMD

REVIEWER M. D. [illegible]

CLASS u DATE 3/22/77

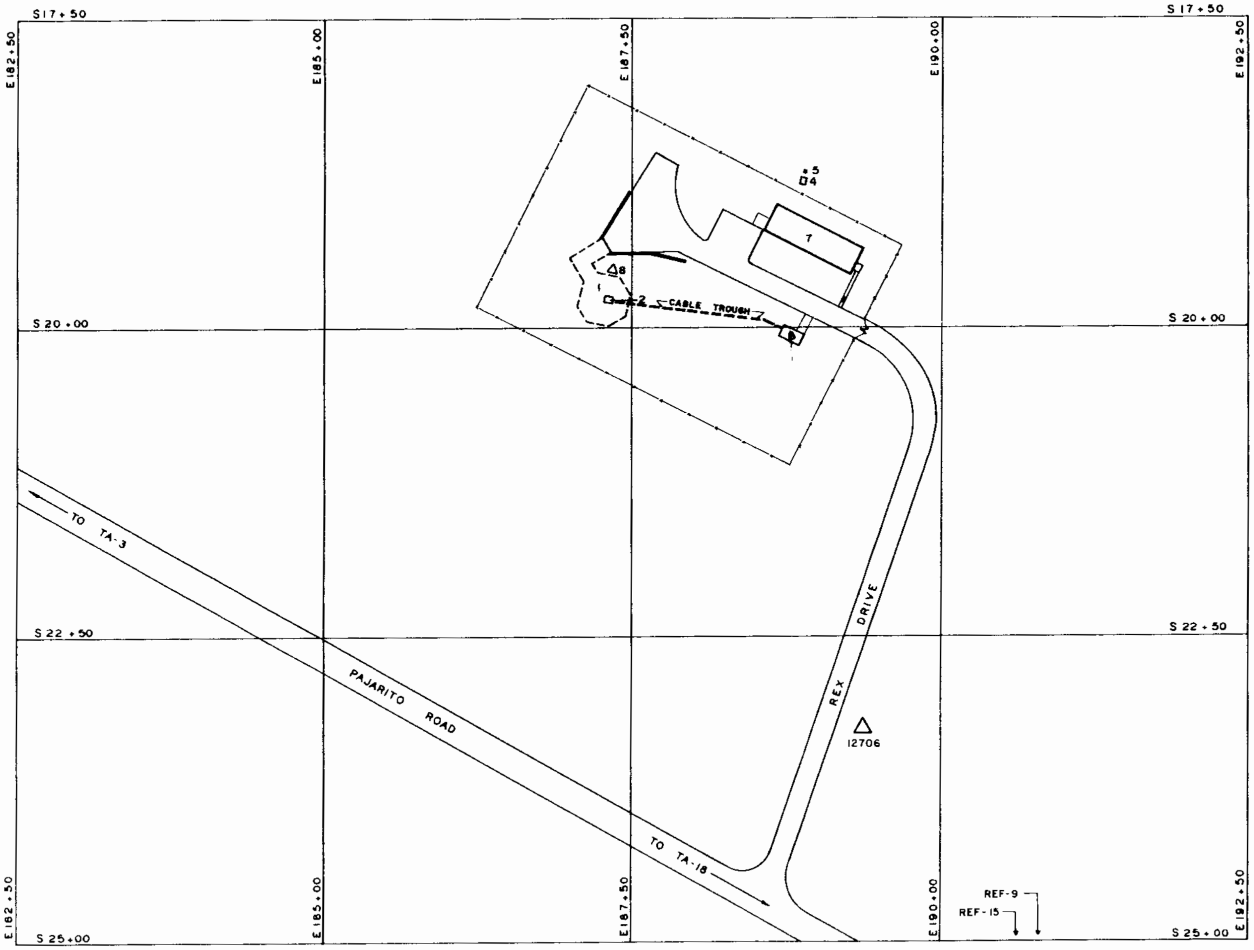
AUTHORIZED FOR HEALTH SAFETY FIRE PROT. SEC.

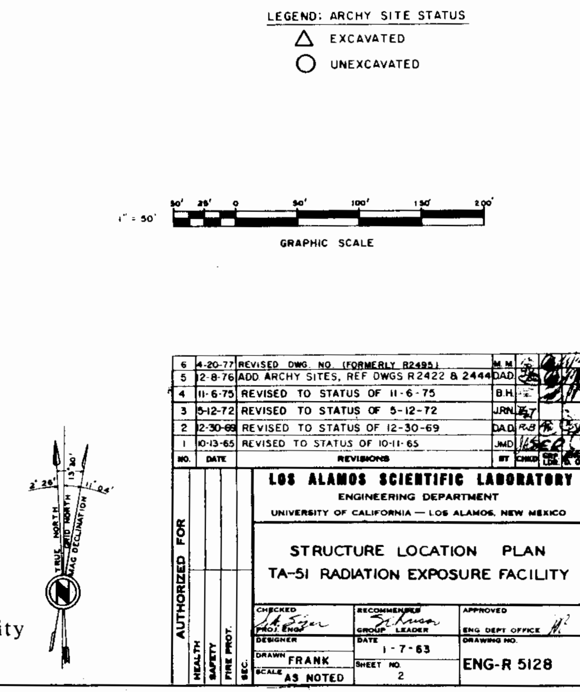
LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-51 RADIATION EXPOSURE FACILITY

CHECKED PROJ. ENG. | RECOMMENDED GROUP LEADER | APPROVED ENG. DEPT. OFFICE
DESIGNER | DATE 1-7-63 | DRAWING NO. ENG-R 5128
DRAWN FRANK | SHEET NO. 1
SCALE NONE

Figure TA-51-2: Structure Location Plan for TA-51 - Radiation Exposure Facility (1963 Drawing from the LANL Technical Area Structure Location Plans)





REVIEWER ______________

CLASS u DATE 7/23/22

Figure TA-51-2: Structure Location Plan for TA-51 - Radiation Exposure Facility (1963 Drawing from the LANL Technical Area Structure Location Plans)

TA-52 - REACTOR DEVELOPMENT SITE

CURRENT OPERATIONS

TA-52 is the location of the Safety Assessment (Q-6), the Safety Code Development (Q-9), and Reactor Design and Analysis (Q-12) groups. Their operations do not involve hazardous materials.

POTENTIAL CERCLA/RCRA SITES

TA-52 was built in the mid-1960s to house the Ultra-High-Temperature Experiment (UHTREX) reactor. The reactor ran for about one year. Associated with the reactor were numerous items of equipment, including a filter pit, heat dump building, heat dump pad, sump pump room, ducts, and hot cells. The fuel was removed in 1970 and taken to TA-3. An undetermined quantity of fuel fragments remain in the reactor vessel. The reactor housing and some of the associated equipment are contaminated and remain in place. Additional decontamination and decommissioning activity is planned.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-52. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-52 is 11.3 (Appendix B).

FIGURES

REFERENCES

Balo, Karen, and John Warren. 1981. "Waste Management Site Plan," Los Alamos National Laboratory report LA-UR-81-3656, 1981.

Employee Interviews. 1985. Los Alamos National Laboratory employee interview; notes in the CEARP files at Los Alamos National Laboratory.

LASL. 1969. "Fire Department Indoctrination Tour TA-52 UHTREX Facility," Los Alamos Scientific Laboratory internal document.

LASL. 1977. "Los Alamos Scientific Laboratory Ten-Year Decontamination/Decommissioning Site Plan," FY 1980 through FY 1989, Los Alamos Scientific Laboratory document, July 1977.

Pan Am World Services, Inc. 1986. "Septic Tank Report," Los Alamos, NM, February 26, 1986.

Regan, Bill. 1967. "UHTREX Goes Critical," *The Atom*, Vol. 4, No. 9, September 1967.

TABLE TA-52 - POTENTIAL CERCLA/RCRA SITES

TA52-1-CA-I-RW (UHTREX housing and associated equipment)

Background--TA-52 was constructed in the mid-1960s to house the Ultra-High-Temperature Reactor Experiment (UHTREX). The reactor was a 3-MW, high-temperature (2,400^{o}F), helium-cooled reactor fueled by enriched uranium beads loaded in graphite. Criticality was achieved in 1967 and the reactor ran for about 1 year on an experimental basis (Regan 1967:23-26; Employee Interviews 1985).

In addition to the reactor, numerous items of equipment were associated with the facility, including a filter pit, heat dump building, heat dump pad, sump pump room, ducts, and hot cells (LASL 1969). In about 1970, the fuel was removed and taken to wing 9 at TA-3-39 (Employee Interviews 1985). In 1977 there was a report that an undetermined quantity of fuel fragments and a plutonium-238 source remained in the graphite liner of the reactor vessel (LASL 1977:35); however, the source and the liner have been removed. Although no primary to secondary leakage of coolants is believed to have occurred (Employee Interviews 1985), the reactor housing and some of the associated equipment are contaminated and remain in place. An undetermined quantity of fuel fragments also remain in the vessel.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the extent of residual environmental contamination will be determined. The decontamination and decommissioning of the facilities is to be accomplished under the DOE Surplus Facilities Management Program.

TA52-2-CA/S/UST/ST-I/A-HW/RW (Drains, pipes, sumps, tanks, and septic tanks)

Background--In addition to the main UHTREX complex, there is a building to the north, TA-52-2, which was the neutralizing and pumping station for liquid wastes from UHTREX. This station, in turn, connects to a contaminated sewer line to TA-50. A 1981 report says that this waste line was still in use at that time for laser studies at TA-52 (Balo and Warren 1981:34). The line has not been removed in case it should be needed in future decommissioning work.

A recent report on septic tanks indicates the overflow from septic tank TA-52-3 goes to a leach field, but some is also pumped. The report also indicates that a tank, TA-52-2, goes to TA-52-3. The overflow from tank TA-52-34 goes to a seepage pit, but is also pumped. This tank also receives overflow from tank TA-52-4. A tank southeast of TA-53-35 is also in use, and its overflow goes to a seepage pit (Pan Am 1986:7-8). The possible contamination of these five septic tanks is not known, but Laboratory staff believe that it is unlikely the tanks ever received any radioactivity.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the inactive systems will be evaluated to determine the extent of residual environmental contamination. The active systems are covered under routine LANL operations.

TA52-3-UST/CA-I-PP (Underground fuel tank)

Background--TA-52-12 is a 300-gal., underground fuel tank installed for the diesel-driven generator when UHTREX was constructed (LASL 1969). The tank was abandoned during 1971-1972. The tank contains a small amount of residual diesel fuel.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the tank and surrounding area will be further evaluated.

TA52-4-O-I-RW (Outfalls)

Background--A field survey observed that, at one time, Q-6 had a wind tunnel in TA-52-11. The group also did some experiments in which it ran water over simulated fuel rods and then discharged the water into an outside ditch. There is no evidence of residuals, which could be of environmental concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active outfalls are covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-52-1	RD-1	UHTREX BUILDING		N22+50 E122+50
TA-52-2	RD-2	NEUTRALIZING & PUMPING STA.		N25+00 E122+50
TA-52-3	RD-3	TANK, SEPTIC		N25+00 E122+50
TA-52-4	RD-4	DISTRIBUTION BOX, SANITARY		N25+00 E122+50
TA-52-5	RD-5	MANHOLE, ELECTRICAL		N25+00 E122+50
TA-52-6	RD-6	MANHOLE, WATER		N25+00 E120+00
TA-52-7	RD-7	EXHAUST STACK		N22+50 E122+50
TA-52-8	RD-8	RETAINING WALL		N22+50 E122+50
TA-52-9	RD-9	SUBSTATION		N22+50 E122+50
TA-52-10	RD-10	OFFICE BUILDING	RELOCATED TO TA-3-204	
TA-52-11	RD-11	MECHANICAL ASSEMBLY BLDG.		N25+00 E120+00
TA-52-12	RD-12	TANK, FUEL U.G.		N22+50 E122+50
TA-52-13	RD-13	SWITCHGEAR STATION		N25+00 E120+00
TA-52-14	RD-14	FILTER PIT		N22+50 E122+50
TA-52-15	RD-15	HEAT DUMP BUILDING		N22+50 E122+50
TA-52-16	RD-16	HEAT DUMP PAD		N22+50 E122+50
TA-52-17	RD-17	MANIFOLD		N22+50 E122+50
TA-52-18	RD-18	MANHOLE, TELEPHONE		N25+00 E117+50
TA-52-19	RD-19	MANHOLE, ELECTRICAL		N25+00 E117+50
TA-52-20	RD-20	MANHOLE, TELEPHONE		N25+00 E115+00
TA-52-21	RD-21	MANHOLE, ELECTRICAL		N25+00 E115+00
TA-52-22	RD-22	TEST WELL		N25+00 E125+00
TA-52-23	RD-23	TEST WELL		N25+00 E125+00
TA-52-24	RD-24	TEST WELL		N25+00 E125+00
TA-52-25	RD-25	TEST WELL		N25+00 E125+00
TA-52-26	RD-26	TEST WELL		N25+00 E125+00
TA-52-27	RD-27	GRAPHITE BUILDING	REMOVED 1967	
TA-52-28	RD-28	OFFICE TRAILER, RELOCATED	TO TA-46-186	
TA-52-29	RD-29	GAS METERING STATION		N25+00 E112+50
TA-52-30	RD-30	OFFICE TRAILER, RELOCATED	TO TA-46-191	
TA-52-31	RD-31	TRANSFORMER STATION	REMOVED 1977	
TA-52-32	RD-32	MANHOLE, ELECTRICAL		N25+00 E120+00
TA-52-33	RD-33	WEAPONS SUPPORT OFFICE FAC.		N22+50 E117+50
TA-52-34	RD-34	TANK, SEPTIC	NOT SHOWN	
TA-52-35	RD-35	TRANSPORTABLE, OFFICE BLDG.		N22+50 E125+00
TA-52-36	RD-36	TRANSPORTABLE, OFFICE BLDG.		N22+50 E125+00
TA-52-41	RD-41	TRANSPORTABLE, OFFICE BLDG.	FORMERLY TA-0-1045	N22+50 E120+00
TA-52-42	RD-42	TRANSPORTABLE, OFFICE BLDG.	FORMERLY TA-0-1043	N22+50 E120+00
TA-52-43	RD-43	TRANSPORTABLE, OFFICE BLDG.	FORMERLY TA-0-1187	N25+00 E117+50
TA-52-44	RD-44	TRANSPORTABLE, OFFICE BLDG.	FORMERLY TA-0-1205	N22+50 E120+00
TA-52-45	RD-45	TRANSPORTABLE, OFFICE BLDG.	FORMERLY TA-0-1206	N22+50 E117+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-155	ULR-155	MAINTENANCE, SHOP		N25+00 E105+00
TA-0-160	ULR-160	MANHOLE, WATER METER		N22+50 E102+50
TA-0-269	ULR-269	TRAILER, STORAGE		N25+00 E105+00
TA-0-466	ULR-466	STORAGE SHED		
TA-0-542	ULR-542	TRAILER, OFFICE		N25+00 E106+00
TA-0-571	ULR-571	TRAILER, INSTRUMENT		N20+00 E122+50
TA-0-677	ULR-677	TRAILER, OFFICE		N25+00 E106+00
TA-0-693	ULR-693	TRAILER, OFFICE		N25+00 E106+00
TA-0-736	ULR-736	TRAILER, OFFICE		N25+00 E106+00
TA-0-1008	ULR-1008	MANHOLE, ELECTRICAL		N22+50 E100+00
TA-0-1010	ULR-1010	TRASFORMER, STATION		N25+00 E122+50

REV.	DATE	REVISION	BY	CKD.	APP
8	9-28-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 6-27-83	VM		

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-52 REACTOR DEVELOPMENT SITE

SEC CLASSIFICATION
CLASS u
REVIEWER
DATE 12-16-83

SUBMITTED RECOMMENDED APPROVED

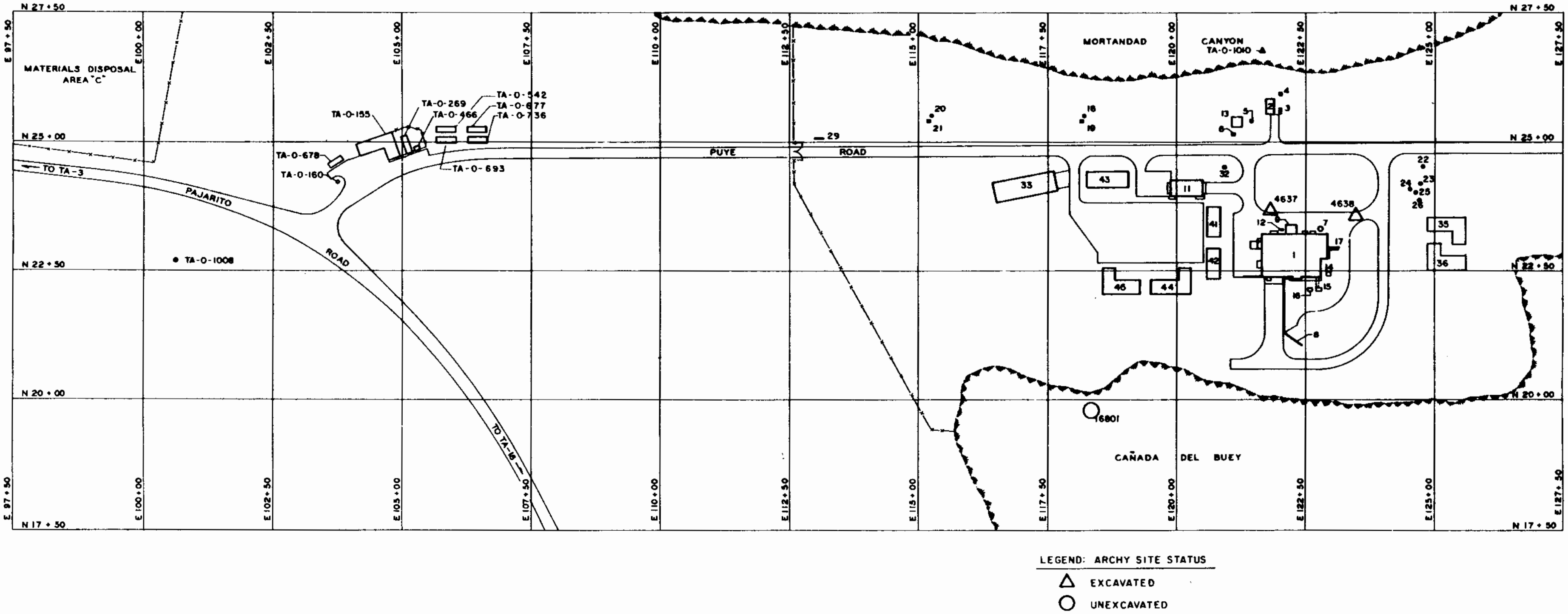
DRAWN CHECKED

DATE 9-28-83

SHEET NO. 1 OF 2

DRAWING NO. ENG-R 5129

Figure TA-52-1: Structure Location Plan for TA-52 - Reactor Development Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)



1" = 100'
100' 50' 0 100' 200' 300' 400'
GRAPHIC SCALE

TRUE NORTH
GRID NORTH
MAG. DECLINATION

Figure TA-52-1: Structure Location Plan for TA-52 - Reactor Development Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

REV.	DATE	REVISION	BY	CKD	APP
10	9-28-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 6-27-83	VM		

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STRUCTURE LOCATION PLAN
TA-52 REACTOR DEVELOPMENT SITE

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CLASS U
REVIEWER
DATE 12-16-83

SUBMITTED | RECOMMENDED | APPROVED
DRAWN V MORA
CHECKED
DATE 9-28-83
SHEET NO. 2 of 2
DRAWING NO. ENG-R 5129

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-52-1	RD-1	UHTREX BUILDING		N22+50 E122+50
TA-52-2	RD-2	NEUTRALIZING & PUMPING STA.		N25+00 E122+50
TA-52-3	RD-3	TANK	SEPTIC	N25+00 E122+50
TA-52-4	RD-4	DISTRIBUTION BOX	SANITARY	N25+00 E122+50
TA-52-5	RD-5	MANHOLE	ELECTRIC	N25+00 E122+50
TA-52-6	RD-6	MANHOLE	WATER VALVE	N25+00 E120+00
TA-52-7	RD-7	EXHAUST STACK		N22+50 E122+50
TA-52-8	RD-8	RETAINING WALL		N22+50 E122+50
TA-52-9	RD-9	SUBSTATION		N22+50 E122+50
TA-52-10	RD-10	OFFICE BUILDING	RELOCATED TO TA-3-204	
TA-52-11	RD-11	MECHANICAL ASSEMBLY BLDG.		N25+00 E120+00
TA-52-12	RD-12	TANK	FUEL, UNDERGROUND	N22+50 E122+50
TA-52-13	RD-13	SWITCHGEAR STATION	ELECTRIC	N25+00 E120+00
TA-52-14	RD-14	FILTER PIT		N22+50 E122+50
TA-52-15	RD-15	HEAT DUMP BUILDING		N22+50 E122+50
TA-52-16	RD-16	HEAT DUMP PAD		N22+50 E122+50
TA-52-17	RD-17	MANIFOLD		N22+50 E122+50
TA-52-18	RD-18	MANHOLE	TELEPHONE	N25+00 E117+50
TA-52-19	RD-19	MANHOLE	ELECTRIC	N25+00 E117+50
TA-52-20	RD-20	MANHOLE	TELEPHONE	N25+00 E115+00
TA-52-21	RD-21	MANHOLE	ELECTRIC	N25+00 E115+00
TA-52-22	RD-22	TEST WELL		N25+00 E125+00
TA-52-23	RD-23	TEST WELL		N25+00 E125+00
TA-52-24	RD-24	TEST WELL		N25+00 E125+00
TA-52-25	RD-25	TEST WELL		N25+00 E125+00
TA-52-26	RD-26	TEST WELL		N25+00 E125+00
TA-52-27	RD-27	GRAPHITE BUILDING	REMOVED 1967	
TA-52-28	RD-28	OFFICE TRAILER, RELOCATED	TA-9 No. TA-0-384	
TA-52-29	RD-29	GAS METERING STATION		N25+00 E112+50
TA-52-30	RD-30	OFFICE TRAILER, RELOCATED	TA-6, No. TA-0-385	
TA-52-31	RD-31	TRANSFORMER STATION	REMOVED 1977	
TA-52-32	RD-32	MANHOLE	ELECTRICAL	N25+00 E120+00
TA-52-33	RD-33	WEAPONS SUPPORT OFFICE FAC.		N22+50 E117+50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-155	ULR-155	MAINTENANCE SHOP		N25+00 E105+00
TA-0-160	ULR-160	MANHOLE	WATER METER	N22+50 E102+50
TA-0-466	ULR-466	STORAGE SHED		N25+00 E105+00
TA-0-1008	ULR-1008	MANHOLE	ELECTRICAL	N22+50 E100+00
TA-0-1010	ULR-1010	TRANSFORMER STATION		N25+00 E122+50
TA-0-1043	ULR-1043	TRANSPORTABLE OFFICE BLDG.		N22+50 E120+00
TA-0-1045	ULR-1045	TRANSPORTABLE OFFICE BLDG.		N22+50 E120+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-0-269	ULR-269	TRAILER	STORAGE	N25+00 E105+00
TA-0-542	ULR-542	TRAILER	OFFICE	N22+50 E122+50
TA-0-571	ULR-571	TRAILER	INSTRUMENT	N20+00 E122+50
TA-0-678	ULR-678	TRAILER	OFFICE	N22+50 E102+50
TA-0-693	ULR-693	TRAILER	OFFICE	N22+50 E122+50

REVIEWER M. D. Kinder

CLASS U DATE 8/20/79

NO.	DATE	REVISIONS	BY		
7	7-31-79	REVISED TO STATUS OF 7-31-79	E.T.		
6	4-21-77	REVISED DWG. NO. (FORMERLY R2496)	M.M.		
5	11-10-75	REVISED PER ENG. DWG. C-42750	B.H.		
4	11-5-74	REVISED TO STATUS OF 11-5-74	B.H.		
3	5-15-72	REVISED TO STATUS OF 5-15-72	JRN		
2	12-31-69	REVISED TO STATUS OF 12-31-69	DAD		
1	10-14-65	REVISED TO STATUS OF 6-8-65	ERM		

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-52 REACTOR DEVELOPMENT SITE

AUTHORIZED FOR: HEALTH, SAFETY, FIRE PROT., SEC.

CHECKED PROJ. ENG. | RECOMMENDED GROUP LEADER | APPROVED ENG. DEPT. OFFICE
DESIGNER | DATE 1-9-64 | DRAWING NO. ENG-R5129
DRAWN D.L. CLASS | SHEET NO. 1
SCALE NONE

Figure TA-52-2: Structure Location Plan for TA-52 - Reactor Development Site (1964 Drawing from the LANL Technical Area Structure Location Plans)

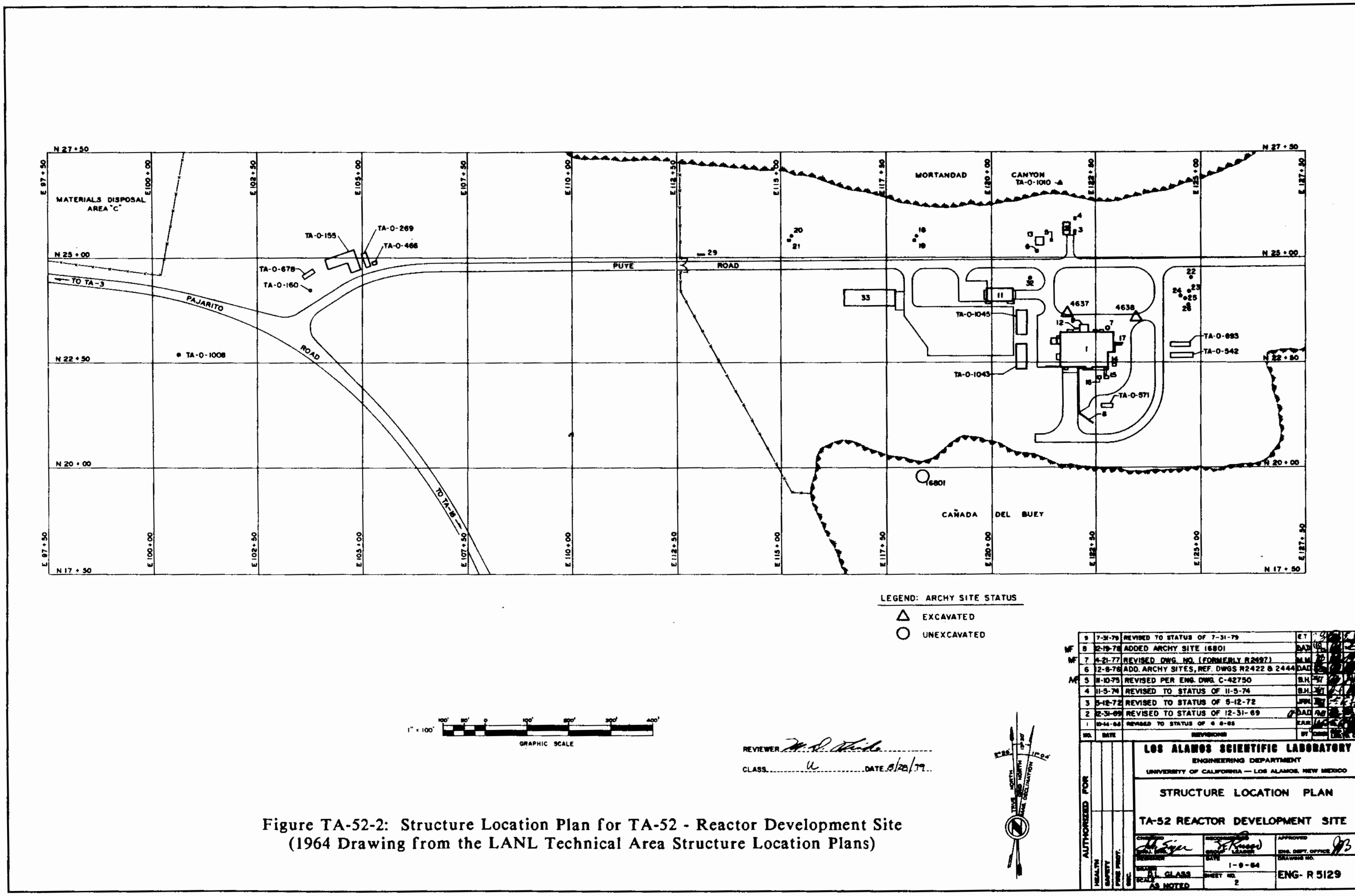

Figure TA-52-2: Structure Location Plan for TA-52 - Reactor Development Site
(1964 Drawing from the LANL Technical Area Structure Location Plans)

TA-53 - MESON PHYSICS FACILITY

CURRENT OPERATIONS

The Los Alamos Meson Physics Facility (LAMPF) is a 0.5-mile-long proton accelerator that can produce a 1-mA beam of 800-MeV protons. The Meson Facility produced its first 800-MeV proton bean in June 1972 (Livingston 1977). In addition to protons, negative hydrogen ions and polarized negative hydrogen ions can be accelerated at LAMPF. The accelerated beam, through hitting suitable targets, can produce pions, muons, neutrons, and neutrinos. These secondary particles are used in research for varied experimental programs, including investigations in nuclear physics (basic research), production of isotopes and other work in radiochemistry, solid-state physics research, and accelerator technology. To accelerate the beam, particles are injected by Cockroft Walton generators. The particles are further accelerated in successive electromagnetic fields. The three main stages are (1) injector, (2) drift tube linear accelerator, and (3) side-coupled cavity type linear accelerator.

In addition to the main target area and associated experimental areas (Experimental Areas A, B, C, neutrino research, and radiobiology), a portion of the proton beam can be switched into the Weapons Neutron Research (WNR) experimental area, which can include the Proton Storage Ring (PSR). In support of all the accelerator and experimental areas, TA-53 includes shops, warehouses, trailers for instruments and data logging, office, and facilities for accelerator technology research.

POTENTIAL CERCLA/RCRA SITES

Potential CERCLA/RCRA sites at TA-53 exist as a result of past operation of the disposal pit, the lagoon system and its outfall, and cooling tower outfalls. The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I will be documented in the CEARP Phase IIA Monitoring Plan for TA-53. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-53 is 12.6 (Appendix B).

FIGURES

REFERENCES

Keenan, T. K., and J. R. Buchholz. 1978. "Discharge of Radioactively Contaminated Leak Water to the TA-53 Lagoons," Los Alamos Scientific Laboratory memorandum, February 15, 1978.

Keenan, T. K., and J. R. Buchholz. 1979. "Continued Leaks in TA-53 Cooling System X02," Los Alamos Scientific Laboratory memorandum to H.S. Jordan, March 6, 1979.

Keenan, T. K., H. S. Jordan, and M. C. McCorkle. 1979. "Domestic Waste Treatment Facilities at TA-53," Los Alamos Scientific Laboratory memorandum to Edward Arntzen, March 19, 1979.

LANL. 1985. "Environmental Surveillance at Los Alamos During 1984," Los Alamos National Laboratory report LA-10421-ENV, April 1985.

LANL. 1986. "Environmental Surveillance at Los Alamos During 1985," Los Alamos National Laboratory report LA-10721-ENV, April 1986.

Livingston, M. S. 1977. "LAMPF-A Nuclear Research Facility," Los Alamos Scientific Laboratory report LA-6878-MS, September 1977.

Miller, E. L. 1971. "Effluent from Plant Cooling Towers," Los Alamos Scientific Laboratory memorandum to C. Christenson, July 30, 1971.

TABLE TA-53 - POTENTIAL CERCLA/RCRA SITES

TA53-1-CA-I-HW (Disposal pit)

Background--A shop, TA-53-2, was constructed to aid in building the Meson Facility. Southeast of this shop was a pit full of a thick, brownish liquid covered by a steel grate, which was observed during the January 1986 CEARP field survey. The pit appeared to have been dug directly into the tuff and to be unlined. A later 1986 CEARP field survey confirmed that the pit and its contents had been removed.

CERCLA Finding--Due to the status of activities (i.e., CEARP Phase V), a CERCLA finding under FFSDIF, PA, and PSI is not appropriate.

Planned Future Action--During CEARP Phase V the removal of the pit and its contents will be verified.

TA53-2-O/SI/CA-A-HW/RW (Oxidation lagoons and associated outfalls)

Background--The main sources of effluents to the lagoons are the sanitary facilities at TA-53. Before 1986, two clay-lined lagoons were in use. Discharge from the second lagoon was to a nearby canyon where the effluent surface flow was maintained for only a short distance (LANL 1985:165). The major discharge (measured in curies) has been tritium, with some beryllium-7, cesium-134, sodium-22, cobalt-57, and other radionuclides (LANL 1985).

In 1986, a third pond approximately 1.3 times larger than either of the other two and constructed with an impervious lining was put in operation. The outfall from the third lagoon is to the same area as that used previously with the second lagoon.

The sludge in the lagoons is radioactively contaminated. It was noted during a field survey that as long as the lagoons have been in operation, the sludge has never been removed.

During past operation, excess leakage in the Meson facility's waste system has required a large flow into the tanks or discharge into the sanitary drain, and water containing both short- and long-lived activity has entered the lagoons (Keenan and Buchholz 1978, 1979). Additionally, during a 1986 CEARP field survey, it was observed that janitors' sink drains, as well as some chemical drains, also connect to the lagoons.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the extent of residual environmental contamination associated with past operation of the lagoons will be investigated. The active lagoon system is covered by routine LANL operations.

TA53-3-O-A-HW/RW (Cooling tower outfalls)

Background--To dissipate the 27 MW of power required while operating LAMPF, approximately 340,000 gal. of water a day is evaporated to the atmosphere and 140,000 gal. a day is discharged from the three main sets of wet cooling towers as blowdown. TA-53-60,-62-, and -64 serve the injector, the acceleration area, and the beam stop, respectively. They all discharge through outfalls to Los Alamos Canyon. The Weapons Neutron Research facility has a cooling tower discharging to Sandia Canyon. TA-53-2, the Equipment Test Laboratory now used as a repair shop, has a cooling tower discharging to Sandia Canyon. Cooling towers TA-53-293 and -294 also discharge to Sandia Canyon. During a 1986 CEARP field survey, it was observed that once-through, noncontact cooling water from TA-53-19 discharges across a parking lot and joins the discharge from TA-53-293 and -294.

It is not known whether the cooling tower water could possibly be contaminated with radionuclides because of leaks in the heat exchangers. Various scale and corrosion control compounds, as well as chemical cleaners, have been added to the water (Miller 1971).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, the extent of residual environmental contamination associated with past operation of the outfalls will be determined. The active cooling tower outfalls are covered by routine LANL operations.

TA53-4-SST/UST-A-HW/RW (Waste storage tanks)

Background--Information about the waste storage tanks was obtained during a 1986 field survey of the site. Wastes from the chemical laboratories in TA-53-1, which may contain radioactive material, drain to two holding tanks in the basement, where they are neutralized. In the experimental hall area, liquid wastes from the hot cells drain to holding tanks in the basement for neutralization.

In the Weapons Neutron Research experimental area the magnets and beam stop are cooled with water that heat exchanges with cooling tower water. Any bleed from this primary coolant or any other water that might be contaminated goes to two underground holding tanks, TA-53-144 and -145.

Spent resins, used to remove activity from the Meson Facility's cooling water, are placed in tank TA-53-59.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The waste storage tanks are covered by routine LANL operations.

TA53-5-CA-A-HW/RW (Storage)

Background--During a 1986 CEARP field survey, it was noted that material of various kinds, shapes, and descriptions--such as steel shielding blocks, concrete, barrels of unknown contents, radioactively contaminated or activated equipment, and general debris--is located in three main storage areas at the site. Small amounts of various materials are stored in other locations. In a storage yard southeast of TA-53-16, drums of ethylene glycol and epoxy resins are kept.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active storage areas are covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53- 1	MPF- 1	LAB OFFICE BLDG		N60+00 E180+00
TA-53- 2	MPF- 2	EQUIPMENT TEST LAB		N60+00 E165+00
TA-53- 3	MPF- 3	ACCELERATOR BLDG	INCLUDES SECTORS "A"-"S"	N60+00 E185+00
TA-53- 4	MPF- 4	OPERATIONS BLDG		N60+00 E210+00
TA-53- 5	MPF- 5	SERVICE CORRIDOR		N60+00 E210+00
TA-53- 6	MPF- 6	ATQ OFFICE BUILDING		N55+00 E210+00
TA-53- 7	MPF- 7	WNR BUILDING		N55+00 E210+00
TA-53- 8	MPF- 8			
TA-53- 9	MPF- 9			
TA-53- 10	MPF- 10			
TA-53- 11	MPF- 11			
TA-53- 12	MPF- 12			
TA-53- 13	MPF- 13			
TA-53- 14	MPF- 14	ATL GENERAL LABORATORY		N55+00 E205+00
TA-53- 15	MPF- 15	WNR LAB SUPPORT BLDG		N55+00 E215+00
TA-53- 16	MPF- 16	WAREHOUSE		N55+00 E215+00
TA-53- 17	MPF- 17	PROTON STAGING BLDG		N55+00 E210+00
TA-53- 18	MPF- 18	FMIT WAREHOUSE		N55+00 E205+00
TA-53- 19	MPF- 19	ACCELERATOR TECH LAB		N55+00 E205+00
TA-53- 20	MPF- 20	MODULAR OFFICE BLDG	FORMERLY TA-21-336	N55+00 E210+00
TA-53- 21	MPF- 21	MODULAR OFFICE BLDG	FORMERLY TA-21-337	N55+00 E210+00
TA-53- 22	MPF- 22	DEVELOPMENT & TEST LAB		N60+00 E215+00
TA-53- 23	MPF- 23	COMPUTER MAINTENANCE BLD		N60+00 E210+00
TA-53- 24	MPF- 24	DATA ANALYSIS BLDG		N60+00 E205+00
TA-53- 25	MPF- 25	ACCELERATOR MAINT BLDG		N60+00 E195+00
TA-53- 26	MPF- 26	WAREHOUSE		N60+00 E200+00
TA-53- 27	MPF- 27	ZIA CRAFT SHOP		N60+00 E225+00
TA-53- 28	MPF- 28	PROTON STOR RING EQP BLD		N55+00 E215+00
TA-53- 29	MPF- 29	40 METER EXPERIMENT STA		N55+00 E215+00
TA-53- 30	MPF- 30			
TA-53- 31	MPF- 31		CANCELLED	
TA-53- 32	MPF- 32		CANCELLED	
TA-53- 33	MPF- 33			
TA-53- 34	MPF- 34	SERVICE BLDG		N55+00 E215+00
TA-53- 35	MPF- 35	DETECTOR SHED		N55+00 E215+00
TA-53- 36	MPF- 36	DETECTOR SHED		N50+00 E220+00
TA-53- 37	MPF- 37	GUARD STATION		N55+00 E215+00
TA-53- 38	MPF- 38	GUARD STATION		N60+00 E165+00
TA-53- 39	MPF- 39	SHOP & STORAGE BUILDING		N60+00 E215+00
TA-53- 40	MPF- 40	OFFICE BUILDING		N55+00 E185+00
TA-53- 41	MPF- 41	WAREHOUSE		N60+00 E205+00
TA-53- 42	MPF- 42	STAIRWAY		N60+00 E185+00
TA-53- 43	MPF- 43	OFFICE BLDG		N60+00 E215+00
TA-53- 44	MPF- 44	VINNELL BLDG OFFICE		N55+00 E185+00
TA-53- 45	MPF- 45	VINNELL BLDG OFFICE		N55+00 E185+00
TA-53- 46	MPF- 46	VINNELL BLDG OFFICE		N55+00 E185+00
TA-53- 47	MPF- 47	VINNELL BLDG OFFICE		N55+00 E185+00
TA-53- 48	MPF- 48	MANIFOLD		N55+00 E165+00
TA-53- 49	MPF- 49	RECTIFIER PAD		N60+00 E165+00
TA-53- 50	MPF- 50	R F POWER SUBSTATION		N60+00 E165+00
TA-53- 51	MPF- 51	UNIT SUBSTATION		N60+00 E165+00
TA-53- 52	MPF- 52	UNIT SUBSTATION		N60+00 E165+00
TA-53- 53	MPF- 53	TRANSFORMER STATION		N65+00 E170+00
TA-53- 54	MPF- 54	PUMPHOUSE		N65+00 E170+00
TA-53- 55	MPF- 55	TANK, WATER		N65+00 E170+00
TA-53- 56	MPF- 56	BEAD BLASTER BLDG		N55+00 E165+00
TA-53- 57	MPF- 57	RETAINING WALL		N60+00 E190+00
TA-53- 58	MPF- 58	METERING STATION, WATER		N70+00 E165+00
TA-53- 59	MPF- 59	TANK (CONTAMINATED WASTE)		N60+00 E215+00
TA-53- 60	MPF- 60	COOLING TOWER		N65+00 E190+00
TA-53- 61	MPF- 61	UTILITY BUILDING		N65+00 E190+00
TA-53- 62	MPF- 62	COOLING TOWER		N65+00 E200+00
TA-53- 63	MPF- 63	UTILITY BUILDING		N65+00 E200+00
TA-53- 64	MPF- 64	COOLING TOWER		N65+00 E210+00
TA-53- 65	MPF- 65	UTILITY BUILDING		N65+00 E210+00
TA-53- 66	MPF- 66	UNIT SUBSTATION		N65+00 E210+00
TA-53- 67	MPF- 67	UNIT SUBSTATION		N60+00 E215+00
TA-53- 68	MPF- 68	TANK (CONTAMINATED WASTE)		N60+00 E215+00
TA-53- 69	MPF- 69	TANK (CONTAMINATED WASTE)		N60+00 E215+00
TA-53- 70	MPF- 70	115 KV SUBSTATION		N65+00 E185+00
TA-53- 71	MPF- 71	UNIT SUBSTATION		N60+00 E185+00
TA-53- 72	MPF- 72	RECTIFIER SUBSTATION		N60+00 E185+00
TA-53- 73	MPF- 73	RECTIFIER PAD		N60+00 E185+00
TA-53- 74	MPF- 74	UNIT SUBSTATION		N60+00 E190+00
TA-53- 75	MPF- 75	SUBSTATION		N60+00 E190+00
TA-53- 76	MPF- 76	SUBSTATION		N60+00 E195+00
TA-53- 77	MPF- 77	UNIT SUBSTATION		N60+00 E195+00
TA-53- 78	MPF- 78	SUBSTATION		N60+00 E195+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53- 79	MPF- 79	UNIT SUBSTATION		N60+00 E195+00
TA-53- 80	MPF- 80	UNIT SUBSTATION		N65+00 E200+00
TA-53- 81	MPF- 81	SUBSTATION		N60+00 E200+00
TA-53- 82	MPF- 82	UNIT SUBSTATION		N60+00 E200+00
TA-53- 83	MPF- 83	SUBSTATION		N60+00 E205+00
TA-53- 84	MPF- 84	UNIT SUBSTATION		N60+00 E205+00
TA-53- 85	MPF- 85	SUBSTATION		N60+00 E205+00
TA-53- 86	MPF- 86	UNIT SUBSTATION		N60+00 E205+00
TA-53- 87	MPF- 87	SUBSTATION		N60+00 E210+00
TA-53- 88	MPF- 88	UNIT SUBSTATION		N60+00 E210+00
TA-53- 89	MPF- 89	TRANSFORMER STATION		N60+00 E185+00
TA-53- 90	MPF- 90		REMOVED 1971	
TA-53- 91	MPF- 91		REMOVED 1970	
TA-53- 92	MPF- 92	RECTIFIER SUBSTATION		N60+00 E190+00
TA-53- 93	MPF- 93	RECTIFIER SUBSTATION		N60+00 E195+00
TA-53- 94	MPF- 94	RECTIFIER SUBSTATION		N60+00 E195+00
TA-53- 95	MPF- 95	RECTIFIER SUBSTATION		N60+00 E200+00
TA-53- 96	MPF- 96	RECTIFIER SUBSTATION		N60+00 E205+00
TA-53- 97	MPF- 97	RECTIFIER SUBSTATION		N62+50 E207+50
TA-53- 98	MPF- 98	RECTIFIER SUBSTATION		N60+00 E210+00
TA-53- 99	MPF- 99	TRANSFORMER STATION		N60+00 E185+00
TA-53-100	MPF-100	TRANSFORMER STATION	NOT SHOWN	
TA-53-101	MPF-101	MANHOLE, SANITARY		N60+00 E210+00
TA-53-102	MPF-102	MANHOLE, SANITARY		N60+00 E205+00
TA-53-103	MPF-103	MANHOLE, SANITARY		N60+00 E205+00
TA-53-104	MPF-104	MANHOLE, SANITARY		N60+00 E200+00
TA-53-105	MPF-105	MANHOLE, SANITARY		N60+00 E200+00
TA-53-106	MPF-106	MANHOLE, SANITARY		N60+00 E195+00
TA-53-107	MPF-107	LIFT STATION, SANITARY		N60+00 E190+00
TA-53-108	MPF-108	MANHOLE, SANITARY		N60+00 E190+00
TA-53-109	MPF-109	MANHOLE, SANITARY		N60+00 E190+00
TA-53-110	MPF-110	MANHOLE, GAS		N60+00 E185+00
TA-53-111	MPF-111	MANHOLE, SANITARY		N60+00 E185+00
TA-53-112	MPF-112	MANHOLE, SANITARY		N60+00 E185+00
TA-53-113	MPF-113	MANHOLE, GAS		N60+00 E185+00
TA-53-114	MPF-114	MANHOLE, SANITARY		N60+00 E185+00
TA-53-115	MPF-115	MANHOLE, GAS		N65+00 E175+00
TA-53-116	MPF-116	MANHOLE, WATER ARV		N65+00 E170+00
TA-53-117	MPF-117	MANHOLE, WATER		N65+00 E170+00
TA-53-118	MPF-118	MANHOLE, WATER ARV		N70+00 E165+00
TA-53-119	MPF-119	MANHOLE, WATER ARV		N70+00 E165+00
TA-53-120	MPF-120	MANHOLE, WATER		N70+00 E160+00
TA-53-121	MPF-121	MANHOLE, WATER		N70+00 E150+00
TA-53-122	MPF-122	MANHOLE, WATER ARV		N70+00 E135+00
TA-53-123	MPF-123	MANHOLE, WATER ARV		N75+00 E135+00
TA-53-124	MPF-124	MANHOLE, WATER		N75+00 E130+00
TA-53-125	MPF-125	MANHOLE, GAS		N75+00 E115+00
TA-53-126	MPF-126	MANHOLE, WATER ARV		N75+00 E110+00
TA-53-127	MPF-127	MANHOLE, WATER		N75+00 E105+00
TA-53-128	MPF-128	MANHOLE, WATER METER		N75+00 E 90+00
TA-53-129	MPF-129	METERING STATION, GAS		N75+00 E 90+00
TA-53-130	MPF-130	TANK, SURGE		N60+00 E165+00
TA-53-131	MPF-131	MANHOLE, WATER		N55+00 E185+00
TA-53-132	MPF-132	MANHOLE, SANITARY		N55+00 E185+00
TA-53-133	MPF-133	MANHOLE, SANITARY		N55+00 E180+00
TA-53-134	MPF-134	MANHOLE, SANITARY		N55+00 E180+00
TA-53-135	MPF-135	MANHOLE, SANITARY		N60+00 E175+00
TA-53-136	MPF-136	MANHOLE, SANITARY		N60+00 E175+00
TA-53-137	MPF-137	MANHOLE, WATER		N60+00 E170+00
TA-53-138	MPF-138	MANHOLE, SANITARY		N60+00 E170+00
TA-53-139	MPF-139	MANHOLE, SANITARY		N60+00 E170+00
TA-53-140	MPF-140	MANHOLE, SANITARY		N60+00 E170+00
TA-53-141	MPF-141	FLUSH TANK, SANITARY		N55+00 E170+00
TA-53-142	MPF-142	MANHOLE, SANITARY	NOT SHOWN	
TA-53-143	MPF-143		CANCELLED	
TA-53-144	MPF-144	TANK (CONTAMINATED WASTE)	UNDERGROUND	N55+00 E215+00
TA-53-145	MPF-145	TANK (CONTAMINATED WASTE)	UNDERGROUND	N55+00 E215+00
TA-53-146	MPF-146	MANHOLE, SANITARY		N60+00 E220+00
TA-53-147	MPF-147	MANHOLE, SANITARY		N60+00 E220+00
TA-53-148	MPF-148	MANHOLE, STORM		N65+00 E215+00
TA-53-149	MPF-149	MANHOLE, SANITARY		N65+00 E215+00
TA-53-150	MPF-150	MANHOLE, STORM		N65+00 E215+00
TA-53-151	MPF-151	MANHOLE, STORM		N65+00 E215+00
TA-53-152	MPF-152	MANHOLE, SANITARY		N60+00 E210+00
TA-53-153	MPF-153	MANHOLE, SANITARY		N60+00 E210+00
TA-53-154	MPF-154	MANHOLE, SANITARY		N60+00 E210+00
TA-53-155	MPF-155	MANHOLE, SANITARY		N60+00 E215+00
TA-53-156	MPF-156	MANHOLE, SANITARY		N60+00 E215+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53-157	MPF-157	MANHOLE, SANITARY		N60+00 E215+00
TA-53-158	MPF-158	MANHOLE, SANITARY		N60+00 E220+00
TA-53-159	MPF-159	MANHOLE, SANITARY		N60+00 E225+00
TA-53-160	MPF-160	MANHOLE, SANITARY		N60+00 E225+00
TA-53-161	MPF-161	MANHOLE, SANITARY		N60+00 E225+00
TA-53-162	MPF-162	MANHOLE, SANITARY		N60+00 E230+00
TA-53-163	MPF-163	MANHOLE, SANITARY		N60+00 E230+00
TA-53-164	MPF-164	DISTRIBUTION BOX		N60+00 E230+00
TA-53-165	MPF-165	FLOW CONTRL BOX, SANITARY		N55+00 E230+00
TA-53-166	MPF-166	LAGOON, SANITARY		N60+00 E230+00
TA-53-167	MPF-167	MECHANICAL PAD		N60+00 E215+00
TA-53-168	MPF-168	MANHOLE, STORM		N65+00 E215+00
TA-53-169	MPF-169	TRANSFORMER STATION		N60+00 E165+00
TA-53-170	MPF-170	UNIT SUBSTATION		N60+00 E215+00
TA-53-171	MPF-171	UNIT SUBSTATION		N60+00 E215+00
TA-53-172	MPF-172	UNIT SUBSTATION		N60+00 E215+00
TA-53-173	MPF-173	UNIT SUBSTATION		N60+00 E215+00
TA-53-174	MPF-174	UNIT SUBSTATION		N60+00 E215+00
TA-53-175	MPF-175	UNIT SUBSTATION		N60+00 E215+00
TA-53-176	MPF-176	UNIT SUBSTATION		N65+00 E215+00
TA-53-177	MPF-177	UNIT SUBSTATION		N65+00 E215+00
TA-53-178	MPF-178	UNIT SUBSTATION		N65+00 E215+00
TA-53-179	MPF-179	UNIT SUBSTATION		N65+00 E215+00
TA-53-180	MPF-180	UNIT SUBSTATION		N65+00 E215+00
TA-53-181	MPF-181	TRANSFORMER STATION		N60+00 E220+00
TA-53-182	MPF-182	UNIT SUBSTATION		N60+00 E215+00
TA-53-183	MPF-183	UNIT SUBSTATION		N65+00 E215+00
TA-53-184	MPF-184	UNIT SUBSTATION		N65+00 E215+00
TA-53-185	MPF-185	UNIT SUBSTATION		N65+00 E215+00
TA-53-186	MPF-186	UNIT SUBSTATION		N65+00 E215+00
TA-53-187	MPF-187	TRANSFORMER STATION		N55+00 E185+00
TA-53-188	MPF-188	TRANSFORMER STATION		N60+00 E185+00
TA-53-189	MPF-189	SUBSTATION		N65+00 E215+00
TA-53-190	MPF-190	TRANSFORMER STATION		N65+00 E215+00
TA-53-191	MPF-191	TRANSFORMER STATION		N65+00 E215+00
TA-53-192	MPF-192	TRANSFORMER STATION	NOT SHOWN	
TA-53-193	MPF-193	TRANSFORMER STATION	NOT SHOWN	
TA-53-194	MPF-194	TRANSFORMER STATION		N55+00 E210+00
TA-53-195	MPF-195	TRANSFORMER STATION		N65+00 E170+00
TA-53-196	MPF-196	TRANSFORMER STATION		N65+00 E180+00
TA-53-197	MPF-197	MANHOLE, TELEPHONE		N60+00 E185+00
TA-53-198	MPF-198	MANHOLE, TELEPHONE		N60+00 E185+00
TA-53-199	MPF-199	MANHOLE, TELEPHONE		N60+00 E215+00
TA-53-200	MPF-200			

REV.	DATE	REVISION	BY	CHKD.	APP.
5	11-29-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-13-83	HS		

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LOS ALAMOS, NEW MEXICO 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-53 MESON PHYSICS FACILITY

SEC. CLASSIFICATION
CLASS. U
REVIEWER
DATE 12-16-83

SUBMITTED | RECOMMENDED | APPROVED

DRAWN ROS | DATE 11-29-83 | SHEET NO. 1 of 13 | DRAWING NO. ENG-R5130
CHECKED

Figure TA-53-1: Structure Location Plan for TA-53 - Meson Physics Facility
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53-201	MPF-201	MANHOLE, ELECTRICAL		N60+00 E185+00
TA-53-202	MPF-202	MANHOLE, ELECTRICAL		N60+00 E185+00
TA-53-203	MPF-203	MANHOLE, ELECTRICAL		N60+00 E185+00
TA-53-204	MPF-204	MANHOLE, ELECTRICAL		N60+00 E190+00
TA-53-205	MPF-205	MANHOLE, ELECTRICAL		N60+00 E190+00
TA-53-206	MPF-206	MANHOLE, ELECTRICAL		N60+00 E195+00
TA-53-207	MPF-207	MANHOLE, ELECTRICAL		N60+00 E195+00
TA-53-208	MPF-208	MANHOLE, ELECTRICAL		N60+00 E195+00
TA-53-209	MPF-209	MANHOLE, ELECTRICAL		N60+00 E195+00
TA-53-210	MPF-210	MANHOLE, ELECTRICAL		N60+00 E200+00
TA-53-211	MPF-211	MANHOLE, ELECTRICAL		N60+00 E200+00
TA-53-212	MPF-212	MANHOLE, ELECTRICAL		N60+00 E200+00
TA-53-213	MPF-213	MANHOLE, ELECTRICAL		N60+00 E205+00
TA-53-214	MPF-214	MANHOLE, ELECTRICAL		N60+00 E205+00
TA-53-215	MPF-215	MANHOLE, ELECTRICAL		N60+00 E205+00
TA-53-216	MPF-216	MANHOLE, ELECTRICAL		N60+00 E205+00
TA-53-217	MPF-217	MANHOLE, ELECTRICAL		N60+00 E210+00
TA-53-218	MPF-218	MANHOLE, ELECTRICAL		N60+00 E210+00
TA-53-219	MPF-219	MANHOLE, ELECTRICAL		N60+00 E210+00
TA-53-220	MPF-220	MANHOLE, ELECTRICAL		N65+00 E215+00
TA-53-221	MPF-221	MANHOLE, ELECTRICAL		N55+00 E220+00
TA-53-222	MPF-222	SUBSTATION		N55+00 E215+00
TA-53-223	MPF-223	SUBSTATION		N55+00 E215+00
TA-53-224	MPF-224	TRANSFORMER STATION		N55+00 E210+00
TA-53-225	MPF-225	TRANSFORMER STATION	NOT SHOWN	
TA-53-226	MPF-226	TRANSFORMER STATION		N55+00 E215+00
TA-53-227	MPF-227	SUBSTATION		N55+00 E205+00
TA-53-228	MPF-228			
TA-53-229	MPF-229			
TA-53-230	MPF-230	TRAILER PEDESTAL		N65+00 E220+00
TA-53-231	MPF-231	TRAILER PEDESTAL		N60+00 E220+00
TA-53-232	MPF-232	TRAILER PEDESTAL		N60+00 E215+00
TA-53-233	MPF-233	TRAILER PEDESTAL		N65+00 E215+00
TA-53-234	MPF-234	TRAILER PEDESTAL		N65+00 E215+00
TA-53-235	MPF-235	TRAILER PEDESTAL		N60+00 E220+00
TA-53-236	MPF-236	TRAILER PEDESTAL		N65+00 E215+00
TA-53-237	MPF-237	TRAILER PEDESTAL		N65+00 E215+00
TA-53-238	MPF-238	TRAILER PEDESTAL		N65+00 E215+00
TA-53-239	MPF-239	TRAILER PEDESTAL		N65+00 E215+00
TA-53-240	MPF-240		REMOVED	
TA-53-241	MPF-241		REMOVED	
TA-53-242	MPF-242		REMOVED	
TA-53-243	MPF-243	TRAILER PEDESTAL		N65+00 E210+00
TA-53-244	MPF-244	TRAILER PEDESTAL		N65+00 E210+00
TA-53-245	MPF-245		REMOVED	
TA-53-246	MPF-246	TRAILER PEDESTAL		N65+00 E210+00
TA-53-247	MPF-247	TRAILER PEDESTAL		N65+00 E215+00
TA-53-248	MPF-248		REMOVED	
TA-53-249	MPF-249	TRAILER PEDESTAL		N65+00 E215+00
TA-53-250	MPF-250	TRAILER PEDESTAL		N60+00 E215+00
TA-53-251	MPF-251	TRAILER PEDESTAL		N60+00 E215+00
TA-53-252	MPF-252	TRAILER PEDESTAL		N55+00 E210+00
TA-53-253	MPF-253		REMOVED	
TA-53-254	MPF-254	TRAILER PEDESTAL		N55+00 E215+00
TA-53-255	MPF-255	TRAILER PEDESTAL		N55+00 E215+00
TA-53-256	MPF-256	TRAILER PEDESTAL		N50+00 E220+00
TA-53-257	MPF-257	TRAILER PEDESTAL		N65+00 E215+00
TA-53-258	MPF-258		REMOVED 1978	
TA-53-259	MPF-259		CANCELLED	
TA-53-260	MPF-260	TRAILER PEDESTAL		N60+00 E215+00
TA-53-261	MPF-261	TRAILER PEDESTAL		N60+00 E215+00
TA-53-262	MPF-262	TRAILER PEDESTAL		N60+00 E215+00
TA-53-263	MPF-263	TRAILER PEDESTAL		N65+00 E215+00
TA-53-264	MPF-264			
TA-53-265	MPF-265		CANCELLED	
TA-53-266	MPF-266			
TA-53-267	MPF-267	TRAILER PEDESTAL		N60+00 E215+00
TA-53-268	MPF-268	TRAILER PEDESTAL		N60+00 E185+00
TA-53-269	MPF-269	TRAILER PEDESTAL		N55+00 E170+00
TA-53-270	MPF-270	TRAILER PEDESTAL		N52+00 E185+00
TA-53-271	MPF-271	TRAILER PEDESTAL		N60+00 E185+00
TA-53-272	MPF-272	TRAILER PEDESTAL		N60+00 E185+00
TA-53-273	MPF-273	TRAILER PEDESTAL		N60+00 E185+00
TA-53-274	MPF-274	TRAILER PEDESTAL		N60+00 E185+00
TA-53-275	MPF-275	TRAILER PEDESTAL		N65+00 E215+00
TA-53-276	MPF-276		REMOVED	
TA-53-277	MPF-277	TRAILER PEDESTAL		N65+00 E215+00
TA-53-278	MPF-278			

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53-279	MPF-279			
TA-53-280	MPF-280			
TA-53-281	MPF-281			
TA-53-282	MPF-282	TRAILER PEDESTAL		N55+00 E205+00
TA-53-283	MPF-283	TRAILER PEDESTAL		N55+00 E205+00
TA-53-284	MPF-284			
TA-53-285	MPF-285			
TA-53-286	MPF-286			
TA-53-287	MPF-287			
TA-53-288	MPF-288			
TA-53-289	MPF-289			
TA-53-290	MPF-290			
TA-53-291	MPF-291			
TA-53-292	MPF-292			
TA-53-293	MPF-293	COOLING TOWER		N55+00 E205+00
TA-53-294	MPF-294	COOLING TOWER		N55+00 E205+00
TA-53-295	MPF-295			
TA-53-296	MPF-296	LIFT STATION, SANITARY	NOT SHOWN	
TA-53-297	MPF-297			
TA-53-298	MPF-298			
TA-53-299	MPF-299			
TA-53-300	MPF-300	MANHOLE, STORM		N65+00 E215+00
TA-53-301	MPF-301	MANHOLE, SANITARY		N65+00 E215+00
TA-53-302	MPF-302	MANHOLE, SANITARY		N65+00 E215+00
TA-53-303	MPF-303	MANHOLE, SANITARY		N65+00 E220+00
TA-53-304	MPF-304	MANHOLE, SANITARY		N65+00 E220+00
TA-53-305	MPF-305	MANHOLE, SANITARY		N65+00 E210+00
TA-53-306	MPF-306	MANHOLE, SANITARY		N60+00 E210+00
TA-53-307	MPF-307	HEAT EXCHGR VALVE PIT #1		N65+00 E210+00
TA-53-308	MPF-308	MANHOLE, SANITARY		N55+00 E210+00
TA-53-309	MPF-309	HEAT EXCHGR VALVE PIT #2		N60+00 E210+00
TA-53-310	MPF-310			
TA-53-311	MPF-311	MANHOLE, SANITARY		N55+00 E215+00
TA-53-312	MPF-312	MANHOLE, SANITARY		N60+00 E215+00
TA-53-313	MPF-313			
TA-53-314	MPF-314			
TA-53-315	MPF-315			
TA-53-316	MPF-316			
TA-53-317	MPF-317	MANHOLE, SANITARY		N60+00 E210+00
TA-53-318	MPF-318			
TA-53-319	MPF-319			
TA-53-320	MPF-320	TRANSFORMER STATION	NOT SHOWN	
TA-53-321	MPF-321		CANCELLED	
TA-53-322	MPF-322	TRANSFORMER STATION	NOT SHOWN	
TA-53-323	MPF-323			
TA-53-324	MPF-324	SUBSTATION	NOT SHOWN	
TA-53-325	MPF-325	SUBSTATION	NOT SHOWN	
TA-53-326	MPF-326	MANHOLE, ELECTRICAL	NOT SHOWN	
TA-53-327	MPF-327	MANHOLE, ELECTRICAL	NOT SHOWN	
TA-53-328	MPF-328	MANHOLE, ELECTRICAL	NOT SHOWN	
TA-53-329	MPF-329			
TA-53-330	MPF-330			
TA-53-331	MPF-331			
TA-53-332	MPF-332			
TA-53-333	MPF-333			
TA-53-334	MPF-334			
TA-53-335	MPF-335			
TA-53-336	MPF-336			
TA-53-337	MPF-337			
TA-53-338	MPF-338			
TA-53-339	MPF-339			
TA-53-340	MPF-340			
TA-53-341	MPF-341			
TA-53-342	MPF-342			
TA-53-343	MPF-343			
TA-53-344	MPF-344			
TA-53-345	MPF-345			
TA-53-346	MPF-346			
TA-53-347	MPF-347			
TA-53-348	MPF-348			
TA-53-349	MPF-349			
TA-53-350	MPF-350			
TA-53-351	MPF-351			
TA-53-352	MPF-352			
TA-53-353	MPF-353			
TA-53-354	MPF-354			
TA-53-355	MPF-355			
TA-53-356	MPF-356			

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53-357	MPF-357			
TA-53-358	MPF-358			
TA-53-359	MPF-359			
TA-53-360	MPF-360			
TA-53-361	MPF-361			
TA-53-362	MPF-362			
TA-53-363	MPF-363			
TA-53-364	MPF-364			
TA-53-365	MPF-365			
TA-53-366	MPF-366			
TA-53-367	MPF-367			
TA-53-368	MPF-368			
TA-53-369	MPF-369			
TA-53-370	MPF-370			
TA-53-371	MPF-371			
TA-53-372	MPF-372			
TA-53-373	MPF-373			
TA-53-374	MPF-374			
TA-53-375	MPF-375			
TA-53-376	MPF-376			
TA-53-377	MPF-377			
TA-53-378	MPF-378			
TA-53-379	MPF-379			
TA-53-380	MPF-380			
TA-53-381	MPF-381			
TA-53-382	MPF-382			
TA-53-383	MPF-383			
TA-53-384	MPF-384			
TA-53-385	MPF-385			
TA-53-386	MPF-386			
TA-53-387	MPF-387			
TA-53-388	MPF-388			
TA-53-389	MPF-389			
TA-53-390	MPF-390			
TA-53-391	MPF-391			
TA-53-392	MPF-392			
TA-53-393	MPF-393			
TA-53-394	MPF-394			
TA-53-395	MPF-395			
TA-53-396	MPF-396			
TA-53-397	MPF-397			
TA-53-398	MPF-398			
TA-53-399	MPF-399			
TA-53-400	MPF-400	TRANSPORTABLE OFFICE BLD	FORMERLY TA-0-1024	N60+00 E205+00

REV.	DATE	REVISION	BY	CHK.	APP.
5	11-29-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-13-83	HS		

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LOS ALAMOS, NEW MEXICO 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-53 MESON PHYSICS FACILITY

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REVIEWER
DATE 12-6-83

SUBMITTED / RECOMMENDED / APPROVED

DRAWN RDS
CHECKED
DATE 11-29-83
SHEET NO. 2 OF 11
DRAWING NO. ENG-R5130

Figure TA-53-1: Structure Location Plan for TA-53 - Meson Physics Facility
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53-401	MPF-401	TRANSPORTABLE OFFICE BLD	FORMERLY TA-0-1025	N60+00 E205+00
TA-53-402	MPF-402	TRANSPORTABLE OFFICE BLD	FORMERLY TA-0-1026	N60+00 E205+00
TA-53-403	MPF-403	TRANSPORTABLE OFFICE BLD	FORMERLY TA-0-1028	N60+00 E205+00
TA-53-404	MPF-404	TRANSPORTABLE OFFICE BLD	FORMERLY TA-0-1029	N60+00 E205+00
TA-53-405	MPF-405	TRANSPORTABLE OFFICE BLD	FORMERLY TA-0-1034	N60+00 E205+00
TA-53-406	MPF-406	TRANSPORTABLE OFFICE BLD	FORMERLY TA-0-1036	N55+00 E210+00
TA-53-407	MPF-407	TRANSPORTABLE OFFICE BLD	FORMERLY TA-0-1038	N55+00 E210+00
TA-53-408	MPF-408	TRANSPORTABLE OFFICE BLD	FORMERLY TA-0-1044	N60+00 E220+00
TA-53-409	MPF-409	TRANSPORTABLE OFFICE BLD	FORMERLY TA-0-1049	N55+00 E205+00
TA-53-410	MPF-410	TRAILER, MONITORING	FORMERLY TA-0-186	N55+00 E170+00
TA-53-411	MPF-411	TRAILER, OFFICE	FORMERLY TA-0-196	N55+00 E180+00
TA-53-412	MPF-412	TRAILER, OFFICE	FORMERLY TA-0-197	N65+00 E210+00
TA-53-413	MPF-413	TRAILER, OFFICE	FORMERLY TA-0-297	N60+00 E210+00
TA-53-414	MPF-414	TRAILER, LAB	FORMERLY TA-0-298	N60+00 E215+00
TA-53-415	MPF-415	TRAILER, OFFICE	FORMERLY TA-0-299	N60+00 E185+00
TA-53-416	MPF-416	TRAILER, OFFICE	FORMERLY TA-0-300	N60+00 E185+00
TA-53-417	MPF-417	TRAILER, OFFICE	FORMERLY TA-0-301	N60+00 E185+00
TA-53-418	MPF-418	TRAILER, OFFICE	FORMERLY TA-0-302	N60+00 E205+00
TA-53-419	MPF-419	TRAILER, OFFICE	FORMERLY TA-0-311	N60+00 E210+00
TA-53-420	MPF-420	TRAILER, OFFICE	FORMERLY TA-0-325	N60+00 E185+00
TA-53-421	MPF-421	TRAILER, OFFICE	FORMERLY TA-0-326	N60+00 E185+00
TA-53-422	MPF-422	TRAILER, OFFICE	FORMERLY TA-0-327	N60+00 E215+00
TA-53-423	MPF-423	TRAILER, OFFICE	FORMERLY TA-0-328	N60+00 E185+00
TA-53-424	MPF-424	TRAILER, OFFICE	FORMERLY TA-0-329	N60+00 E185+00
TA-53-425	MPF-425	TRAILER, OFFICE	FORMERLY TA-0-330	N60+00 E185+00
TA-53-426	MPF-426	TRAILER, OFFICE	FORMERLY TA-0-395	N60+00 E205+00
TA-53-427	MPF-427	TRAILER, OFFICE	FORMERLY TA-0-396	N60+00 E205+00
TA-53-428	MPF-428	TRAILER, OFFICE	FORMERLY TA-0-397	N55+00 E180+00
TA-53-429	MPF-429	TRAILER, OFFICE	FORMERLY TA-0-398	N65+00 E215+00
TA-53-430	MPF-430	TRAILER, STORAGE	FORMERLY TA-0-502	N60+00 E165+00
TA-53-431	MPF-431	TRAILER, LAB	FORMERLY TA-0-504	N60+00 E220+00
TA-53-432	MPF-432	TRAILER, OFFICE	FORMERLY TA-0-432	N60+00 E220+00
TA-53-433	MPF-433	TRAILER, OFFICE	FORMERLY TA-0-433	N60+00 E215+00
TA-53-434	MPF-434	TRAILER, OFFICE	FORMERLY TA-0-434	N60+00 E210+00
TA-53-435	MPF-435	TRAILER, OFFICE	FORMERLY TA-0-435	N65+00 E220+00
TA-53-436	MPF-436	TRAILER, OFFICE	FORMERLY TA-0-436	N65+00 E215+00
TA-53-437	MPF-437	TRAILER, STORAGE	FORMERLY TA-0-505	N65+00 E215+00
TA-53-438	MPF-438	TRAILER, STORAGE	FORMERLY TA-0-507	N60+00 E165+00
TA-53-439	MPF-439	TRAILER, ELECTRONICS LAB	FORMERLY TA-0-508	N60+00 E190+00
TA-53-440	MPF-440	TRAILER, LAB/OFFICE	FORMERLY TA-0-509	N65+00 E210+00
TA-53-441	MPF-441	TRAILER, SHOP	FORMERLY TA-0-510	N65+00 E190+00
TA-53-442	MPF-442	TRAILER, OFFICE	FORMERLY TA-0-511	N55+00 E185+00
TA-53-443	MPF-443	TRAILER, OFFICE	FORMERLY TA-0-539	N60+00 E215+00
TA-53-444	MPF-444	TRAILER, COMPUTER	FORMERLY TA-0-550	N65+00 E215+00
TA-53-445	MPF-445	TRAILER, LAB	FORMERLY TA-0-551	N65+00 E190+00
TA-53-446	MPF-446	TRAILER, STORAGE	FORMERLY TA-0-553	N60+00 E185+00
TA-53-447	MPF-447	TRAILER, LAB/OFFICE	FORMERLY TA-0-554	N60+00 E195+00
TA-53-448	MPF-448	TRAILER, REST ROOMS	FORMERLY TA-0-448	
TA-53-449	MPF-449	TRAILER, LAB	FORMERLY TA-0-555	N60+00 E215+00
TA-53-450	MPF-450	TRAILER, OFFICE	FORMERLY TA-0-450	N55+00 E180+00
TA-53-451	MPF-451	TRAILER, SLEEPER	FORMERLY TA-0-451	N60+00 E205+00
TA-53-452	MPF-452	TRAILER, OFFICE	FORMERLY TA-0-452	N60+00 E185+00
TA-53-453	MPF-453	TRAILER, OFFICE	FORMERLY TA-0-453	N60+00 E210+00
TA-53-454	MPF-454	TRAILER, OFFICE	FORMERLY TA-0-454	N60+00 E185+00
TA-53-455	MPF-455	TRAILER, OFFICE	FORMERLY TA-0-455	N55+00 E170+00
TA-53-456	MPF-456	TRAILER, OFFICE	FORMERLY TA-0-556	N65+00 E215+00
TA-53-457	MPF-457	TRAILER, STORAGE	FORMERLY TA-0-557	N65+00 E190+00
TA-53-458	MPF-458	TRAILER, ELECTRONICS LAB	FORMERLY TA-0-558	N65+00 E215+00
TA-53-459	MPF-459	TRAILER, STORAGE	FORMERLY TA-0-559	N60+00 E210+00
TA-53-460	MPF-460	TRAILER, LAB	FORMERLY TA-0-563	N65+00 E215+00
TA-53-461	MPF-461	TRAILER, STORGAE	FORMERLY TA-0-564	N60+00 E165+00
TA-53-462	MPF-462	TRAILER, LAB/OFFICE	FORMERLY TA-0-565	N60+00 E215+00
TA-53-463	MPF-463	TRAILER, OFFICE	FORMERLY TA-0-566	N60+00 E215+00
TA-53-464	MPF-464	TRAILER, SHOP	FORMERLY TA-0-567	N65+00 E210+00
TA-53-465	MPF-465	TRAILER, SHOP	FORMERLY TA-0-568	N60+00 E215+00
TA-53-466	MPF-466	TRAILER, OFFICE	FORMERLY TA-0-569	N65+00 E215+00
TA-53-467	MPF-467	TRAILER, OFFICE	FORMERLY TA-0-570	N60+00 E190+00
TA-53-468	MPF-468	TRAILER, STORAGE	FORMERLY TA-0-572	
TA-53-469	MPF-469	TRAILER, STORAGE	FORMERLY TA-0-578	N60+00 E195+00
TA-53-470	MPF-470	TRAILER, LAB	FORMERLY TA-0-579	N60+00 E215+00
TA-53-471	MPF-471	TRAILER, OFFICE	REMOVED 1984	
TA-53-472	MPF-472	TRAILER, STORAGE	FORMERLY TA-0-584	N65+00 E215+00
TA-53-473	MPF-473	TRAILER, LAB	FORMERLY TA-0-585	N60+00 E215+00
TA-53-474	MPF-474	TRAILER, OFFICE	FORMERLY TA-0-607	N60+00 E185+00
TA-53-475	MPF-475	TRAILER, OFFICE	FORMERLY TA-0-608	N65+00 E210+00
TA-53-476	MPF-476	TRAILER, OFFICE	FORMERLY TA-0-609	N65+00 E215+00
TA-53-477	MPF-477	TRAILER, STORAGE	FORMERLY TA-0-610	
TA-53-478	MPF-478	TRAILER, STORAGE	FORMERLY TA-0-611	N60+00 E190+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53-479	MPF-479	TRAILER, STORAGE	FORMERLY TA-0-612	N60+00 E200+00
TA-53-480	MPF-480	TRAILER, STORAGE	FORMERLY TA-0-613	N65+00 E215+00
TA-53-481	MPF-481	TRAILER, STORAGE	FORMERLY TA-0-614	N60+00 E190+00
TA-53-482	MPF-482	TRAILER, LAB	FORMERLY TA-0-615	N60+00 E215+00
TA-53-483	MPF-483	TRAILER, LAB	FORMERLY TA-0-616	
TA-53-484	MPF-484	TRAILER, STORAGE	FORMERLY TA-0-617	N60+00 E190+00
TA-53-485	MPF-485	TRAILER, STORAGE	FORMERLY TA-0-618	N60+00 E185+00
TA-53-486	MPF-486	TRAILER, STORAGE	FORMERLY TA-0-619	N60+00 E185+00
TA-53-487	MPF-487	TRAILER, STORAGE	FORMERLY TA-0-620	N65+00 E210+00
TA-53-488	MPF-488	TRAILER, STORAGE	FORMERLY TA-0-621	N65+00 E190+00
TA-53-489	MPF-489	TRAILER, STORAGE	FORMERLY TA-0-622	N65+00 E190+00
TA-53-490	MPF-490	TRAILER, LAB	FORMERLY TA-0-623	N65+00 E210+00
TA-53-491	MPF-491	TRAILER, STORAGE	FORMERLY TA-0-624	N60+00 E190+00
TA-53-492	MPF-492	TRAILER, STORAGE	FORMERLY TA-0-625	
TA-53-493	MPF-493	TRAILER, STORAGE	FORMERLY TA-0-626	N65+00 E190+00
TA-53-494	MPF-494	TRAILER, STORAGE	FORMERLY TA-0-627	N60+00 E230+00
TA-53-495	MPF-495	TRAILER, STORAGE	FORMERLY TA-0-628	N65+00 E190+00
TA-53-496	MPF-496	TRAILER, STORAGE	FORMERLY TA-0-630	N60+00 E190+00
TA-53-497	MPF-497	TRAILER, STORAGE	FORMERLY TA-0-631	N55+00 E165+00
TA-53-498	MPF-498	TRAILER, STORAGE	FORMERLY TA-0-632	N60+00 E170+00
TA-53-499	MPF-499	TRAILER, STORAGE	FORMERLY TA-0-633	
TA-53-500	MPF-500	TRAILER, STORAGE	FORMERLY TA-0-634	N60+00 E215+00
TA-53-501	MPF-501	TRAILER, STORAGE	FORMERLY TA-0-635	N60+00 E195+00
TA-53-502	MPF-502	TRAILER, LAB	FORMERLY TA-0-636	N60+00 E215+00
TA-53-503	MPF-503	TRAILER, LAB/OFFICE	FORMERLY TA-0-637	
TA-53-504	MPF-504	TRAILER, STORAGE	FORMERLY TA-0-638	N60+00 E190+00
TA-53-505	MPF-505	TRAILER, REMOTE CONTROL	FORMERLY TA-0-639	N60+00 E215+00
TA-53-506	MPF-506	TRAILER, STORAGE	FORMERLY TA-0-641	
TA-53-507	MPF-507	TRAILER, STORAGE	FORMERLY TA-0-643	N65+00 E210+00
TA-53-508	MPF-508	TRAILER, STORAGE	FORMERLY TA-0-644	N55+00 E170+00
TA-53-509	MPF-509	TRAILER, STORAGE	FORMERLY TA-0-645	
TA-53-510	MPF-510	TRAILER, REMOTE CONTROL	FORMERLY TA-0-647	N60+00 E215+00
TA-53-511	MPF-511	TRAILER, STORAGE	FORMERLY TA-0-648	N65+00 E210+00
TA-53-512	MPF-512	TRAILER, STORAGE	FORMERLY TA-0-649	N60+00 E190+00
TA-53-513	MPF-513	TRAILER, OFFICE	FORMERLY TA-0-651	N60+00 E190+00
TA-53-514	MPF-514	TRAILER, LAB	FORMERLY TA-0-674	N60+00 E220+00
TA-53-515	MPF-515	TRAILER, OFFICE	FORMERLY TA-0-800	N55+00 E180+00
TA-53-516	MPF-516	TRAILER, CONTROL	FORMERLY TA-0-803	N65+00 E215+00
TA-53-517	MPF-517	TRAILER, LAB	FORMERLY TA-0-810	N65+00 E210+00
TA-53-518	MPF-518	TRAILER, CONTROL	FORMERLY TA-0-811	N60+00 E190+00
TA-53-519	MPF-519	TRAILER, STORAGE	DESTROYED 1983	
TA-53-520	MPF-520	TRAILER, OFFICE	FORMERLY TA-0-826	N65+00 E215+00
TA-53-521	MPF-521	TRAILER, OFFICE	FORMERLY TA-0-827	N60+00 E205+00
TA-53-522	MPF-522	TRAILER, LAB	FORMERLY TA-0-842	
TA-53-523	MPF-523	TRAILER, OFFICE	FORMERLY TA-0-858	N55+00 E170+00
TA-53-524	MPF-524	TRAILER, OFFICE	FORMERLY TA-0-859	N55+00 E180+00
TA-53-525	MPF-525	TRAILER, OFFICE	FORMERLY TA-0-862	N60+00 E210+00
TA-53-526	MPF-526	TRANSPORTABLE OFF BLDG.		N55+00 E185+00
TA-53-527	MPF-527	TRAILER, LOUNGE		N60+00 E205+00
TA-53-528	MPF-528	TRAILER, SHOP	FORMERLY TA-0-506	N55+00 E205+00
TA-53-529	MPF-529	TRAILER, ELECTRONICS LAB	FORMERLY TA-0-521	N55+00 E205+00
TA-53-530	MPF-530		CANCELLED	
TA-53-531	MPF-531	TRAILER, ELECTRONICS LAB	FORMERLY TA-0-531	N55+00 E205+00
TA-53-532	MPF-532	TRAILER, ELECTRONICS LAB	FORMERLY TA-0-547	N55+00 E205+00
TA-53-533	MPF-533	TRAILER, LAB	FORMERLY TA-0-552	NOT SHOWN
TA-53-534	MPF-534	TRAILER, STORAGE	FORMERLY TA-0-561	N55+00 E215+00
TA-53-535	MPF-535	TRAILER, STORAGE	FORMERLY TA-0-574	N55+00 E215+00
TA-53-536	MPF-536	TRAILER, STORAGE	FORMERLY TA-0-575	N50+00 E220+00
TA-53-537	MPF-537		CANCELLED	
TA-53-538	MPF-538	TRAILER, MONITORING	FORMERLY TA-0-582	NOT SHOWN
TA-53-539	MPF-539	TRAILER, ELECTRONICS LAB	FORMERLY TA-0-600	N60+00 E210+00
TA-53-540	MPF-540	TRAILER, LAB/OFFICE	FORMERLY TA-0-602	N55+00 E210+00
TA-53-541	MPF-541	TRAILER, LAB/OFFICE	FORMERLY TA-0-603	N55+00 E210+00
TA-53-542	MPF-542	TRAILER, LAB/OFFICE	FORMERLY TA-0-605	N55+00 E205+00
TA-53-543	MPF-543	TRAILER, ELECTRONICS LAB	FORMERLY TA-0-606	N55+00 E205+00
TA-53-544	MPF-544	TRAILER, OFFICE	FORMERLY TA-0-629	N60+00 E225+00
TA-53-545	MPF-545	TRAILER, LAB	FORMERLY TA-0-640	N60+00 E190+00
TA-53-546	MPF-546	TRAILER, CRAFTS	RELOCATED TO TA-21-374	
TA-53-547	MPF-547		CANCELLED	
TA-53-548	MPF-548	TRAILER, OFFICE	FORMERLY TA-0-802	N60+00 E205+00
TA-53-549	MPF-549	TRAILER, LAB/OFFICE	FORMERLY TA-0-838	N55+00 E205+00
TA-53-550	MPF-550			
TA-53-551	MPF-551			
TA-53-552	MPF-552	TRAILER, LAB/OFFICE		N60+00 E220+00
TA-53-553	MPF-553			
TA-53-554	MPF-554			
TA-53-555	MPF-555			
TA-53-556	MPF-556			

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53-557	MPF-557	TRAILER, OFFICE		N60+00 E225+00
TA-53-558	MPF-558	TRAILER, OFFICE		N65+00 E215+00
TA-53-559	MPF-559	TRAILER, OFFICE		N60+00 E205+00
TA-53-560	MPF-560	TRAILER, OFFICE		N60+00 E205+00
TA-53-561	MPF-561	TRAILER, OFFICE	FORMERLY TA-55-109	N60+00 E205+00
TA-53-562	MPF-562	TRAILER, OFFICE		N55+00 E210+00
TA-53-563	MPF-563	TRAILER, OFFICE		N55+00 E210+00
TA-53-564	MPF-564	TRAILER, OFFICE		N55+00 E210+00
TA-53-565	MPF-565	TRAILER, OFFICE		N55+00 E210+00
TA-53-566	MPF-566	TRAILER, OFFICE		N55+00 E210+00
TA-53-567	MPF-567	TRAILER, OFFICE		N55+00 E210+00
TA-53-568	MPF-568			
TA-53-569	MPF-569			
TA-53-570	MPF-570			
TA-53-571	MPF-571			
TA-53-572	MPF-572			
TA-53-573	MPF-573			
TA-53-574	MPF-574			
TA-53-575	MPF-575	TRAILER, OFFICE		N65+00 E215+00
TA-53-576	MPF-576			
TA-53-577	MPF-577	TRAILER, OFFICE		N60+00 E205+00
TA-53-578	MPF-578	TRAILER, OFFICE		N55+00 E205+00
TA-53-579	MPF-579	TRAILER, OFFICE		N55+00 E205+00
TA-53-580	MPF-580	TRAILER, OFFICE		N55+00 E205+00
TA-53-581	MPF-581			
TA-53-582	MPF-582	TRAILER, OFFICE		N55+00 E205+00
TA-53-583	MPF-583			
TA-53-584	MPF-584			
TA-53-585	MPF-585			
TA-53-586	MPF-586			
TA-53-587	MPF-587			
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TA-53-597	MPF-597			
TA-53-598	MPF-598			
TA-53-599	MPF-599			
TA-53-600	MPF-600			

Figure TA-53-1: Structure Location Plan for TA-53 - Meson Physics Facility
(1983 Drawing from the LANL Technical Area Structure Location Plans)

REV.	DATE	REVISION	BY	CHD.	APP.
6	1-12-87	REVISED TO STATUS OF 1-8-87	N.B.		
5	11-29-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-13-83	H.S.		

UNIVERSITY OF CALIFORNIA
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LOS ALAMOS, NEW MEXICO 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-53 MESON PHYSICS FACILITY

SEC. CLASSIFICATION — CLASS. U — REVIEWER — DATE 12-6-83

SUBMITTED — RECOMMENDED — APPROVED

DRAWN RDS — CHECKED — DATE 11-29-83 — SHEET NO. 3 of 13 — DRAWING NO. ENG-R5130

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53-601	MPF-601			
TA-53-602	MPF-602			
TA-53-603	MPF-603			
TA-53-604	MPF-604			
TA-53-605	MPF-605			
TA-53-606	MPF-606			
TA-53-607	MPF-607			
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TA-53-609	MPF-609			
TA-53-610	MPF-610			
TA-53-611	MPF-611			
TA-53-612	MPF-612			
TA-53-613	MPF-613			
TA-53-614	MPF-614			
TA-53-615	MPF-615			
TA-53-616	MPF-616			
TA-53-617	MPF-617			
TA-53-618	MPF-618			
TA-53-619	MPF-619			
TA-53-620	MPF-620			
TA-53-621	MPF-621			
TA-53-622	MPF-622			
TA-53-623	MPF-623			
TA-53-624	MPF-624			
TA-53-625	MPF-625			
TA-53-626	MPF-626			
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TA-53-628	MPF-628			
TA-53-629	MPF-629			
TA-53-630	MPF-630			
TA-53-631	MPF-631			
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TA-53-633	MPF-633			
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TA-53-674	MPF-674			
TA-53-675	MPF-675			
TA-53-676	MPF-676			
TA-53-677	MPF-677			
TA-53-678	MPF-678			

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53-679	MPF-679			
TA-53-680	MPF-680			
TA-53-681	MPF-681			
TA-53-682	MPF-682			
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TA-53-720	MPF-720			
TA-53-721	MPF-721			
TA-53-722	MPF-722			
TA-53-723	MPF-723			
TA-53-724	MPF-724			
TA-53-725	MPF-725			
TA-53-726	MPF-726			
TA-53-727	MPF-727			
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TA-53-729	MPF-729			
TA-53-730	MPF-730			
TA-53-731	MPF-731			
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TA-53-733	MPF-733			
TA-53-734	MPF-734			
TA-53-735	MPF-735			
TA-53-736	MPF-736			
TA-53-737	MPF-737			
TA-53-738	MPF-738			
TA-53-739	MPF-739			
TA-53-740	MPF-740			
TA-53-741	MPF-741			
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TA-53-745	MPF-745			
TA-53-746	MPF-746			
TA-53-747	MPF-747			
TA-53-748	MPF-748			
TA-53-749	MPF-749			
TA-53-750	MPF-750			
TA-53-751	MPF-751			
TA-53-752	MPF-752			
TA-53-753	MPF-753			
TA-53-754	MPF-754			
TA-53-755	MPF-755			
TA-53-756	MPF-756			

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53-757	MPF-757			
TA-53-758	MPF-758			
TA-53-759	MPF-759			
TA-53-760	MPF-760			
TA-53-761	MPF-761			
TA-53-762	MPF-762			
TA-53-763	MPF-763			
TA-53-764	MPF-764			
TA-53-765	MPF-765			
TA-53-766	MPF-766			
TA-53-767	MPF-767			
TA-53-768	MPF-768			
TA-53-769	MPF-769			
TA-53-770	MPF-770			
TA-53-771	MPF-771			
TA-53-772	MPF-772			
TA-53-773	MPF-773			
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TA-53-794	MPF-794			
TA-53-795	MPF-795			
TA-53-796	MPF-796			
TA-53-797	MPF-797			
TA-53-798	MPF-798			
TA-53-799	MPF-799			
TA-53-800	MPF-800			

REV.	DATE	REVISION	BY	CHK.	APP.
5	11-29-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-13-85	HS	JB	CP

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LOS ALAMOS, NEW MEXICO 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-53 MESON PHYSICS FACILITY

ENG-R5130

11-29-83

Figure TA-53-1: Structure Location Plan for TA-53 - Meson Physics Facility
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53-801	MPF-801			
TA-53-802	MPF-802	TRANSPORTAINER, STORAGE		N60+00 E190+00
TA-53-803	MPF-803	TRANSPORTAINER, STORAGE		N60+00 E190+00
TA-53-804	MPF-804	TRANSPORTAINER, STORAGE		N60+00 E215+00
TA-53-805	MPF-805	TRANSPORTAINER, STORAGE		N60+00 E215+00
TA-53-806	MPF-806	TRANSPORTAINER, STORAGE		N65+00 E215+00
TA-53-807	MPF-807	TRANSPORTAINER, STORAGE		N60+00 E195+00
TA-53-808	MPF-808	TRANSPORTAINER, STORAGE		N60+00 E200+00
TA-53-809	MPF-809	TRANSPORTAINER, STORAGE		N55+00 E180+00
TA-53-810	MPF-810	TRAILER, OFFICE		N65+00 E215+00
TA-53-811	MPF-811			
TA-53-812	MPF-812	TRANSPORTAINER, STORAGE		N60+00 E190+00
TA-53-813	MPF-813	TRANSPORTAINER, STORAGE		N55+00 E180+00
TA-53-814	MPF-814	TRANSPORTAINER, STORAGE		N60+00 E165+00
TA-53-815	MPF-815	TRANSPORTAINER, STORAGE		N55+00 E180+00
TA-53-816	MPF-816	TRANSPORTAINER, STORAGE		N60+00 E220+00
TA-53-817	MPF-817	TRANSPORTAINER, STORAGE		N65+00 E215+00
TA-53-818	MPF-818	TRANSPORTAINER, STORAGE		N60+00 E190+00
TA-53-819	MPF-819	TRANSPORTAINER, STORAGE		N60+00 E190+00
TA-53-820	MPF-820	TRANSPORTAINER, STORAGE		
TA-53-821	MPF-821	TRANSPORTAINER, STORAGE		
TA-53-822	MPF-822	TRANSPORTAINER, STORAGE		
TA-53-823	MPF-823			
TA-53-824	MPF-824	TRANSPORTAINER, STORAGE	REMOVED 1985	
TA-53-825	MPF-825	TRANSPORTAINER, STORAGE		N60+00 E210+00
TA-53-826	MPF-826			
TA-53-827	MPF-827	STORAGE SHED		
TA-53-828	MPF-828	TRANSPORTAINER, STORAGE		N60+00 E165+00
TA-53-829	MPF-829	TRANSPORTAINER, STORAGE		N60+00 E165+00
TA-53-830	MPF-830	TRANSPORTAINER, STORAGE		N60+00 E165+00
TA-53-831	MPF-831	TRANSPORTAINER, STORAGE		N60+00 E165+00
TA-53-832	MPF-832	TRANSPORTAINER, STORAGE		N60+00 E165+00
TA-53-833	MPF-833	TRANSPORTAINER, STORAGE		N55+00 E205+00
TA-53-834	MPF-834	TRANSPORTAINER, STORAGE		N55+00 E220+00
TA-53-835	MPF-835	TRANSPORTAINER, STORAGE		N55+00 E205+00
TA-53-836	MPF-836	TRANSPORTAINER, STORAGE		N55+00 E220+00
TA-53-837	MPF-837	TRANSPORTAINER, STORAGE	REMOVED 1984	
TA-53-838	MPF-838			
TA-53-839	MPF-839	TRANSPORTAINER, STORAGE		N60+00 E215+00
TA-53-840	MPF-840	TRANSPORTAINER, STORAGE		N60+00 E210+00
TA-53-841	MPF-841	TRANSPORTAINER, STORAGE		N60+00 E210+00
TA-53-842	MPF-842	TRANSPORTAINER, STORAGE		N60+00 E210+00
TA-53-843	MPF-843	TRANSPORTAINER, STORAGE		N60+00 E215+00
TA-53-844	MPF-844	TRANSPORTAINER, STORAGE		N60+00 E210+00
TA-53-845	MPF-845	TRANSPORTAINER, STORAGE		N55+00 E180+00
TA-53-846	MPF-846	TRANSPORTAINER, STORAGE		N50+00 E210+00
TA-53-847	MPF-847	TRANSPORTAINER, STORAGE		N50+00 E210+00
TA-53-848	MPF-848	TRANSPORTAINER, STORAGE		N50+00 E210+00
TA-53-849	MPF-849	TRANSPORTAINER, STORAGE		
TA-53-850	MPF-850	TRANSPORTAINER, STORAGE		N55+00 E220+00
TA-53-851	MPF-851	TRANSPORTAINER, STORAGE		N55+00 E220+00
TA-53-852	MPF-852	TRANSPORTAINER, STORAGE		N55+00 E205+00
TA-53-853	MPF-853	TRANSPORTAINER, STORAGE		N55+00 E220+00
TA-53-854	MPF-854	TRANSPORTAINER, STORAGE		N55+00 E220+00
TA-53-855	MPF-855	TRANSPORTAINER, STORAGE		N55+00 E220+00
TA-53-856	MPF-856	TRANSPORTAINER, STORAGE		N55+00 E220+00
TA-53-857	MPF-857	TRANSPORTAINER, STORAGE		N55+00 E220+00
TA-53-858	MPF-858	TRANSPORTAINER, STORAGE		N55+00 E205+00
TA-53-859	MPF-859	TRANSPORTAINER, STORAGE		N55+00 E205+00
TA-53-860	MPF-860	TRANSPORTAINER, STORAGE		N55+00 E165+00
TA-53-861	MPF-861	TRANSPORTAINER, STORAGE		
TA-53-862	MPF-862	TRANSPORTAINER, STORAGE		
TA-53-863	MPF-863	TRANSPORTAINER, STORAGE		
TA-53-864	MPF-864	TRANSPORTAINER, STORAGE		
TA-53-865	MPF-865	TRANSPORTAINER, STORAGE		
TA-53-866	MPF-866	TRANSPORTAINER, STORAGE		N55+00 E205+00
TA-53-867	MPF-867	TRANSPORTAINER, STORAGE		N55+00 E220+00
TA-53-868	MPF-868	TRANSPORTAINER, STORAGE		
TA-53-869	MPF-869	TRANSPORTAINER, STORAGE		
TA-53-870	MPF-870	TRANSPORTAINER, STORAGE		N55+00 E220+00
TA-53-871	MPF-871	TRANSPORTAINER, STORAGE		
TA-53-872	MPF-872	TRANSPORTAINER, STORAGE		N55+00 E220+00
TA-53-873	MPF-873	TRANSPORTAINER, STORAGE		N55+00 E220+00
TA-53-874	MPF-874	TRANSPORTAINER, STORAGE		N55+00 E205+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-53-879	MPF-879	TRANSPORTAINER, STORAGE		N60+00 E220+00
TA-53-880	MPF-880	TRAILER, OFFICE		N50+00 E215+00
TA-53-881	MPF-881	TRANSPORTAINER, STORAGE		
TA-53-882	MPF-882	TRANSPORTABLE OFF. BLDG.		N55+00 E210+00
TA-53-883	MPF-883	STORAGE BLDG.		N60+00 E215+00
TA-53-884	MPF-884	STORAGE BLDG.		N60+00 E215+00
TA-53-885	MPF-885	TRANSPORTABLE OFF. BLDG.		N55+00 E205+00
TA-53-886	MPF-886	TRANSPORTABLE OFF. BLDG.		N55+00 E205+00
TA-53-888	MPF-888	TRAILER, OFFICE		N60+00 E205+00
TA-53-889	MPF-889	TRAILER, REST ROOM		N55+00 E205+00
TA-53-898	MPF-898	TRANSPORTABLE OFF. BLDG.		N65+00 E210+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV.	DATE	REVISION	BY	CKD.	APP.
6	1-12-87	REVISED TO STATUS OF 1-8-87	N.B.		
5	11-29-83	REVISED TITLE BLOCK & DWG. TO STATUS OF 7-13-83	HS		

MF

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STRUCTURE LOCATION PLAN
TA-53 MESON PHYSICS FACILITY

SEC. CLASSIFICATION
CLASS. U
REVIEWER
DATE 8-16-85

SUBMITTED | RECOMMENDED | APPROVED

DRAWN RDS
CHECKED
DATE 11-29-83
SHEET NO. 5 OF 13
DRAWING NO. ENG-R5130

Figure TA-53-1: Structure Location Plan for TA-53 - Meson Physics Facility
(1983 Drawing from the LANL Technical Area Structure Location Plans)

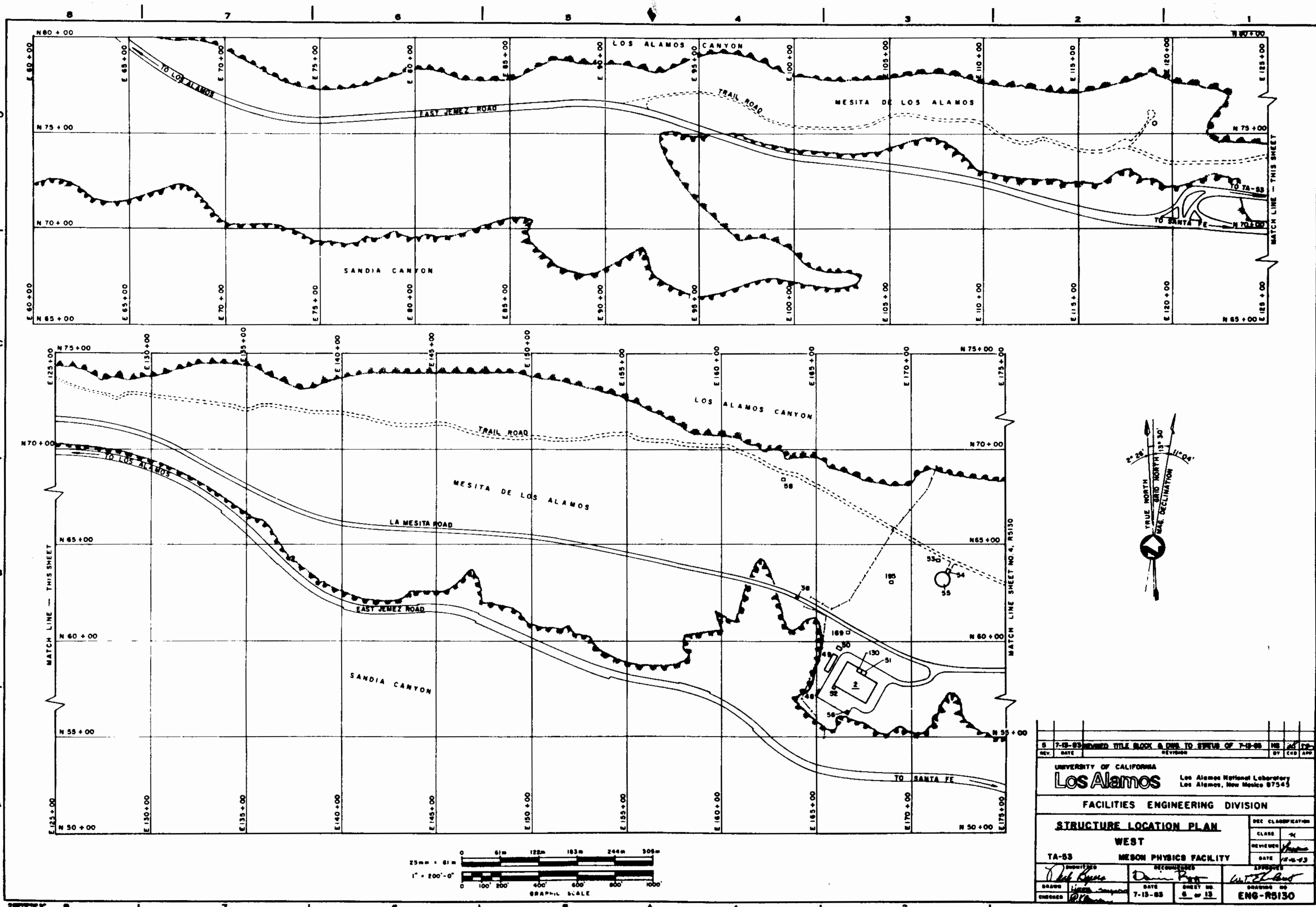


Figure TA-53-1: Structure Location Plan for TA-53 - Meson Physics Facility
(1983 Drawing from the LANL Technical Area Structure Location Plans)

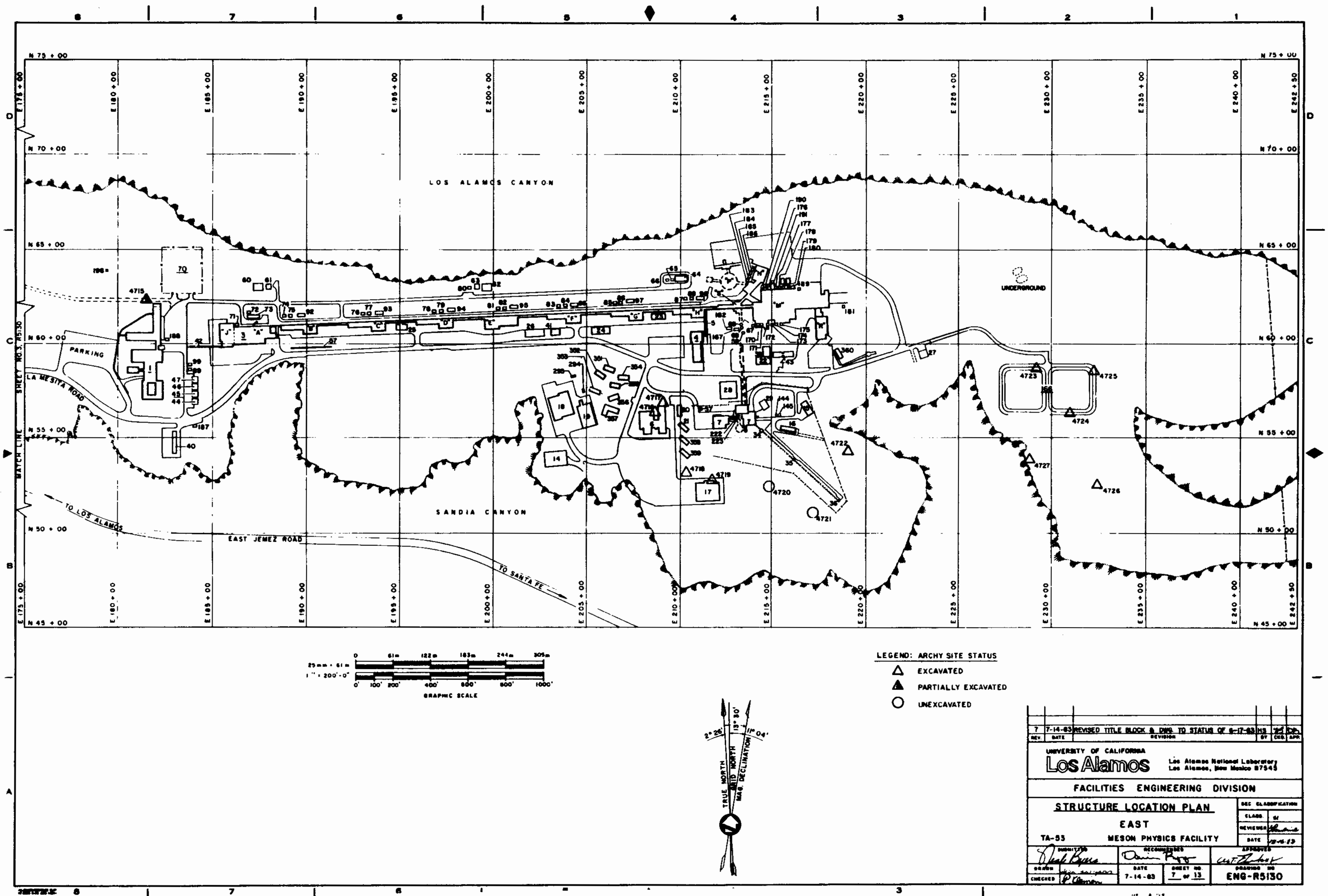


Figure TA-53-1: Structure Location Plan for TA-53 - Meson Physics Facility
(1983 Drawing from the LANL Technical Area Structure Location Plans)

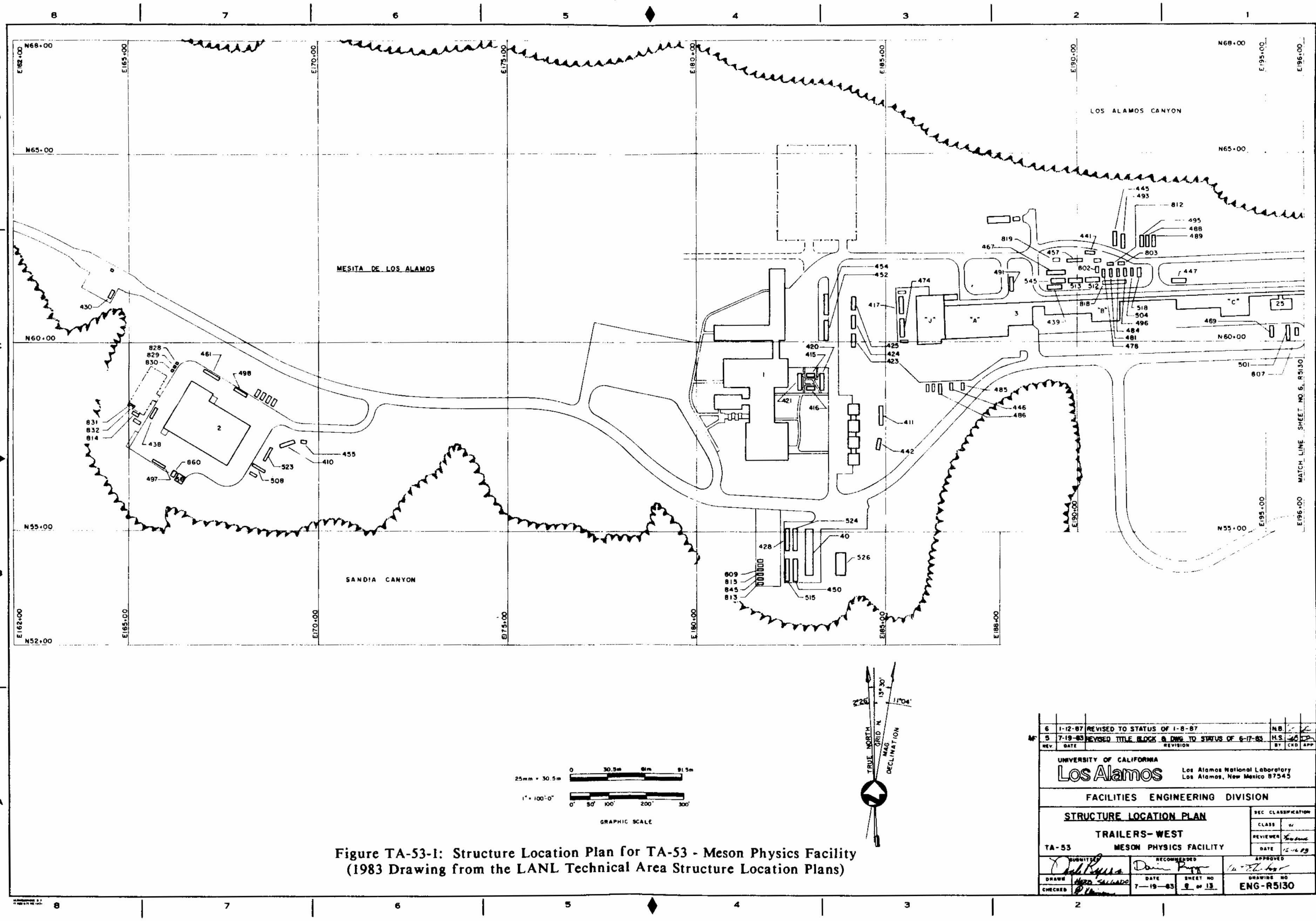


Figure TA-53-1: Structure Location Plan for TA-53 - Meson Physics Facility (1983 Drawing from the LANL Technical Area Structure Location Plans)

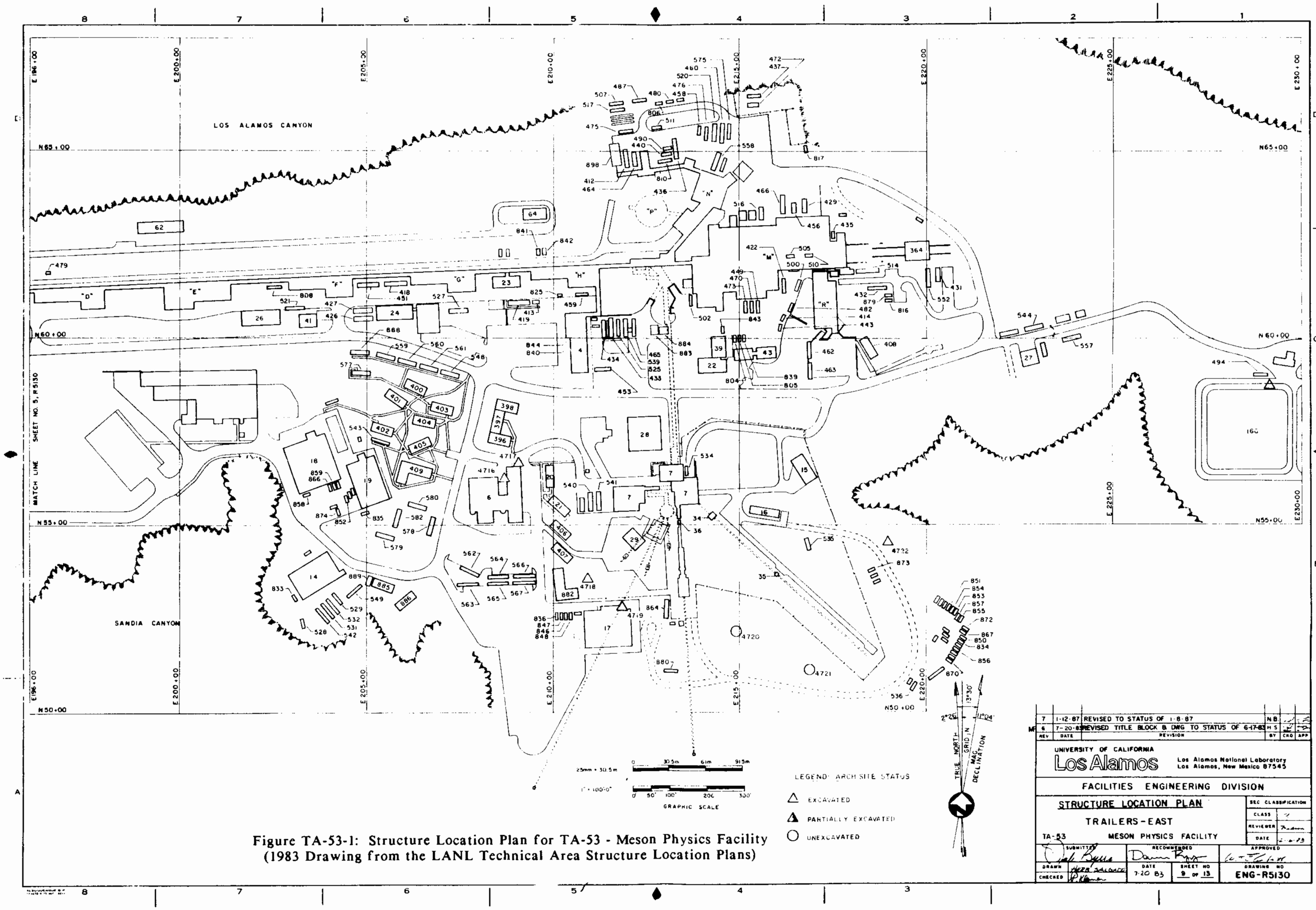


Figure TA-53-1: Structure Location Plan for TA-53 - Meson Physics Facility
(1983 Drawing from the LANL Technical Area Structure Location Plans)

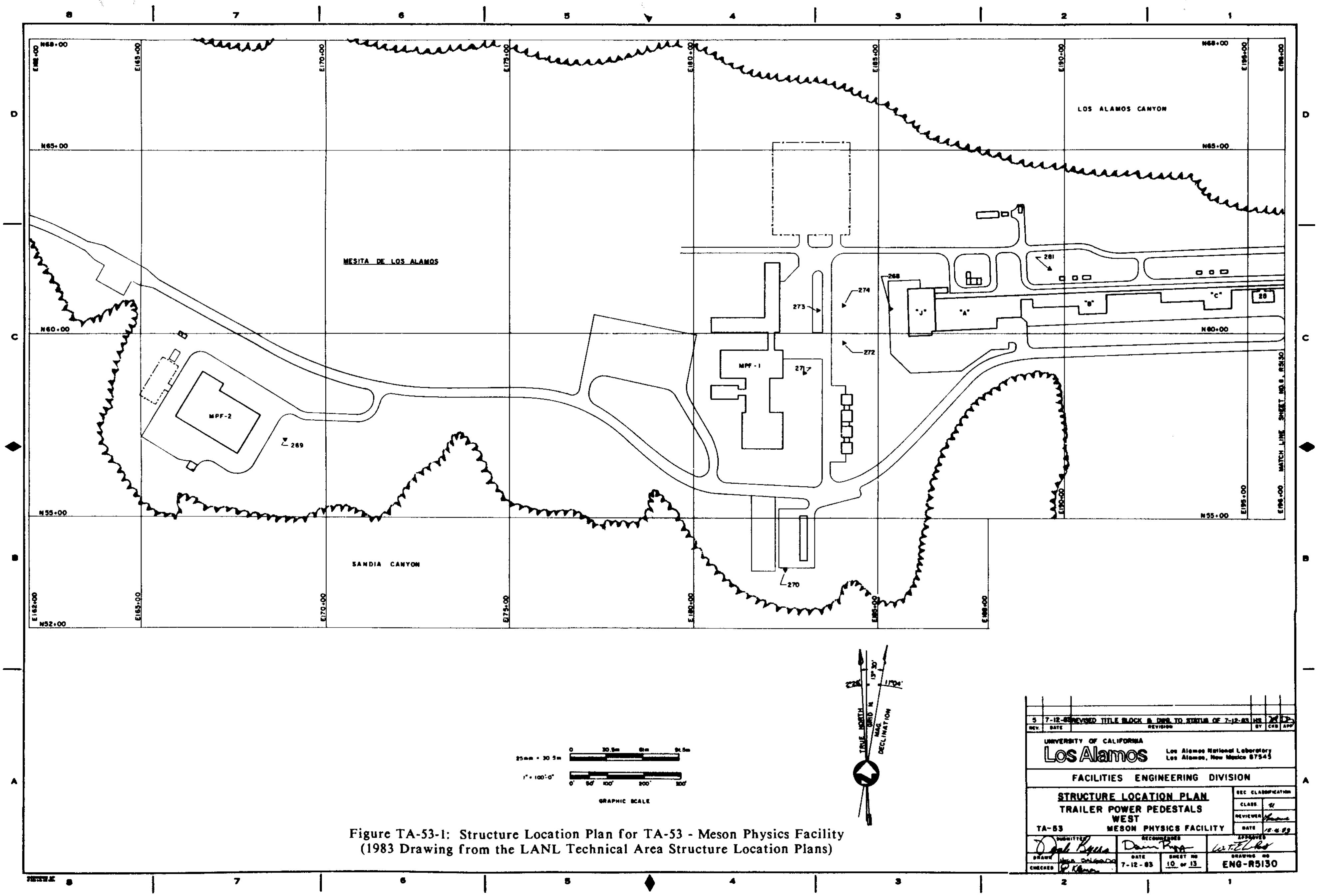


Figure TA-53-1: Structure Location Plan for TA-53 - Meson Physics Facility
(1983 Drawing from the LANL Technical Area Structure Location Plans)

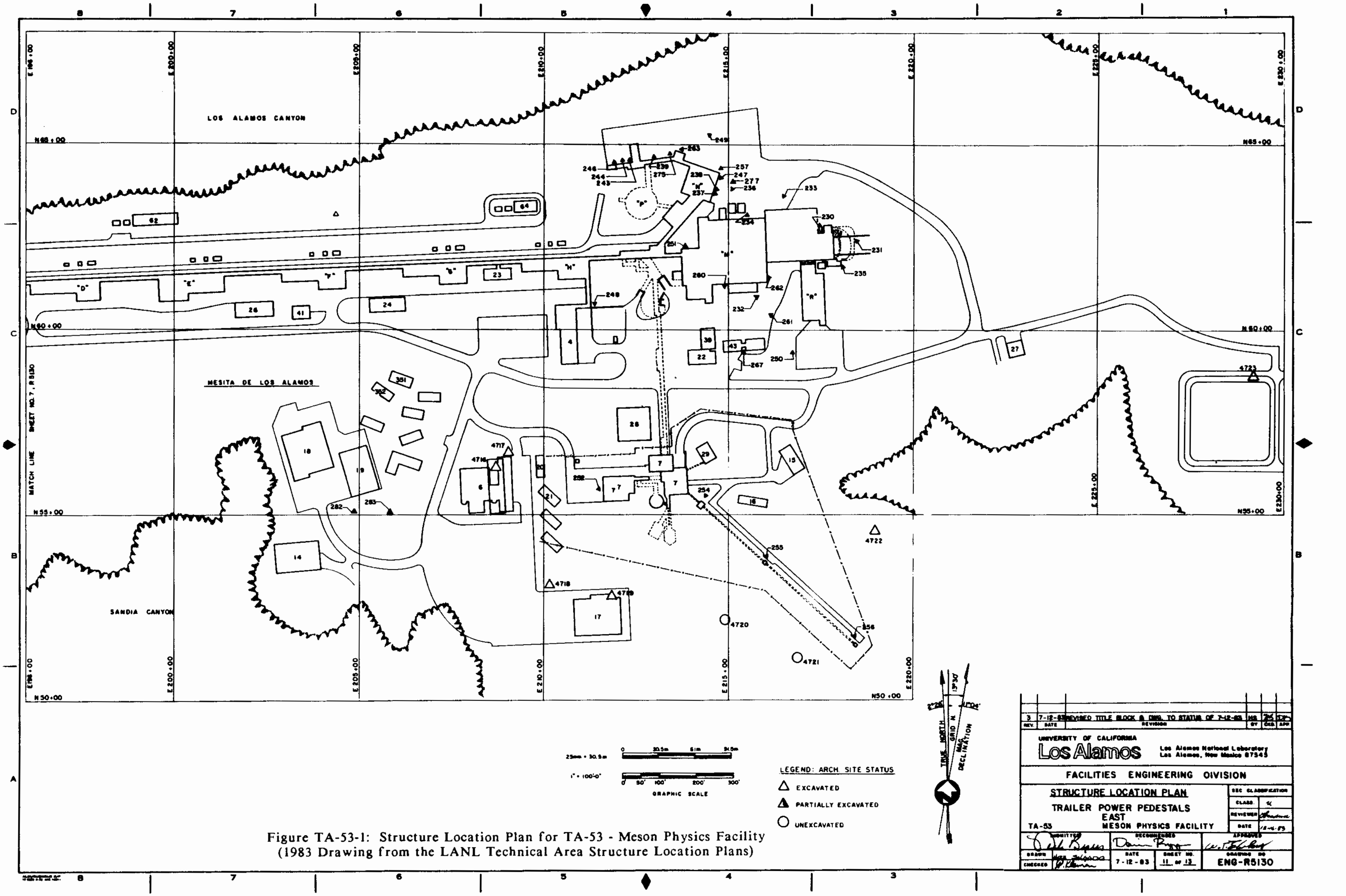


Figure TA-53-1: Structure Location Plan for TA-53 - Meson Physics Facility
(1983 Drawing from the LANL Technical Area Structure Location Plans)

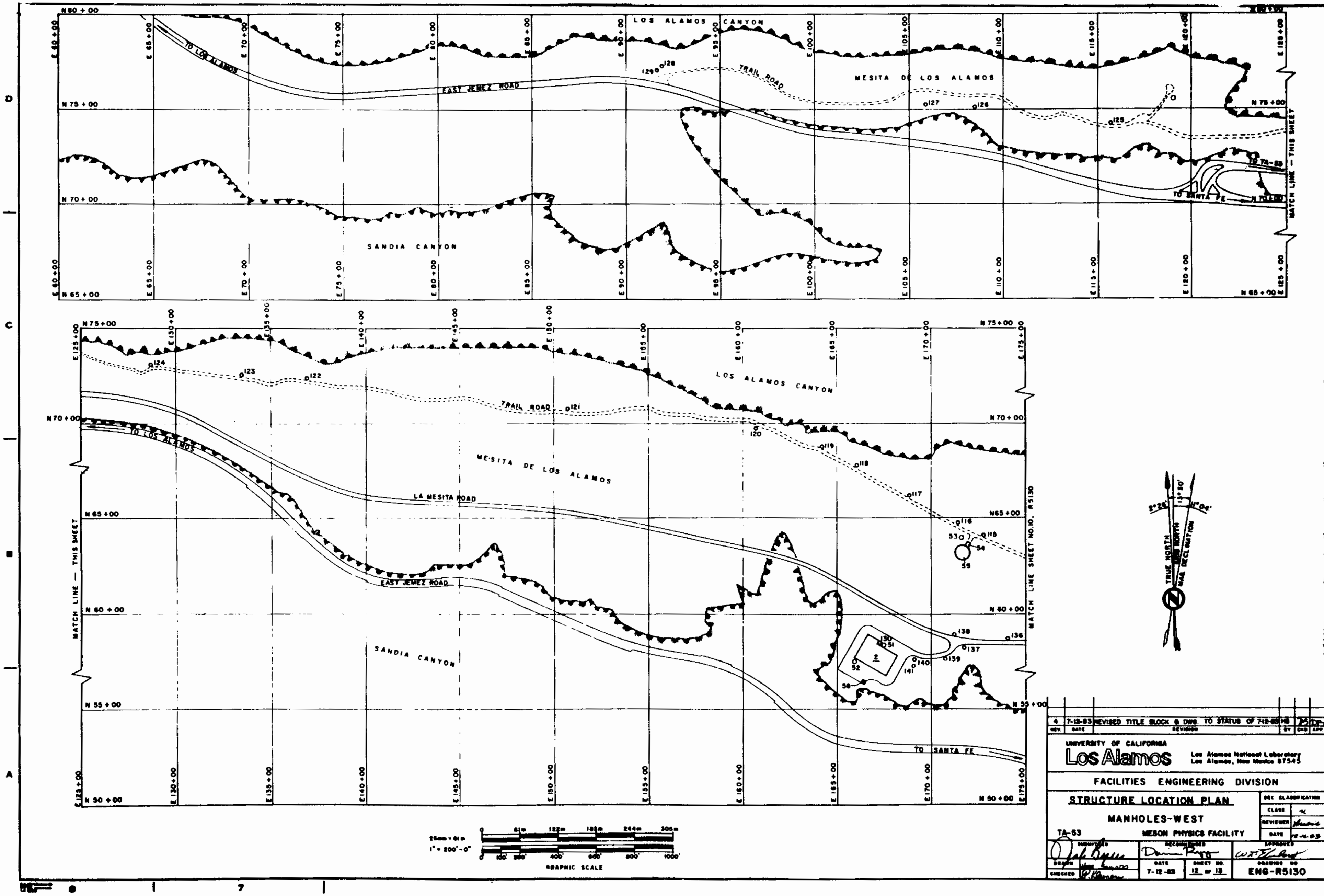


Figure TA-53-1: Structure Location Plan for TA-53 - Meson Physics Facility
(1983 Drawing from the LANL Technical Area Structure Location Plans)

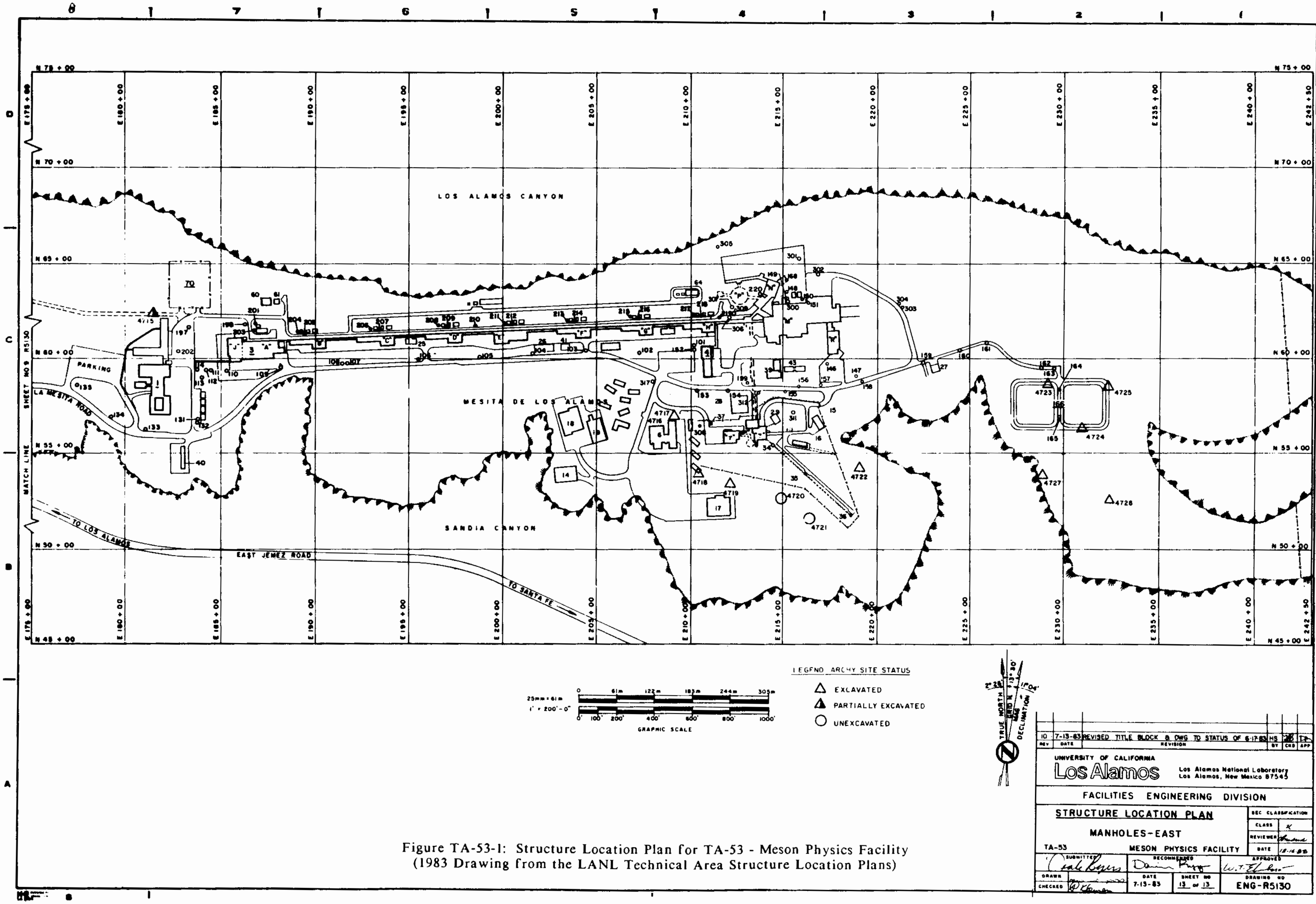


Figure TA-53-1: Structure Location Plan for TA-53 - Meson Physics Facility
(1983 Drawing from the LANL Technical Area Structure Location Plans)

TA-54 - WASTE DISPOSAL SITE

CURRENT OPERATIONS

TA-54 is composed of four waste handling/disposal areas: G, H, J, and L. Each of these areas is discussed separately under Material Disposal Areas.

POTENTIAL CERCLA/RCRA SITES

Material Disposal Areas G, H, J, and L are potential CERCLA/RCRA sites. The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigation will be documented in the CEARP Phase IIA Monitoring Plan for TA-54. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Scores for TA-54 are presented by Material Disposal Area (see Material Disposal Areas G, H, J, and L and Appendix B).

FIGURES

Figure TA-54-1: Structure Location Plan for TA-54 - Waste Disposal Site (1983)
Figure TA-54-2: Structure Location Plan for TA-54 - Waste Disposal Site (1972)

REFERENCE

Pan Am World Services, Inc. 1986. "Septic Tank Report," Los Alamos, NM, February 26, 1986.

TABLE TA-54 - POTENTIAL CERCLA/RCRA SITES

TA54-1-L-A-HW/RW (Landfills)

Background--TA-54 is the location for waste disposal and storage areas G, H, J, and L. These areas are discussed in detail under the appropriate waste disposal area in the Material Disposal Areas section.

CERCLA Finding--Positive for FFSDIF, PA, and PSI.

Planned Future Action--See Material Disposal Areas G, H, J, and L.

TA54-2-ST-A-HW/RW (Septic tanks)

Background--The technical area is served by two active septic tanks, TA-54-16 and an unnumbered tank. The overflow from TA-54-16 goes to a leach field, whereas the overflow from the unnumbered tank goes to a seepage pit (Pan Am 1986:8).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

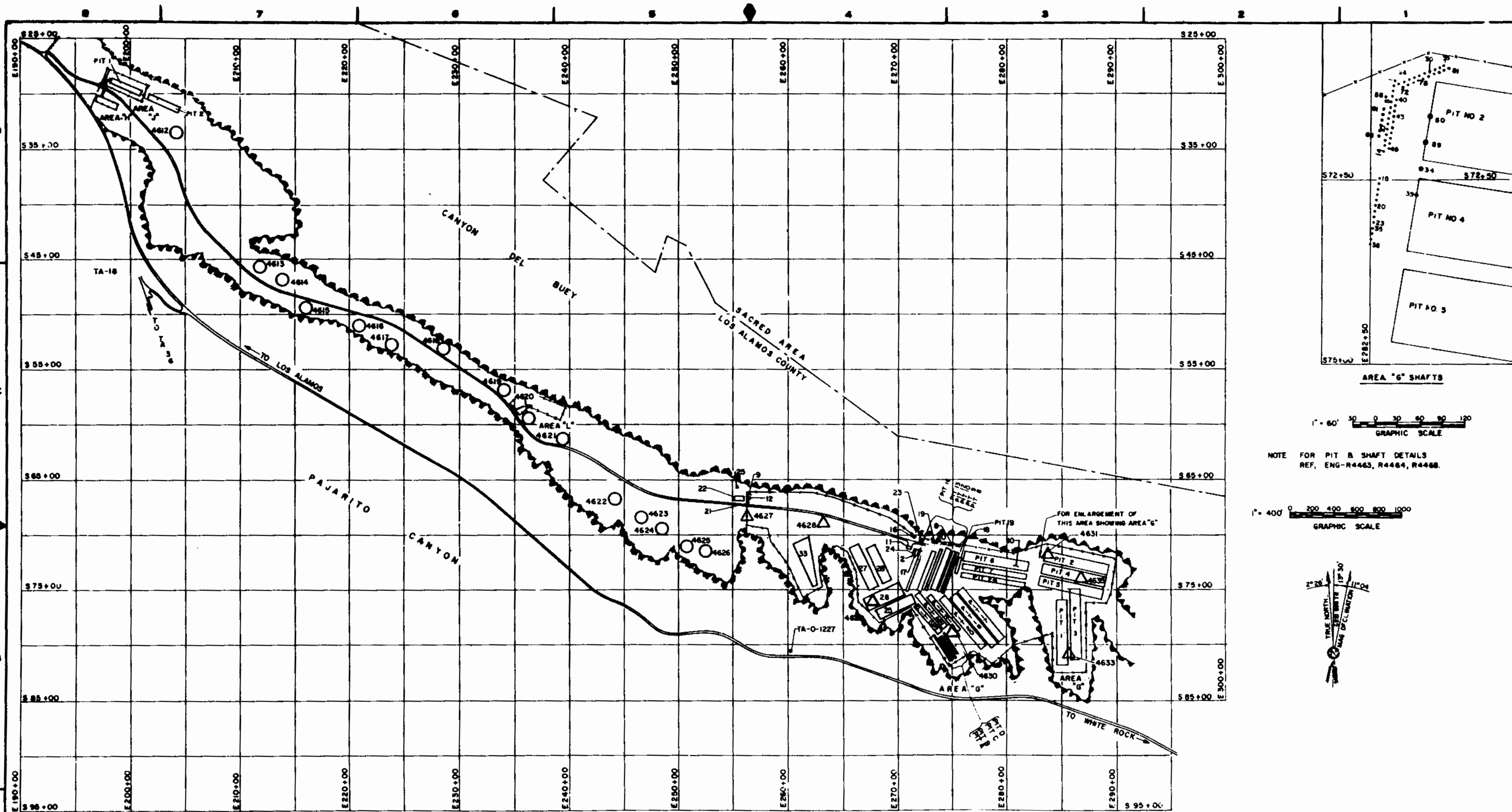
Planned Future Action--No further action is warranted under CEARP. The active septic systems are covered by routine LANL operations.

TA54-3-CA-A-HW/RW (Compactor)

Background--At TA-54 is a compactor for compacting the wastes, if necessary, before they are buried. Because radioactive wastes are being disposed of, the unit is contaminated.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No future action is warranted under CEARP. The active compactor is covered by routine LANL operations.



STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-54-2	MD-2	OPERATIONS BLDG.		S70+00 E270+00
TA-54-3	MD-3	TRANSFORMER STATION	NOT SHOWN	
TA-54-4	MD-4	TRANSFORMER STATION		S70+00 E270+00
TA-54-5	MD-5	TRANSFORMER STATION		S70+00 E270+00
TA-54-6	MD-6	TRANSFORMER STATION		S70+00 E275+00
TA-54-7	MD-7	TRANSFORMER STATION		S70+00 E280+00
TA-54-8	MD-8	CONTAMINATED DRUM STORAGE		S70+00 E275+00
TA-54-9	MD-9	TRANSFORMER STATION		S65+00 E255+00
TA-54-10	MD-10	METEOROLOGICAL TOWER		S75+00 E280+00
TA-54-11	MD-11	WASTE MANAGEMENT CTRL. FAC		S70+00 E270+00
TA-54-12	MD-12	CONSTRUCTION SHACK		S65+00 E255+00
TA-54-16	MD-16	SEPTIC TANK		S70+00 E270+00
TA-54-17	MD-17	HOT LIQUID HOLDING TANK		S70+00 E270+00
TA-54-18	MD-18	TANK, WATER		S70+00 E275+00
TA-54-19	MD-19	TANK, WATER U.G.		S70+00 E275+00

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-54-20	MD-20	EQUIPMENT SHELTER		S75+00 E275+00
TA-54-21	MD-21	SECURITY GATE		S70+00 E255+00
TA-54-22	MD-22	TRANSPORTABLE OFFICE BLDG.		S65+00 E256+00
TA-54-23	MD-23	TRAILER, STORAGE	FORMERLY TA-0-583	S75+00 E270+00
TA-54-24	MD-24	TRAILER, CHANGE ROOM	FORMERLY TA-0-670	S75+00 E270+00
TA-54-25	MD-25	BACKFLOW PREVENTER BLDG.		S70+00 E260+00
TA-0-1227	ULR-1227	BACKFLOW PREVENTER BLDG.		S80+00 E260+00

LEGEND: ARCHY SITE STATUS
△ EXCAVATED
○ UNEXCAVATED

REV	DATE	REVISION	BY	CKD	APP
7	8-8-83	REVISED TITLE BLOCK & DWG TO STATUS OF 8-2-83	HS		

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FACILITIES ENGINEERING DIVISION

STRUCTURE LOCATION PLAN
TA-54 WASTE DISPOSAL SITE

SEC CLASSIFICATION | CLASS X | REVIEWER | DATE

SUBMITTED | RECOMMENDED | APPROVED
DRAWN | CHECKED
DATE 8-8-83 | SHEET NO 1 OF 1 | DRAWING NO ENG-R5131

Figure TA-54-1: Structure Location Plan for TA-54 - Waste Disposal Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

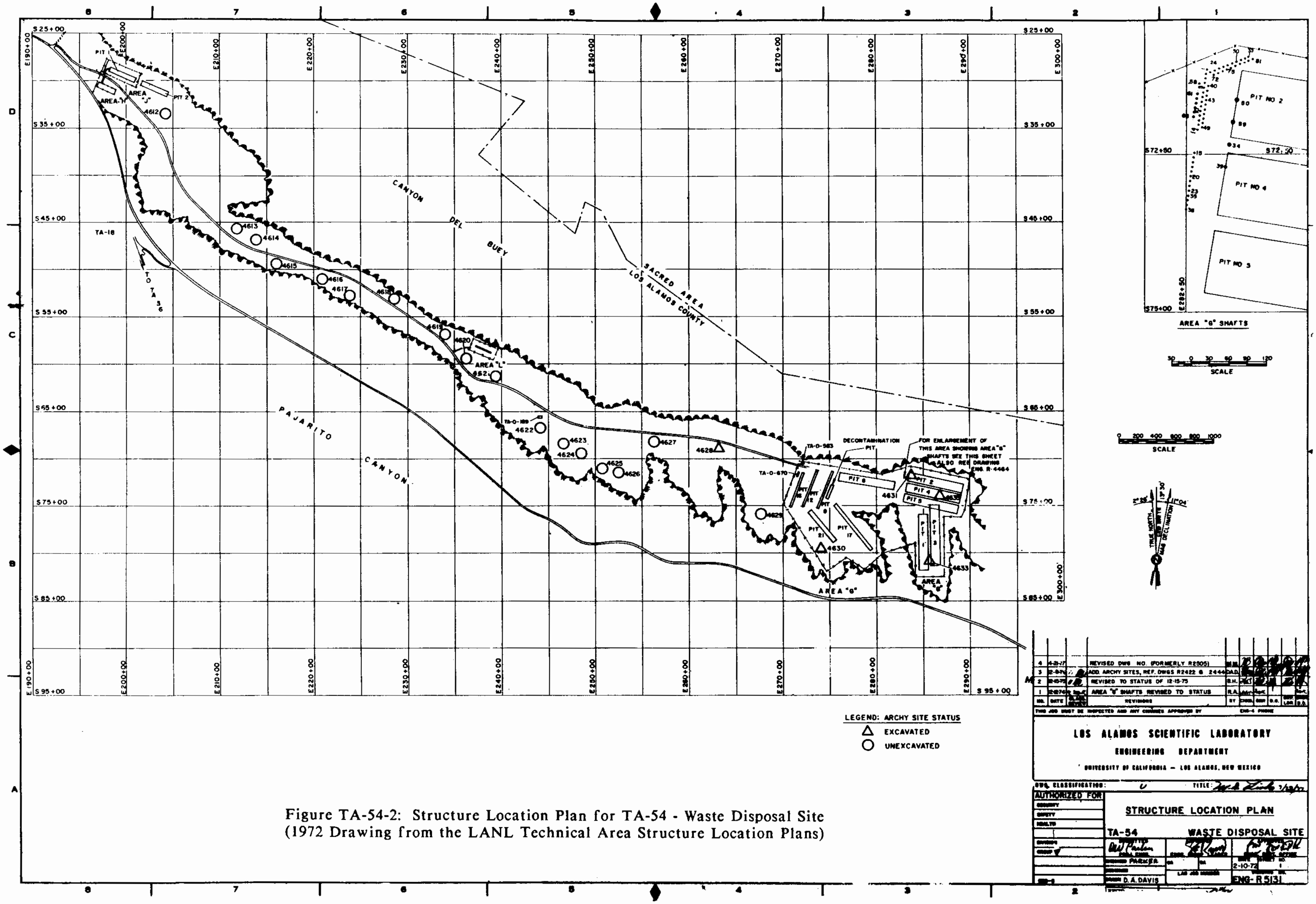


Figure TA-54-2: Structure Location Plan for TA-54 - Waste Disposal Site (1972 Drawing from the LANL Technical Area Structure Location Plans)

TA-55 - PLUTONIUM PROCESSING FACILITY

CURRENT OPERATIONS

TA-55 was constructed in the 1970s to consolidate and update plutonium handling operations that were being done at TA-21. It was first occupied in 1977, and all plutonium operations from TA-21 had been transferred by January 1978. The facility has had the following functions: (1) preparation of ultrapure plutonium metal, alloys, and compounds; (2) large-scale preparation of certain specific alloys; (3) metal machining and fabrication to form these materials into specific shapes; (4) determination of high-temperature thermodynamic and physical properties of plutonium; (5) reclamation of plutonium scrap; (6) production of plutonium-238 heat sources; and (7) fabrication of plutonium-uranium fuels for breeder reactors; and (8) research and development of isotope separation programs.

The major activities at the present time are fabricating plutonium metal components and processing plutonium, including scrap metal recovery and purification to pure metal. Although the facility was originally designed only for research and development, it has been needed in recent years for back-up production of purified plutonium.

POTENTIAL CERCLA/RCRA SITES

Because this is a relatively new site at Los Alamos National Laboratory, modern facilities and better documentation have prevented much of the possible contamination that occurred at the older and longer used technical areas. Some moderate contamination of building PF-4 by transuranics has been documented. Additionally, residual solvent contamination has been observed in the environment.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the

CEARP Phase IIA Monitoring Plan for TA-55. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. The HRS/MHRS Migration Mode Score for TA-55 is 16.8 (Appendix B).

FIGURES

REFERENCES

Balo, K. A. and J. L. Warren. 1986. "Waste Management Site Plan," Los Alamos National Laboratory report LA-UR-86990, March 1986.

Emelity, L. A. 1982. "Monthly Achievement Report for October 1982, Group H-7," Los Alamos National Laboratory memorandum to Jesse Aragon, October 15, 1982.

LASL. 1979. "Radioactive Waste Management Site Plan," Los Alamos Scientific Laboratory document, September 1979.

Schmidt, Ralph A. 1984. "Trace Organic Solvents in Core Drilling at TA-55," Los Alamos National Laboratory memorandum, October 15, 1984.

TABLE TA-55 - POTENTIAL CERCLA/RCRA SITES

TA55-1-CA-A-HW/RW (Ducts, glovebox lines, pumps, chilled water, and associated systems)

Background--Currently, the major work at TA-55 is in the recovery and fabrication of plutonium, recovery of americium, and in studies of transuranics. The glovebox lines and associated facilities are located in building 4, which is listed as being moderately contaminated with transuranics (Balo and Warren 1986:60). From time to time, spills occur, but they are cleaned up.

Several support buildings are associated with the Plutonium Processing Facility, including TA-55-1, administration; TA-55-2, offices; TA-55-3, support; TA-55-5, warehouses; TA-55-6, utility; TA-55-7, calcium; TA-55-8, generator; and TA-55-28, nuclear materials. No radionuclides are processed in these buildings.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active facilities are covered by routine LANL operations.

TA55-2-CA/S-A-HW/RW (Sumps and drain lines)

Background--All sanitary waste goes to the lagoons at TA-35. The industrial complex has three active waste lines that discharge to the TA-50-66 pits. The lines are double stainless steel encased in polyvinyl chloride. These lines have a system to detect leaks into the outer steel pipe. Since the facility began to operate, the staff reported that there have been no leaks. A 1982 memo mentioned unmeasured leaks in the negative chilled water systems that were discharging to the process waste lines. The memo also mentioned the overflow from scrubbers discharged into the industrial waste system (Emelity 1982).

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active systems are covered by routine LANL operations.

TA55-3-IN-A-HW/RW (Incinerator)

Background--A small glovebox-type incinerator is operated as part of the recovery process.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active incinerator is covered by routine LANL operations

TA55-4-CA-A-HW/RW (Storage)

Background--During the 1986 CEARP field survey, empty drums of hydrogen peroxide, several unmarked drums that may have been empty, and a few drums marked "trash" were seen. No leaking drums were observed. Additionally, an open storage yard was observed to the northwest of building 4. The yard contained some items marked alpha-contaminated.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active storage areas are covered by routine LANL operations.

TA55-5-UST-A-PP (Diesel storage tanks)

Background--Engineering drawing ENG-R5132 shows three underground fuel tanks, TA-55-15, -16, and -17, at TA-55. During the field survey, they were observed to still be in place. In addition diesel tank TA-55-PF-97 is in use and tank TA-55-M-4 is in place but presently empty.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active tanks are covered by routine LANL operations.

TA55-6-CA-I-PP (Solvent spills)

Background--In 1984, methyl ethyl ketone and other organic solvents were observed to be present in core samples taken during drilling at the southwest side of building 4. The construction of TA-55 was reviewed and the area on the west side of building 4 next to room 401 was observed to have been contaminated with organic paint solvents. The soil that was contaminated with solvents was later covered with asphalt pavement (Schmidt 1984).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I the extent of residual environmental contamination from past spills will be determined.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-55-1	PF-1	ADMINISTRATION BUILDING		N35+00 E85+00
TA-55-2	PF-2	SUPPORT OFFICE BUILDING		N35+00 E82+50
TA-55-3	PF-3	SUPPORT BUILDING		N35+00 E82+50
TA-55-4	PF-4	PLUTONIUM BUILDING		N37+50 E80+00
TA-55-5	PF-5	WAREHOUSE		N35+00 E85+00
TA-55-6	PF-6	UTILITY BUILDING		N37+50 E82+50
TA-55-7	PF-7	CALCIUM BUILDING		N37+50 E82+50
TA-55-8	PF-8	GENERATOR BUILDING		N37+50 E82+50
TA-55-9	PF-9	GUARD STATION		N35+00 E85+00
TA-55-10	PF-10	PUMP HOUSE		N35+00 E87+50
TA-55-11	PF-11	PUMP HOUSE		N37+50 E77+50
TA-55-12	PF-12	WATER TANK		N35+00 E87+50
TA-55-13	PF-13	WATER TANK		N35+00 E85+00
TA-55-14	PF-14	WATER TANK		N37+50 E77+50
TA-55-15	PF-15	DIESEL TANK, U.G		N35+00 E87+50
TA-55-16	PF-16	DIESEL TANK, U.G.		N37+50 E77+50
TA 55-17	PF-17	DIESEL TANK, U.G.		N37+50 E82+50
TA-55-18	PF-18	CANOPY		N37+50 E82+50
TA-55-19	PF-19	COMPRESSED GAS TRAILER STA.		N40+00 E82+50
TA-55-20	PF-20	COVERED PASSAGEWAY		N35+00 E82+50
TA-55-21	PF-21	UTILIDOR		N37+50 E82+50
TA-55-22	PF-22	VEHICLE MONITORING STATION		N35+00 E85+00
TA-55-27	PF-27	FLAG POLE		N32+50 E87+50
TA-55-28	PF-28	NUCLEAR MATERIALS BUILDING		N35+00 E87+50
TA-55-41	PF-41	NUCLEAR MATERIALS STORAGE		N35+00 E77+50
TA 55-42	PF-42	PROCESS SUPPORT BUILDING		N40+00 E80+00
TA 55 43	PF-43	ASSESSMENT BUILDING		N40+00 E80+00
TA-55-47	PF-47	GENERATOR BUILDING		N40+00 E80+00
TA 55-48	PF-48	GUARD TOWER		N37+50 E75+00
TA 55-49	PF-49		CANCELLED	
TA-55-53	PF-53	CEMENT STORAGE SILO	FORMERLY TA-21-191	N37+50 E80+00
TA-55-54	PF-54	RADIO TOWER		N37+50 E77+50
TA-55 70	PF-70	MANHOLE, ELECTRICAL		N35+00 E80+00
TA-55-71	PF-71	MANHOLE, MONITORING		N37+50 E85+00
TA-55-72	PF-72	MANHOLE, SANITARY		N37+50 E85+00
TA-55-73	PF-73	MANHOLE, SANITARY		N37+50 E85+00
TA-55-74	PF-74	MANHOLE, SANITARY		N35+00 E87+50
TA-55-75	PF-75	MANHOLE, SANITARY		N35+00 E87+50
TA-55-76	PF-76	MANHOLE, TELEPHONE		N32+50 E82+50
TA-55-77	PF-77		REMOVED 1985	
TA-55-78	PF-78	CATCH BASIN		N35+00 E80+00
TA-55-79	PF-79	CATCH BASIN		N37+50 E77+50
TA-55-80	PF-80		REMOVED 1985	
TA-55-81	PF-81	CATCH BASIN		N40+00 E82+50
TA-55-82	PF-82	CATCH BASIN		N37+50 E82+50
TA-55-83	PF-83	CATCH BASIN		N37+50 E85+00
TA-55-84	PF-84	MANHOLE, SANITARY		N35+00 E90+00
TA-55-90	PF-90		REMOVED 1976	
TA 55-91	PF 91		REMOVED 1976	
TA-55-92	PF-92		REMOVED 1976	
TA-55-93	PF-93		REMOVED 1976	
TA 55-94	PF-94		REMOVED 1976	
TA-55-95	PF-95	MANHOLE, ELECTRICAL		N37+50 E85+00
TA-55-96	PF-96	CATCH BASIN		N35+00 E80+00
TA-55-97	PF-97		REMOVED 1980	
TA-55-98	PF-98		CANCELLED	
TA-55-99	PF-99		CANCELLED	
TA-55-102	PF-102	MANHOLE, ACID		N40+00 E82+50
TA-55-103	PF-103	MANHOLE, ACID		N37+50 E85+00
TA-55-107	PF-107	TRAILER, OFFICE		N37+50 E85+00
TA-55-108	PF-108	TRAILER, OFFICE		N40+00 E80+00
TA-55-109	PF-109	TRAILER, OFFICE	RELOCATED TO TA-53-561	

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV	DATE	REVISION	BY	CKD	APP
3	7-21-86	REDRAWN & REVISED TO STATUS OF 7-17-86	NB		

Los Alamos

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-55 PLUTONIUM PROCESSING FACILITY

DRAWN N. BYERS | DATE 7-21-86 | SHEET NO 1 OF 2 | DRAWING NO ENG-R5132

Figure TA-55-1: Structure Location Plan for TA-55 - Plutonium Processing Facility (1986 Drawing from the LANL Technical Area Structure Location Plans)

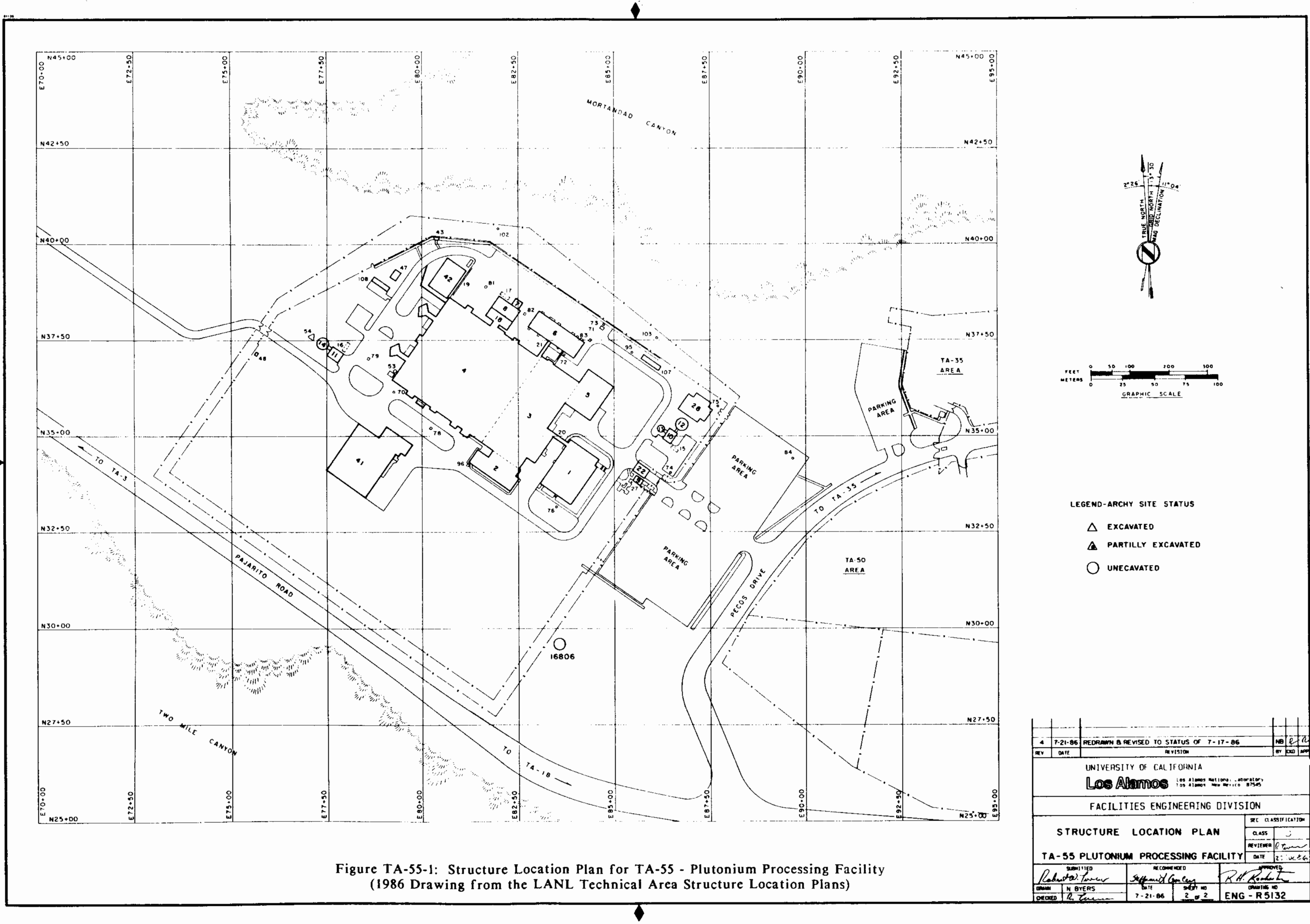


Figure TA-55-1: Structure Location Plan for TA-55 - Plutonium Processing Facility
(1986 Drawing from the LANL Technical Area Structure Location Plans)

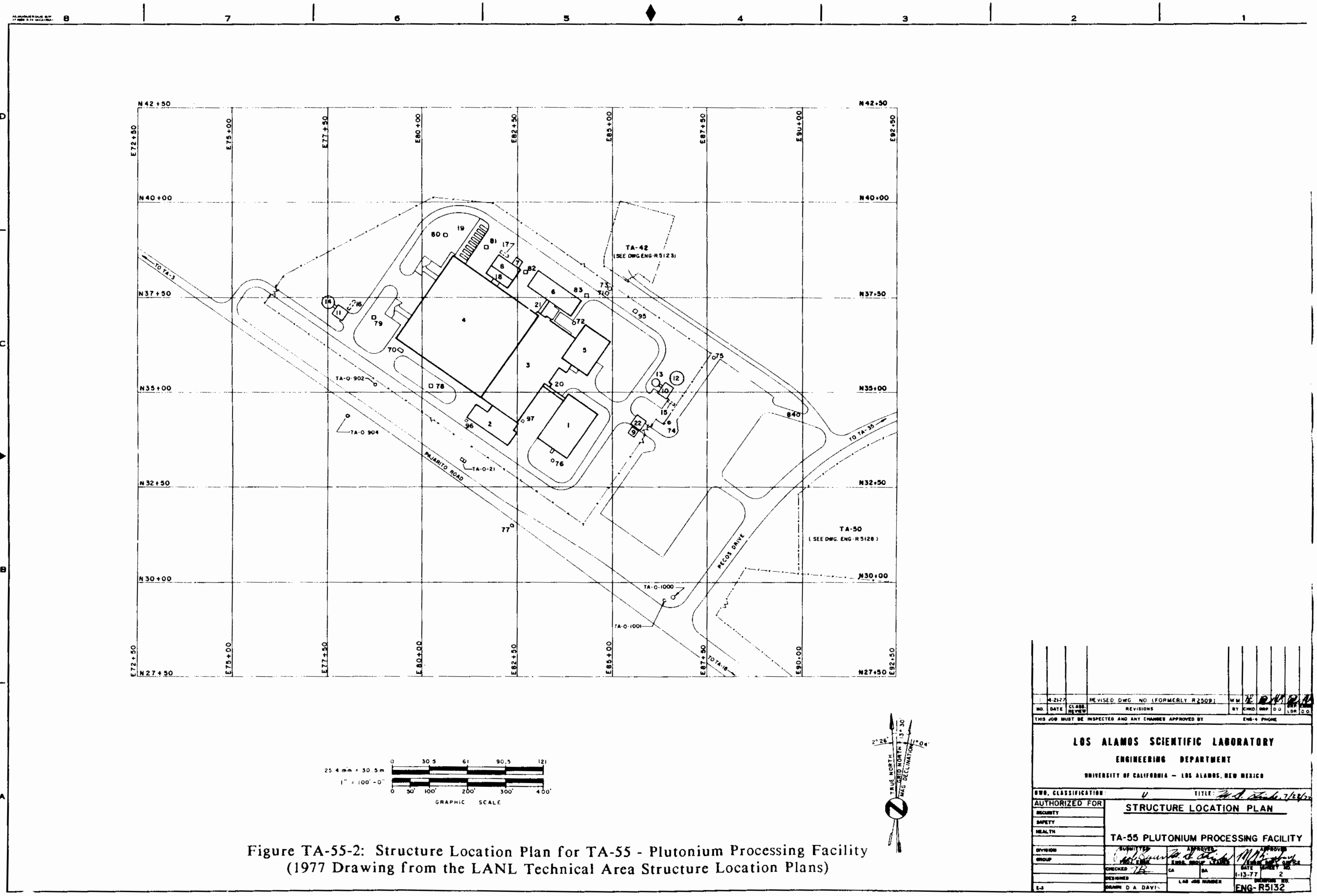


Figure TA-55-2: Structure Location Plan for TA-55 - Plutonium Processing Facility
(1977 Drawing from the LANL Technical Area Structure Location Plans)

TA-56 - SUBTERRENE BASALT SITE

CURRENT OPERATIONS

There are no current operations at this site.

POTENTIAL CERCLA/RCRA SITES

The site, located in Ancho Canyon, was used in the early 1970s for a subterrene program that attempted to substitute melting for drilling to penetrate rock (LASL 1971: 1-6). In the experimental tests, electricity was used for the heat source. In a field test, basalt was melted in Ancho Canyon. An employee who worked at the site indicated that several holes were formed by melting and that the deepest was about 100 ft. The penetrator was heated electrically by using a generator at the site and was held in place by a rig assembly. The penetrator may have left a very small amount of molybdenum on the sides of the holes. During the 1986 CEARP field survey, two basalt cores encased in cement were seen on the ground. One core hole in the basalt underlying the site is capped off and locked.

No potential CERCLA/RCRA sites are identified. No further action is warranted under CEARP.

FIGURES

None available.

REFERENCE

LASL. 1971. "The Atom," Vol. 8, No. 10, Los Alamos Scientific Laboratory document, December 1971.

TA-57 - FENTON HILL SITE

CURRENT OPERATIONS

TA-57 is located on the western flank of the Valles Caldera, approximately 20 air miles west of Los Alamos. The site encompasses about 20 acres of U. S. Forest Service land adjacent to NM 126 and contains several portable buildings and trailers to house personnel and equipment needed to conduct research on developing hot dry rock (HDR) geothermal energy.

The HDR Geothermal Energy Development Program was established at Los Alamos in 1973. The world's first HDR energy system was completed in 1977 in granitic rock at depths of around 8,500 ft at Fenton Hill, N.M. It was enlarged in 1979 and operated successfully for more than a year, producing hot water at about 135 C and heat at rates up to 5 million thermal watts. During 1986, a successful test of the world's first high-temperature HDR system demonstrated that such systems can be constructed and operated to produce fluids at temperatures suitable to commercially generate electricity. The principal purpose of the 1-month test was to determine the important system parameters for a much longer flow test scheduled to begin in 1987 and to last a full year.

POTENTIAL CERCLA/RCRA SITES

The drilling operations at this site use conventional drilling mud as the circulation fluid to carry cuttings away from the drill bit and out of the hole. The mud pits are usually removed after drilling operations; however the degree of cleanup and residual hazardous substances left in the environment are unknown. The drilling mud and cuttings from the site are now disposed of at locations on Forest Service and private land. Whether hazardous substances remain at these pits is not known. The mud pits and disposal pits are the sites of major concern, although outfalls must be investigated as well.

The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the

CEARP Phase IIA Monitoring Plan for TA-57. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA Site. The HRS Migration Mode Score for TA-57 is 14.6 (Appendix B).

FIGURES

Figure TA-57-1: Structure Location Plan for TA-57 - Fenton Hill Site (1983)
Figure TA-57-2: Structure Location Plan for TA-57 - Fenton Hill Site (1977)

REFERENCES

None.

TABLE TA-57 - POTENTIAL CERCLA/RCRA SITES

TA57-1-CA-A-HW (Operational releases)

Background--The operations at Fenton Hill focus on research and development of methodologies for extracting useful energy from HDR geothermal reservoirs. This work results in drilling operations deep into granitic basement rock and testing manmade fluid circulation systems. None of these operations typically result in continuous release of effluents to the environment. The only releases seen are the periodic releases of water down the canyon and the disposal of cuttings and drilling mud.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. Operational releases are covered by routine LANL operations.

TA57-2-CA-A-HW (Drilling mud pits)

Background--Drilling the deep wells into basement granitic rock requires using conventional oil drilling rigs. These drilling operations use conventional drilling mud as the circulation fluid to carry cuttings away from the drill bit and out of the hole. These mud pits are typically removed following drilling operations; however, the degree of cleanup and the residual hazardous substances left in the environment from these operations are unknown. Suspect hazardous substances at these locations include arsenic, cadmium, boron, lithium, and fluorine.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active mud pits and surrounding areas are covered by routine LANL operations.

TA57-3-O-A-HW (Outfall)

Background--The medium used to extract heat from the HDR reservoir is water. An aquifer is at about 450 ft deep at the site; however, this supply is not adequate to fill the HDR system initially within necessary time frames. Therefore, a 5.7-million-gal. pond was constructed onsite to provide large quantities of water when needed. Because this water is reused in the system for a variety of circulation tests, it becomes less and less pure and the bottom of the pond fills with sediments. Infrequent discharges to the environment are made from the pond to allow maintenance of the pond and putting in fresh water.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active outfall is covered by routine LANL operations.

TA57-4-L-I-HW (Disposal areas for geothermal investigations)

Background--Drilling mud and cuttings from the Fenton Hill Site have been disposed of at locations on both Forest Service property and on private property owned by C & J Construction Company. The hazardous substances that may remain in the environment at these locations are unknown.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--During supplemental Phase I, samples will be taken at the locations where the drilling mud and cuttings were disposed of to determine the extent of residual environmental contamination.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-57-1	FHS-1	BORE HOLE EE-1	INSIDE FHS-4	N1776250 E374500
TA-57-2	FHS-2	BORE HOLE GT-2	INSIDE FHS-3	N1776000 E374500
TA-57-3	FHS-3	WORKOVER TOWER		N1776000 E374500
TA-57-4	FHS-4	WORKOVER TOWER		N1776250 E374500
TA-57-5	FHS-5	TANK, PROPANE	REMOVED 1979	
TA-57-6	FHS-6	TANK, WATER		N1776250 E374750
TA-57-7	FHS-7	WATER WELL BLDG.		N.776000 E374750
TA-57-8	FHS-8	PORTABLE PUMPHOUSE, WTR		N1776250 E374500
TA-57-9	FHS-9	SURGE TANKS	REMOED 1979	
TA-57-10	FHS-10	HEAT EXCHANGER		N1776250 E374750
TA-57-11	FHS-11	TANK, WATER	REMOVED 1979	
TA-57-12	FHS-12	STORAGE TANK	REMOVED 1979	
TA-57-13	FHS-13	STORAGE SHED		N1775750 E374500
TA-57-14	FHS-14	STORAGE SHED	DESTROYED 1982	
TA-57-15	FHS-15	STORAGE SHED		N1776250 E374500
TA-57-16	FHS-16	STORAGE SHED	REMOVED 1980	
TA-57-17	FHS-17	SHOP & OFFICE BLDG.		N1776000 E374250
TA-57-18	FHS-18	WAREHOUSE		N1775750 E374250
TA-57-19	FHS-19	DAT COMPUTER BLDG.	FORMERLY TA-0-737	N1776250 E375000
TA-57-20	FHS-20	TRAILER, OFICE	FORMERLY TA-0-441	N1776250 E374500
TA-57-22	FHS-22	TRAILER, CONTROL	FORMERLY TA-0-684	N1776000 E374750
TA-57-23	FHS-23	TRAILER, CHEMICAL	FORMERLY TA-0-690	N1776000 E374750
TA-57-24	FHS-24	TRAILER, HYDRO	FORMERLY TA-0-691	N1776250 E374500
TA-57-25	FHS-25	TRAILER, SHOP	FORMERLY TA-0-692	NOT SHOWN
TA-57-26	FHS-26	TRAILER, OFFICE	FORMERLY TA-0-730	N1776000 E374250
TA-57-27	FHS-27	TRAILER, OFFICE	FORMERLY TA-0-731	N1776200 E374750
TA-57-28	FHS-28	TRAILER, SLEEPER	FORMERLY TA-0-732	N1775750 E374000
TA-57-29	FHS-29	TRAILER, SLEEPER	FORMERLY TA-0-733	N1775750 E374000
TA-57-31	FHS-31	TRAILER, OFF-SHORE RIG	FORMERLY TA-0-686	N1776250 E374500
TA-57-32	FHS-32	TRAILER, OFF-SHORE RIG	FORMERLY TA-0-687	N1775750 E374500
TA-57-33	FHS-33	TURBINE GENERATOR		N1776250 E374750
TA-57-34	FHS-34	SUPERCHARGERS		N1776250 E374750
TA-57-35	FHS-35	STORAGE SHED		N1776250 E374500
TA-57-36	FHS-36	STORAGE SHED		N1776000 E374750
TA-57-37	FHS-37	WATER WELL PUMPHOUSE		N1776000 E374500
TA-57-38	FHS-38	FIRE BARN		N1775750 E374500
TA-57-39	FHS-39	METEOROLOGICAL BLDG.		N1775750 E374500
TA-57-40	FHS-40	SEWAGE LIFT STATION		N1775750 E374250
TA-57-41	FHS-41	PUMPHOUSE		N1775500 E374750
TA-57-42	FHS-42	BORE HOLE EE-2	INSIDE FHS-43	N1776250 E374500
TA-57-43	FHS-43	WORKOVER TOWER		N1776250 E374500
TA-57-44	FHS-44	BORE HOLE EE-3	INSIDE FHS-45	N1776250 E374250
TA-57-45	FHS-45	WORKOVER TOWER		N1776250 E374250
TA-57-46	FHS-46	TRANSFORMER STATION		N1776250 E374750

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION

REV.	DATE	REVISION	BY	LKD.	APP.
26	8-31-83	REVISED TITLE BLOCK & DWG TO STATUS OF 8-9-83	RDS		

UNIVERSITY OF CALIFORNIA
Los Alamos
LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO 87545

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
TA-57 FENTON HILL SITE

SEC. CLASSIFICATION — CLASS. 4 — REVIEWER — DATE 11 2 83

SUBMITTED — RECOMMENDED — APPROVED
DRAWN RDS — CHECKED
DATE 8-31-83 — SHEET NO. 1 OF 2 — DRAWING NO. ENG-R5133

Figure TA-57-1: Structure Location Plan for TA-57 - Fenton Hill Site (1983)
(1983 Drawing from the LANL Technical Area Structure Location Plans)

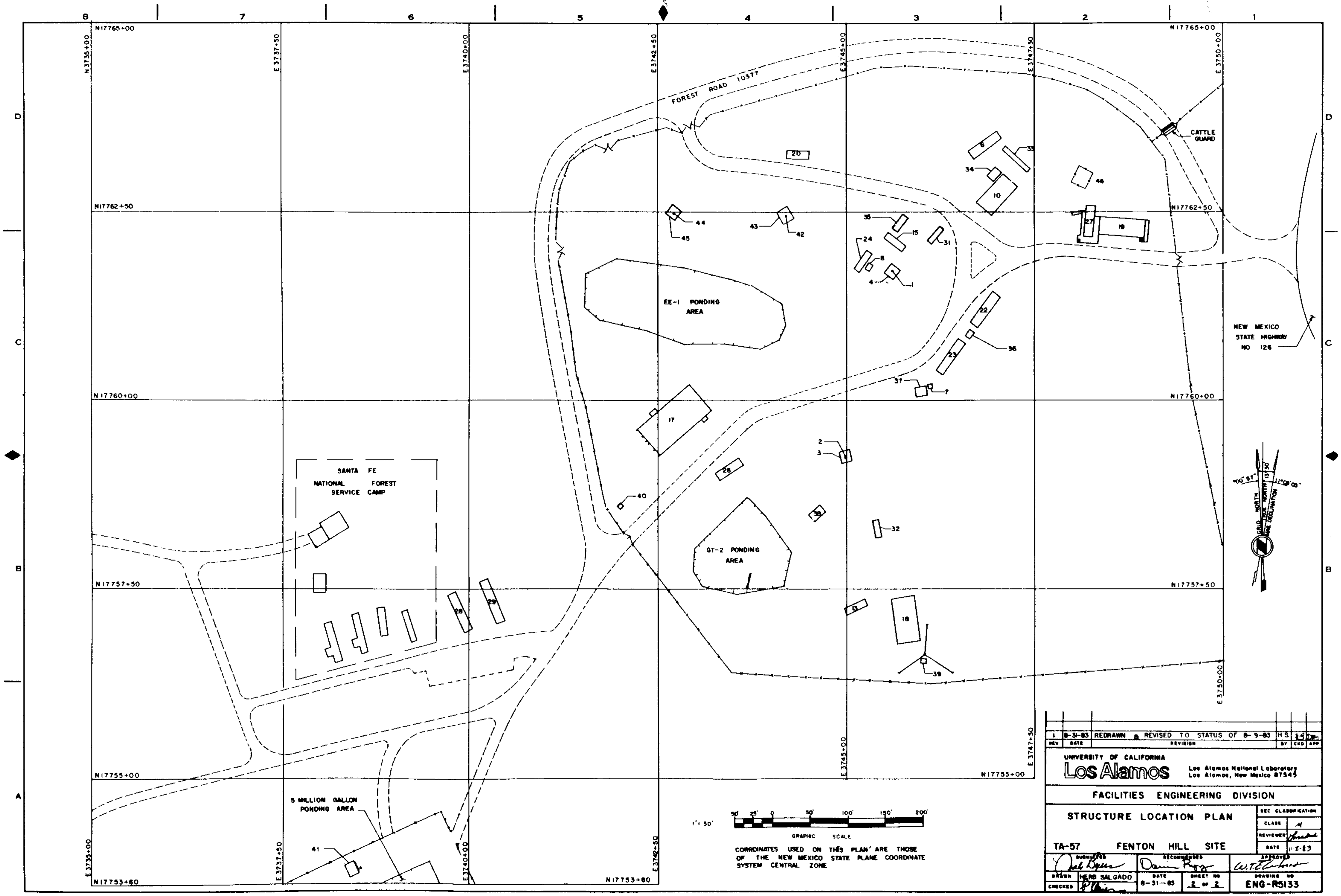


Figure TA-57-1: Structure Location Plan for TA-57 - Fenton Hill Site (1983)
(1983 Drawing from the LANL Technical Area Structure Location Plans)

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION	
TA-57-1	FHS-1	TEST HOLE EE-1	INSIDE FHS-4	N1776250	E374500
TA-57-2	FHS-2	TEST HOLE GT-2	INSIDE FHS-3	N1776000	E374500
TA-57-3	FHS-3	WORKOVER TOWER		N1776000	E374500
TA-57-4	FHS-4	WORKOVER TOWER		N1776250	E374500
TA-57-5	FHS-5	PROPANE TANK		N1775750	E374500
TA-57-6	FHS-6	WATER TANK		N1776000	E374500
TA-57-7	FHS-7	PUMPHOUSE		N1776000	E374500
TA-57-8	FHS-8	PUMPHOUSE		N1776250	E374500
TA-57-9	FHS-9	SURGE TANKS		N1776250	E374750
TA-57-10	FHS-10	HEAT EXCHANGER		N1776250	E374750
TA-57-11	FHS-11	WATER TANK		N1776000	E374750
TA-57-12	FHS-12	STORAGE TANK		N1776250	E374500
TA-57-13	FHS-13	STORAGE SHED		N1775750	E374500
TA-57-14	FHS-14	STORAGE SHED		N1775750	E374500
TA-57-15	FHS-15	STORAGE SHED		N1776250	E374500
TA-57-16	FHS-16	STORAGE SHED		N1776250	E374500
TA-57-17	FHS-17				
TA-57-18	FHS-18				
TA-57-19	FHS-19				
TA-57-20	FHS-20				
TA-0-441	ULR-441	OFFICE TRAILER		N1776000	E374500
TA-0-443	ULR-433	SLEEPER TRAILER		N1775750	E374500
TA-0-444	ULR-444	OFFICE TRAILER		N1776250	E374500
TA-0-449	ULR-449	KITCHEN TRAILER		N1775750	E374500
TA-0-684	ULR-684	CONTROLL TRAILER		N1776000	E374750
TA-0-685	ULR-685	SLEEPER TRAILER		N1775750	E374500
TA-0-686	ULR-686	OFF-SHORE RIG TRLR		N1775750	E374500
TA-0-687	ULR-687	OFF-SHORE RIG TRLR		N1776250	E374500
TA-0-688	ULR-688	INSTRUMENT TRAILER		N1775750	E374500
TA-0-689	ULR-689	TRAILER, ELEC ASSY		N1775750	E374500
TA-0-690	ULR-690	CHEMICAL TRAILER		N1776000	E374750
TA-0-691	ULR-691	HYDRO TRAILER		N1776250	E374500
TA-0-692	ULR-692	TRAILER, MACHINE SHOP		N1776000	E374500

COORDINATES USED ON THIS PLAN ARE THOSE OF THE NEW MEXICO STATE PLANE COORDINATE SYSTEM (NMSP) (CENTRAL ZONE)

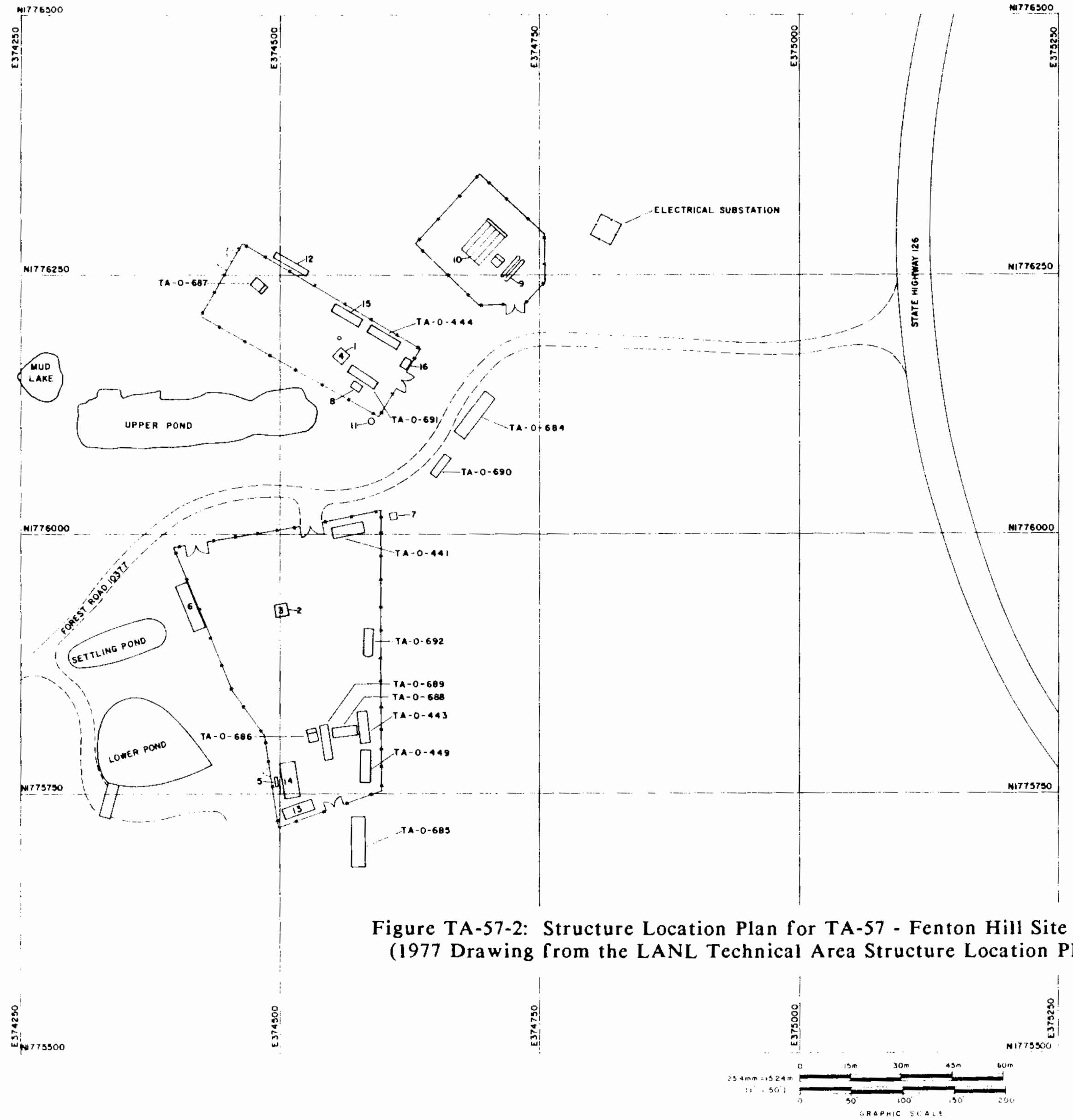
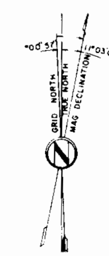


Figure TA-57-2: Structure Location Plan for TA-57 - Fenton Hill Site (1983)
(1977 Drawing from the LANL Technical Area Structure Location Plans)



LOS ALAMOS SCIENTIFIC LABORATORY
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UNIVERSITY OF CALIFORNIA — LOS ALAMOS NEW MEXICO

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SECURITY
SAFETY
HEALTH
DIVISION
GROUP

STRUCTURE LOCATION PLAN

TA-57 FENTON HILL SITE

ENG-R5133

TA-58 - TWO-MILE NORTH SITE

CURRENT OPERATIONS

TA-58 is a proposed technical area.

POTENTIAL CERCLA/RCRA SITES

No potential CERCLA/RCRA sites are identified. No further action is warranted under CEARP.

TA-59 - OH SITE

CURRENT OPERATIONS

TA-59, constructed in the mid-1960's, is occupied by groups in the Health, Safety, and Environment Division including the Environmental Surveillance Group (HSE-8), the Industrial Hygiene Group (HSE-5), most of the Health and Environmental Chemistry Group (HSE-9), and the Epidemiology Group (HSE-14). TA-59-1 contains a number of chemistry and radiological counting laboratories. Samples include employee bioassay samples, such as urine, and environmental samples of soil, water, vegetation, animals, and foodstuffs. The other buildings contain offices and several electronics laboratories.

POTENTIAL CERCLA/RCRA SITES

TA-59, which was built in the mid-1960s, was served by a septic tank until 1979. Its drainage field could have handled hazardous wastes. The following table presents what is known about potential CERCLA/RCRA sites at this location. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plan for TA-59. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI, for each potential CERCLA/RCRA Site. There is not sufficient information to calculate a HRS/MHRS Migration Mode Score for TA-59.

FIGURES

REFERENCES

LASL. 1966a. "New Address for H-5 and H-8," Los Alamos Scientific Laboratory, *The Atom*, Vol. 3, No. 4, April 1966.

LASL. 1966b. "Technical Area Structure Number Assignments," Los Alamos Scientific Laboratory internal document, February 21, 1966.

TABLE TA-59 - POTENTIAL CERCLA/RCRA SITES

TA59-1-ST-I-HW/RW (Septic tank)

Background--Originally, the laboratory at TA-59 was served by a septic tank located approximately 115 ft southwest of building 1. Los Alamos Scientific Laboratory engineering drawing ENG-R5134 shows that the tank was removed in 1979. The septic tank system could have received hazardous wastes.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A supplemental Phase I reconnaissance survey will be conducted for the old septic tank drainage field.

TA59-2-UST-A-PP (Underground fuel tank and pipes)

Background--Engineering drawing ENG-R5134 shows a 3,000-gal. capacity underground fuel tank, TA-59-6, located in the northeast courtyard of building TA-59-1 (LASL 1966b). Pipes believed to be the fill pipes for this tank were located in the 1986 CEARP field survey.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active tank is covered by routine LANL operations.

TA59-3-O/CA-A-HW (Cooling tower and associated outfall)

Background--Engineering drawing ENG-R1534 shows that TA-59 is served by cooling tower TA-59-10. During the 1986 CEARP field survey, this tower was noted to be in active use. The basement drains from building 1 also discharge to the cooling tower's outfall. These drains handle once-through cooling water from vacuum pumps and possibly accidental spills.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI.

Planned Future Action--A Supplemental Phase I reconnaissance survey of the outfall area will be conducted. The active outfall is covered by routine LANL operations.

TA59-4-CA-A-HW/RW (Drum storage)

Background--During the 1986 CEARP field survey, several areas were noted where drums are stored outside and there is general debris, including drums marked as being radioactive.

CERCLA Finding--Negative for FFSDIF, PA, and PSI.

Planned Future Action--No further action is warranted under CEARP. The active drum storage area is covered by routine LANL operations.

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	STRUCT LOC. MAP KEY
TA-59-1	OH-1	OCCUPATIONAL HEALTH LAB	FORMERLY TA-3-184	F-3
TA-59-2	OH-2	OFFICE BUILDING	FORMERLY TA-3-433	F-4
TA-59-3	OH-3	OFFICE BUILDING	FORMERLY TA-3-439	D-3
TA-59-4	OH-4	SEPTIC TANK	REMOVED 1979	
TA-59-5	OH-5	DISTRIBUTION BOX	REMOVED 1979	
TA-59-6	OH-6	FUEL TANK	REMOVED 1984	
TA-59-7	OH-7	SUB STATION	REMOVED 1981	
TA-59-8	OH-8	SUMP AND LIFT STATION	REMOVED 1984	
TA-59-9	OH-9	MANIFOLD	FORMERLY TA-3-1170	F-4
TA-59-10	OH-10	COOLING TOWER	FORMERLY TA-3-238	F-4
TA-59-11	OH-11	MANHOLE, SANITARY	FORMERLY TA-3-741	E-4
TA-59-12	OH-12	SUMP AND LIFT STATION		D-3
TA-59-13	OH-13	MANHOLE, WATER		E-3
TA-59-14	OH-14	WATER TANK	FORMERLY TA-3-266	D-2
TA-59-15	OH-15	FILL VALVE BOX, WATER	FORMERLY TA-3-267	D-2
TA-59-16	OH-16	TRANSFORMER STATION	FORMERLY TA-3-445	D-3
TA-59-17	OH-17		CANCELLED	
TA-59-18	OH-18	TRAILER, OFFICE	FORMERLY TA-0-446	F-4
TA-59-19	OH-19	TRAILER, OFFICE	FORMERLY TA-0-710	F-4
TA-59-20	OH-20	GREEN HOUSE		F-4
TA-59-21	OH-21		CANCELLED	
TA-59-22	OH-22	TRAILER, OFFICE	FORMERLY TA-54-24	F-4
TA-59-23	OH-23		CANCELLED	
TA-59-24	OH-24		CANCELLED	
TA-59-25	OH-25		CANCELLED	
TA-59-26	OH-26		CANCELLED	
TA-59-27	OH-27		CANCELLED	
TA-59-28	OH-28		CANCELLED	
TA-59-29	OH-29	TRANSPORTABLE OFFICE BLDG.		D-3
TA-59-30	OH-30	TRANSPORTABLE OFFICE BLDG.		C-3
TA-59-31	OH-31	TRANSPORTABLE OFFICE BLDG.		C-3
TA-59-32	OH-32	TRANSPORTABLE OFFICE BLDG		C-3
TA-59-33	OH-33	TRANSPORTABLE OFFICE BLDG		C-3
TA-59-34	OH-34	TRANSPORTABLE OFFICE BLDG		C-3
TA-59-35	OH-35	TRANSPORTABLE OFFICE BLDG.		B-3
TA-59-36	OH-36	TRANSPORTABLE OFFICE BLDG.		B-3
TA-59-37	OH-37	TRANSPORTABLE OFFICE BLDG.		B-3
TA-59-38	OH-38		CANCELLED	
TA-59-39	OH-39	SUB STATION		C-3
TA-59-40	OH-40	TRANSFORMER STATION		C-3
TA-59-41	OH-41	TRANSFORMER STATION		C-3
TA-59-42	OH-42		CANCELLED	
TA-59-43	OH-43		CANCELLED	
TA-59-44	OH-44		CANCELLED	
TA-59-45	OH-45		CANCELLED	
TA-59-46	OH-46	TRANSFORMER STATION		B-3
TA-59-47	OH-47		CANCELLED	
TA-59-48	OH-48		CANCELLED	
TA-59-49	OH-49	F.A. AND TEL. CABINET		B-3
TA-59-50	OH-50	TELEPHONE CAB. AUXILIARY		C-3
TA-59-51	OH-51	TRANSFORMER STATION	FORMERLY TA-3-306	F-3
TA-59-52	OH-52	TRANSFORMER STATION	FORMERLY TA-3-438	F-4
TA-59-53	OH-53			
TA-59-54	OH-54			
TA-59-55	OH-55			
TA-59-56	OH-56			
TA-59-57	OH-57			
TA-59-58	OH-58			
TA-59-59	OH-59			
TA-59-60	OH-60	MANHOLE, TELEPHONE	FORMERLY TA-3-1227	B-2
TA-59-61	OH-61	MANHOLE, ACID	FORMERLY TA-3-758	B-2
TA-59-62	OH-62	MANHOLE, ELECTRICAL	FORMERLY TA-3-898	B-2
TA-59-63	OH-63	TRANSFORMER STATION	FORMERLY TA-3-304	B-2
TA-59-64	OH-64	TRANSFORMER STATION	FORMERLY TA-3-305	D-2
TA-59-65	OH-65	MANHOLE, ACID		D-3
TA-59-66	OH-66	MANHOLE, ACID		E-3
TA-59-67	OH-67	MANHOLE, ACID		F-3
TA-59-68	OH-68	MANHOLE, ELECTRICAL	FORMERLY TA-3-1203	C-1
TA-59-69	OH-69	MANHOLE, ACID	FORMERLY TA-0-1160	C-1
TA-59-70	OH-70	MANHOLE, ACID	FORMERLY TA-0-1161	E-1
TA-59-71	OH-71	MANHOLE, ACID	FORMERLY TA-0-1162	G-2
TA-59-72	OH-72	MANHOLE, ACID	FORMERLY TA-0-1163	G-2
TA-59-73	OH-73	GAS METERING STATION	FORMERLY TA-3-361	B-2
TA-59-74	OH-74	MANHOLE, ELECTRICAL		B-2
TA-59-75	OH-75	MANHOLE, TELEPHONE		B-2
TA-59-76	OH-76	MANHOLE, ELECTRICAL		C-2
TA-59-77	OH-77	MANHOLE, TELEPHONE		C-2
TA-59-78	OH-78	MANHOLE, ELECTRICAL		D-2
TA-59-79	OH-79	MANHOLE, TELEPHONE		D-2
TA-59-80	OH-80	MANHOLE, ELECTRICAL		F-3
TA-59-81	OH-81	MANHOLE, TELEPHONE		F-3
TA-59-82	OH-82	MANHOLE, ELECTRICAL		G-3
TA-59-83	OH-83	MANHOLE, TELEPHONE		G-3

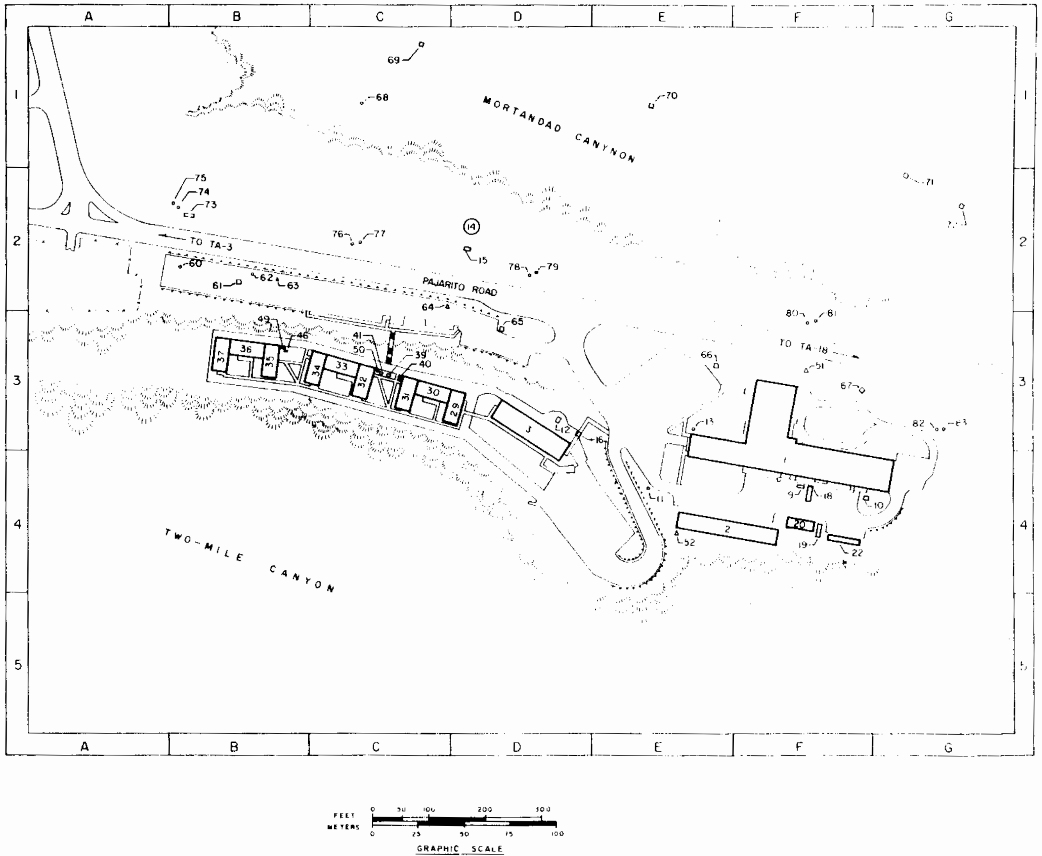


Figure TA-59-1: Structure Location Plan for TA-59 - OH Site
(1983 Drawing from the LANL Technical Area Structure Location Plans)

5 21 86 REDRAWN AND REVISED TO STATUS OF 4 27 86

Los Alamos

FACILITIES ENGINEERING DIVISION

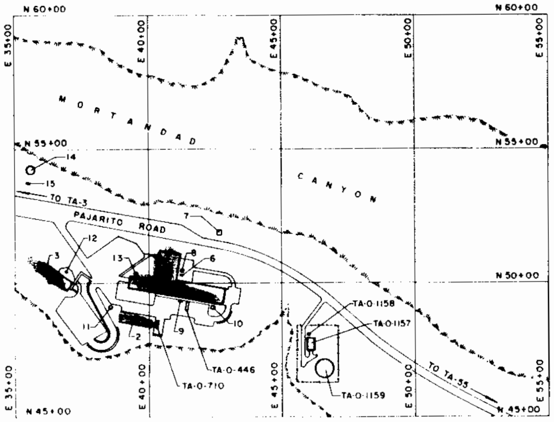
STRUCTURE LOCATION PLAN

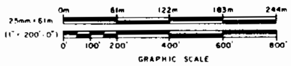
TA-59 OH-SITE

DRAWN A. CLIFFORD DATE 5 21 86

ENG-R5134

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-59-1	OH-1	OCCUPATIONAL HEALTH LAB.		N50+00 E 40+00
TA-59-2	OH-2	OFFICE BUILDING		N50+00 E 40+00
TA-59-3	OH-3	OFFICE BUILDING		N50+00 E 35+00
TA-59-4	OH-4	SEPTIC TANK	REMOVED 1979	
TA-59-5	OH-5	DISTRIBUTION BOX	REMOVED 1979	
TA-59-6	OH-6	FUEL TANK		N50+00 E 40+00
TA-59-7	OH-7	SUBSTATION		N50+00 E 45+00
TA-59-8	OH-8	SUMP AND LIFT STATION		N50+00 E 40+00
TA-59-9	OH-9	MANIFOLD		N50+00 E 40+00
TA-59-10	OH-10	COOLING TOWER		N50+00 E 40+00
TA-59-11	OH-11	MANHOLE, SEWER		N50+00 E 40+00
TA-59-12	OH-12	LIFT STATION		N50+00 E 35+00
TA-59-13	OH-13	MANHOLE, WATER		N50+00 E 40+00
TA-59-14	OH-14	TANK, WATER		N55+00 E 35+00
TA-59-15	OH-15	FILL VALVE BOX, WATER		N55+00 E 35+00
TA-0-446	ULR-446	OFFICE TRAILER		N50+00 E 40+00
TA-0-710	ULR-710	OFFICE TRAILER		N50+00 E 40+00
TA-0-1157	ULR-1157	PUMPING STATION		N50+00 E 45+00
TA-0-1158	ULR-1158	UNIT SUBSTATION		N50+00 E 45+00
TA-0-1159	ULR-1159	WATER TANK		N45+00 E 45+00





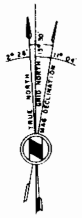


Figure TA-59-2: Structure Location Plan for TA-59 - OH Site
(1980 Drawing from the LANL Technical Area Structure Location Plans)

NO. | DATE | CLASS. REVIEW | REVISIONS | BY | CHKD | GRP | D.O.

THIS JOB MUST BE INSPECTED AND ANY CHANGES APPROVED BY ENG-4 PHONE

LOS ALAMOS SCIENTIFIC LABORATORY

FACILITIES MANAGEMENT

UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

DWG. CLASSIFICATION: U TITLE 9/25/80

AUTHORIZED FOR: SECURITY, SAFETY, HEALTH, DIVISION, GROUP

STRUCTURE LOCATION PLAN

TA-59 OH-SITE

SUBMITTED | APPROVED | APPROVED
CHECKED | CA | DA | DATE 9-22-80 | SHEET 1 OF 1
DESIGNED | LAB JOB NUMBER | DRAWING NO.
DRAWN S. Vigil | | ENG-R5134

TA-0 - OUT OF LABORATORY

CURRENT OPERATIONS

Several Los Alamos-related operations/sites (active and inactive) are located outside Laboratory technical areas (TAs). These operations/sites are identified in the following table.

POTENTIAL CERCLA/RCRA SITES

The following table presents what is known about potential CERCLA/RCRA sites not specifically located within LANL TAs. Phase I investigations have not been concluded. Information obtained during supplemental Phase I investigations will be documented in the CEARP Phase IIA Monitoring Plans. CEARP findings are based on a negative, positive, or uncertain finding for FFSDIF, PA, and PSI for each potential CERCLA/RCRA site. HRS/MHRS Migration Mode Scores have not been calculated for these sites, because sufficient information is lacking.

FIGURES

None available.

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TABLE TA-0 - POTENTIAL CERCLA/RCRA SITES

TA0-1-CA-I-HW (Townsite firing range)

Background--A firing range shown on aerial and topographic maps from the late 1940s is near the present Los Alamos cemetery. The firing range received extensive use before the new firing range was built in Sandia Canyon. Several small buildings and mounded earth to catch shots were associated with the site. During the 1986 CEARP field survey, all that was found to remain are steps, concrete pads, and the dirt mounds. The lead shots were not removed.

The Forest Service now owns the land on which this abandoned firing range was located.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI; there is not sufficient information to calculate a HRS Migration Mode Score.

Planned Future Action--The extent of residual contamination will be determined during supplemental Phase I.

TA0-2-CA-A-HW (Sandia Canyon firing range)

Background--An active firing range (TA-0-274) for the Mason & Hanger Protective Force for the Laboratory is in Sandia Canyon just south of TA-53.

CERCLA Finding--Negative for FFSDIF, PA, and PSI; therefore, a HRS Migration Mode Score is not calculated.

Planned Future Action--No further action is warranted. The active firing range is covered by routine LANL operations.

TA0-3-IN/OL-I-HW (Airport incinerator)

Background--An incinerator (TA-0-1123) was operated in a building next to the present airport terminal. During the 1986 field survey, the stack on the building was observed to have been removed. Additionally, noncombustibles, including many cans, were noted to have been deposited on a canyon ledge in back of the incinerator building. The dates of incinerator operation and items incinerated are not known.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI; there is not sufficient information to calculate a HRS Migration Mode Score.

Planned Future Action--The extent of residual environmental contamination from incinerator operations will be determined during supplemental Phase I.

TA0-4-L-I-HW/RW/PP (Airport burning area/landfill)

Background--For many years, a burning area/landfill was operated at what is now part of the airport's landing strip. On April 3, 1953, 125 lb of natural uranium was accidentally picked up by the refuse crew and disposed of in the city landfill. Approximately 25 lb was later recovered and the remaining activity was covered with several loads of dirt (H Division 1953:5).

In 1959, the method to dispose of trash at Kappa Site was to haul the trash to the main disposal area in town. This disposal area may have been the airport landfill. A memo notes that the disposal practice could cause an explosion, thus the trash must have had the possibility to contain small quantities of high explosive (LaBerge 1959). Additionally, oils from the motor pool and vehicle shop were not treated in these plants, but were disposed of in an open pit located adjacent to the municipal airport (Miller 1962:9; Miller 1963a:5).

Additionally, mention is made of a "yet-to-be identified radioactive disposal area in the vicinity of the airport which was active in 1943-1944..." (Rogers 1979). No further information has been obtained.

Laboratory trash was also burned on the edge of a deep canyon adjacent to the airport. Once a month, the burned residues were removed (Miller 1963b:8). The county assumed operation of the landfill in 1966. Burning was apparently no longer being done intentionally (Miller and Shaykin 1966:7).

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI; there is not sufficient information to calculate a HRS/MHRS Migration Mode Score.

Planned Future Action--The extent of residual environmental contamination at the landfill will be determined during supplemental Phase I.

TA0-5-CA-I-HW (Airport bunkers)

Background--The 1948 topographic map shows bunkers near the airport. During the 1986 CEARP field survey, the bunkers were observed to have been removed. Details of their removal and possible contamination are lacking.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI; there is not sufficient information to calculate a HRS Migration Mode Score.

Planned Future Action--Information about the bunkers--their use, removal, and residual contamination--will be sought during supplemental Phase I.

TA0-6-L-A-SW (South Mesa, county landfill)

Background--The county presently operates a landfill on South Mesa. Uncontaminated Laboratory trash goes to this landfill.

CERCLA Finding--Negative for FFSDIF, PA, and PSI; therefore a HRS Migration Mode Score is not calculated.

Planned Future Action--No further action is warranted. The landfill is operated by the county of Los Alamos.

TA0-7-CA-I-HW (Barranca Mesa, material removed)

Background--In 1965, ordnance-type material was recovered from an old cistern on Barranca Mesa. Photos of this recovery are in the CEARP files at LANL.

There is no indication of residual contamination of environmental concern.

CERCLA Finding--Negative for FFSDIF, PA, and PSI; therefore, a HRS Migration Mode Score is not calculated.

Planned Future Action--No further action is warranted.

TA0-8-L-I-SW (North Mesa, gun mount)

Background--An interviewee indicated that about 1946, an uranium-contaminated, bolt-down, Navy-style, 5- by 5- by 6-ft gun mount that had been used at Anchor Ranch was buried on North Mesa. The site was not identified. So far as is known, this gun mount was never recovered.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI; there is not sufficient information to calculate a HRS Migration Mode Score.

Planned Future Action--During supplemental Phase I, additional information will be gathered.

TA0-9-CA-I-RW/HW (North Mesa, miscellaneous structures)

Background--On the 1948 topographic map, radio poles and some hutments are shown on North Mesa along with several other small buildings in other areas. The function of these structures is unknown. During the 1986 CEARP field survey, sighting poles, probably used in conjunction with shots in Bayo Canyon, were observed on the mesa.

CERCLA Finding--Negative for FFSDIF, PA, and PSI; therefore, a HRS Migration Mode Score is not calculated.

Planned Future Action--No further action is warranted.

TA0-10-OL-I-SW (North Mesa, open landfill)

Background--During the 1986 CEARP field survey, a small open disposal area containing building debris was observed at the location where a fence kept the general public out of the Bayo Canyon firing area. This disposal area is thought to be associated with a small hutment, which may have been torn down. It was previously used for weather measurements in connection with shots in Bayo Canyon.

CERCLA Finding--Negative for FFSDIF, PA, and PSI; therefore a HRS Migration Mode Score is not calculated.

Planned Future Action--No further action is warranted.

TA0-11-CA-I-HW (Impact areas from ordnance activities)

Background--Several impact areas exist in the Los Alamos area for firing various types of ordnance associated with military activities from 1944 to 1948. The areas resulted from Army activities on federal land during/after World War II. Engineering file 1757 lists the following areas: 1) Rendija Canyon, 2) Barranca area, 3) 37-mm Canyon, 4) TA-20, 5) TA-27, and 6) Pajarito Canyon.

During the 1986 field survey, three areas were located in Rendija Canyon. One fenced and marked area is to the east of the present Sportsmen's Club firing range and one fenced and marked area is to the north. Another area is marked only by the concrete that used to hold a warning sign and by two almost illegible signs that are near Rendija Canyon on the Guaje Mountain pass trail. In the field survey, the Barranca area was observed to be at the foot of Barranca Road. It is well fenced and marked. No information was obtained on 37-mm Canyon. An interviewee indicated that Sandia Canyon, TA-20, was used for tank practice in the war years. An area in the old TA-27 is also fenced and has signs. Upper Pajarito Canyon may also have been an impact zone. At least some of the impact areas have been surveyed and exposed munitions were picked up (McAndrew 1965). The Forest Service indicated that ordnance sweeps are presently conducted periodically at some of the areas.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI; there is not sufficient information to calculate a HRS Migration Mode Score.

Planned Future Action--Additional information will be gathered on the impact areas during supplemental Phase I.

TA0-12-L-I-RW/HW (DP Road, small disposal pits)

Background--An interviewee indicated that there might be small waste disposal pits north of DP Road in the vicinity of the present Knights of Columbus Hall. The concrete-covered pits would be about 30 by 30 ft in size, contain paper towels, chemical waste, and plastics from D building.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI; there is not sufficient information to calculate a HRS/MHRS Migration Mode Score.

Planned Future Action--Additional information will be gathered on this site during supplemental Phase I.

TA0-13-OL-I-RW/HW (East Jemez Road, small buildings)

Background--The 1948 topographic maps show some small buildings in the area across from the airport to the south. During the 1986 field survey, some mounds, concrete, and other debris were seen on the mesa near the canyon and in the canyon. The buildings are no longer standing.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI; there is not sufficient information to calculate a HRS/MHRS Migration Mode Score.

Planned Future Action--Additional information will be gathered on this site during supplemental Phase I.

TA0-14-UST-I-PP (DP Road tank farm, underground tanks)

Background--An underground tank farm is located on DP Road. These tanks have TA-21 identification numbers. The tank farm was active from 1946 until February 1985. The tanks contain 2 to 4 in. of petroleum base sludge.

Data on the tanks are as follows (Pan Am 1986):

Tank No.	Capacity (in thousands of gal.)	Type
1	28.5	No. 2 fuel oil
2	14.9	No. 2 fuel oil
3	23.9	No. 2 fuel oil
4	14.9	No. 2 fuel oil
5	5.1	kerosene
6	2.1	kerosene
7	2.9	kerosene
8	5.1	kerosene
9	21.6	No. 2 fuel oil
10	21.6	No. 2 fuel oil
11	23.9	diesel
12	20.2	No. 2 fuel oil
13	24.7	gasoline
14	20.2	No. 2 fuel oil
17	51.0	diesel

The tank farm is owned by DOE.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI; there is not sufficient information to calculate a HRS Migration Mode Score.

Planned Future Action--Additional information will be gathered on the tank farm during supplemental Phase I.

TA0-15-O/CA-A/I-HW/RW (Sanitary sewage plants, nontechnical areas)

Background--Three sanitary sewer plants (now county owned and operated) located outside of the technical areas are in the county, and they have received most of their incoming liquids from either business or residences. The Pueblo and Bayo plants are still in operation. The Central Plant, shown on the 1948 topographic map, was abandoned in 1964. It is believed that the Central Plant received waste from sanitary drains in TA-1. Bayo also received effluent from TA-43 (see the section on TA-43), and, because it serves the townsite, might have also received residual contamination left in drains from operations in TA-1 that became mobilized.

CERCLA Finding--Uncertain for FFSDIF, PA, and PSI; there is not sufficient information to calculate a HRS/MHRS Migration Mode Score.

Planned Future Action--During supplemental Phase I, the extent of residuals in the outfall areas from past Laboratory discharges will be determined.

DEPARTMENT OF ENERGY
ALBUQUERQUE OPERATIONS OFFICE
ENVIRONMENT AND HEALTH DIVISION
ENVIRONMENTAL PROGRAMS BRANCH

COMPREHENSIVE ENVIRONMENTAL ASSESSMENT AND RESPONSE PROGRAM

PHASE I:
INSTALLATION ASSESSMENT
LOS ALAMOS NATIONAL LABORATORY

Volume 2 of 2

October 1987

DRAFT

V.B. MATERIAL DISPOSAL AREAS

V.B.1. POTENTIAL SITES

Potential CERCLA sites identified during CEARP Phase I (the equivalent of DOE CERCLA Order Phase I) are presented in Table V.B.1. Additional detail for each potential CERCLA site is provided by material disposal area. The material disposal areas are identified in Figure V.B.1. Because of the overlap between potential CERCLA sites and RCRA sites (e.g., RCRA continuing release sites), both CERCLA and RCRA sites are included in the list of potential sites. The CEARP findings are based on a negative, positive, or uncertain finding for the following EPA CERCLA program elements: (1) Federal Facilities Site Discovery and Identification Findings (FFSDIF), and (2) Preliminary Assessments (PA), Site Inspections (SI) (SI in CEARP is a preliminary SI [PSI]), and Hazard Ranking System (HRS) evaluation. Most disposal areas are slated for CEARP Phase II investigations.

V.B.2. HAZARD RANKING SYSTEM (HRS) AND MODIFIED HAZARD RANKING SYSTEM (MHRS)

The HRS/MHRS Migration Mode Scores for the potential CERCLA sites are presented in Table V.B.1. Migration Mode Scores are calculated for those potential CERCLA sites with positive findings for the CERCLA FFSDIF, PA, and PSI (see Appendix B for scoring details). Sites receiving a score of 28.5 are included in the National Priorities List (NPL). All sites received scores substantially below 28.5.

V.B.3. PLANNED FUTURE ACTIONS FOR POTENTIAL CERCLA SITES

The planned future action for each potential CERCLA site is specified in Table V.B.1. Most of the material disposal areas are slated for Phase II investigation. The Phase II characterization plans for the material disposal areas will be included in their respective CEARP Phase IIA Monitoring Plans.

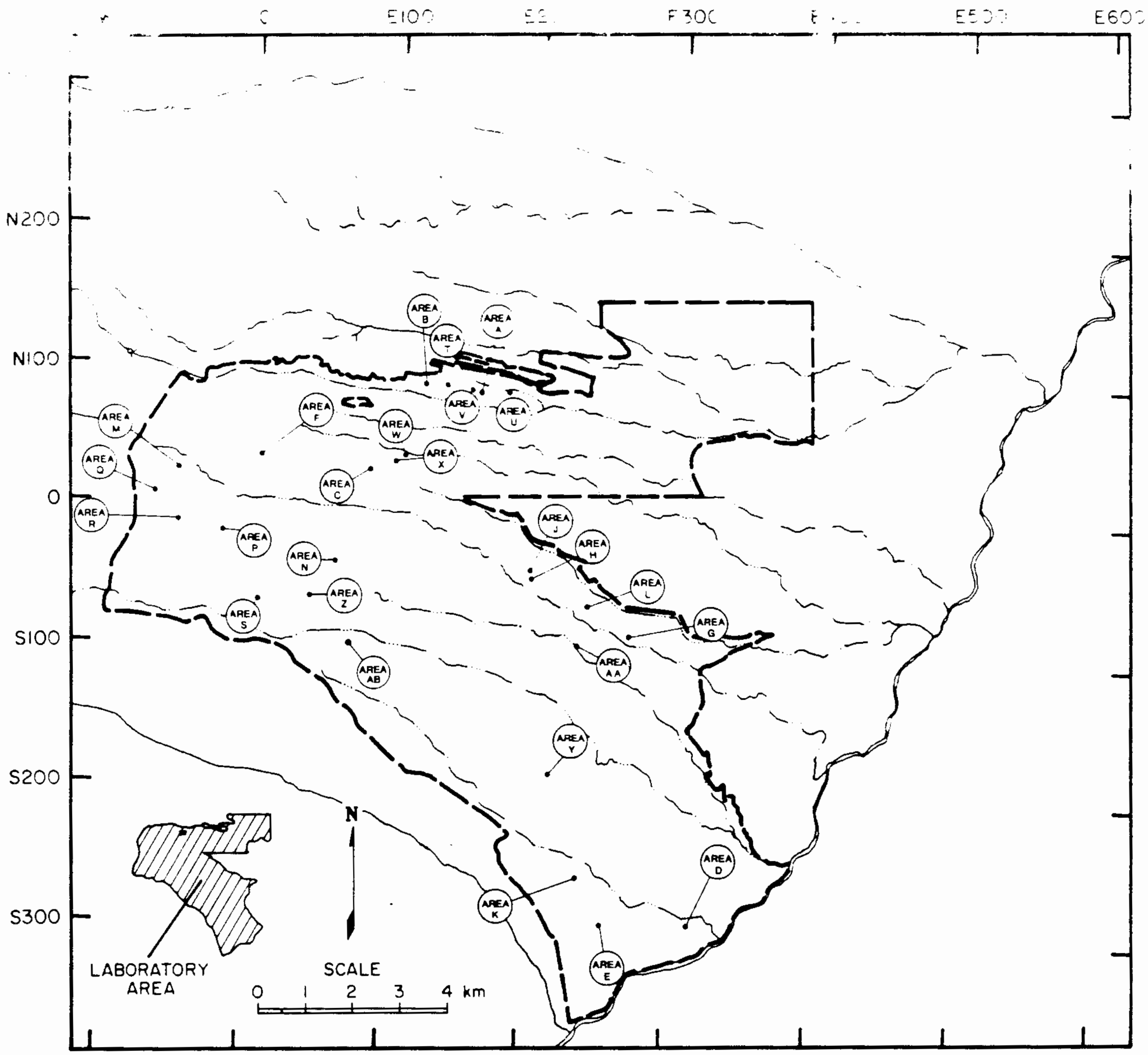


Figure V.B.1. Material disposal areas at Los Alamos National Laboratory.

Table V.B.1. Potential CERCLA Sites Identified During CEARP Phase I--Material Disposal Areas

Material Disposal Areas Site	DOE CEARP Phase I: FFSDIF/PA/PSI[a] Finding	DOE CEARP Phase I: HRS/MHRS Score[b]	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
Area A	Positive	13.8	None	Confirmation (Phase II)
Area B	Positive	14.8	None	Confirmation (Phase II)
Area C	Positive	17.4	None	Confirmation (Phase II)
Area D	Positive	7.1	None	Confirmation (Phase II)
Area E	Positive	6.9	None	Confirmation (Phase II)
Area F	Positive	1.6	None	Confirmation (Phase II)
Area G	Positive	20.4	None	Confirmation (Phase II)
Area H	Positive	14.9	None	Confirmation (Phase II)[c]
Area J	Positive	8.5	None	Confirmation (Phase II)
Area K	Positive	10.2	None	Confirmation (Phase II)

Table V.B.1. (continued)

Material Disposal Areas Site	DOE CEARP Phase I: FFSDIF/PA/PSI[a] Finding	DOE CEARP Phase I: HRS/MHRS Score[b]	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
Area L	Positive	19.3	None	Confirmation (Phase II)[c]
Area M	Positive	0.5	None	Confirmation (Phase II)
Area N	Positive	3.7	None	Confirmation (Phase II)
Area P	Positive	1.6	None	NA[d]
Area Q	Positive	2.1	None	Confirmation (Phase II)
Area R	Positive	2.1	None	Confirmation (Phase II)
Area S	Negative	NA	None	None
Area T	Positive	9.7	None	Confirmation (Phase II)
Area U	Positive	1.1	None	Confirmation (Phase II)
Area V	Positive	2.6	None	Confirmation (Phase II)

Table V.B.1. (continued)

Material Disposal Areas Site	DOE CEARP Phase I: FFSDIF/PA/PSI[a] Finding	DOE CEARP Phase I: HRS/MHRS Score[b]	Planned Future Action: EPA CERCLA Program Element	Planned Future Action: DOE CEARP/CERCLA Order Phase
Area W	Positive	NA	None	Compliance and Verification (Phase V)
Area X	Positive	7.7	None	Confirmation (Phase II)
Area Y	Positive	2.1	None	Confirmation (Phase (II)
Area Z	Uncertain	2.1	None	Confirmation (Phase II)
Area AA	Positive	10.1	None	Confirmation (Phase II)[c]
Area AB	Positive	6.7	None	Confirmation (Phase II)

[a]Federal Facilities Site Discovery and Identification Findings/Preliminary Assessments/Preliminary Site Inspections.
[b]EPA HRS and DOE-modified HRS (for HRS and MHRS scoring details see Appendix B).
[c]Disposal area contains both potential CERCLA and RCRA sites.
[d]Not Applicable.

MATERIAL DISPOSAL AREA A

DISCUSSION

Background--Inactive Material Disposal Area A, located at TA-21, consists of five pits and two storage tanks and is described in detail in Rogers (1977). The storage tanks are known as the "General's Tanks" after Maj. Gen. Leslie R. Groves, head of the Manhattan Engineering District during World War II. Waste solutions containing plutonium and americium were stored in these tanks with the hope that chemical recovery processes would improve so that the plutonium in them could be recovered. Liquids in the tanks were removed for processing in 1983. The tanks presently contain a few inches of semisolid precipitate (Balo and Warren 1983). There is some evidence that rainwater has been leaking into the tanks since the recovery operations.

Site stabilization was done in FY 1985 and included sealing and covering openings in the General's Tanks to prevent any further water entry, removing surface contamination, adding cover material, and recontouring and reseeding the area. The reseeding operation was largely unsuccessful.

Four small disposal pits are believed to contain solid waste contaminated with polonium (now decayed away), trace amounts of beta-gamma activity, and probably some trace amounts of long-lived alpha emitters (probably plutonium). These pits were used between 1944 and 1947. A larger pit, constructed in 1969, contains building debris from the decommissioning of several facilities at TA-21. This pit was covered over in May 1978 (Balo and Warren 1983).

Additionally, hundreds of drums of radioactive iodide waste were stored on the surface at Area A; some of the drums were leaky. The drums were hauled to TA-45 in 1960. Residual radioactive iodide would have decayed by now.

This site undergoes routine radiological monitoring sponsored by the Interim Waste Management Program (IWMP) of DOE's Office of Defense Waste and Transportation Management.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 13.8 (Appendix B). Area A was scored with Areas T and U because they are on the same mesa and share a common watershed.

Planned Future Actions--This site will be evaluated primarily for radiological constituents under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-A: Material Disposal Area A

REFERENCES

Balo, K. A., and J. L. Warren. 1983. "Waste Management Site Plan, Los Alamos National Laboratory, December 1983," Los Alamos National Laboratory report LA-UR-84-98, December 1983.

Rogers, M. A. 1977. "History and Environmental Setting of LASL Near-Surface Land Disposal Facilities for Radioactive Wastes (Areas A, B, C, D, E, F, G, and T)," Los Alamos Scientific Laboratory report LA-6848-MS, Vols. I and II, June 1977.

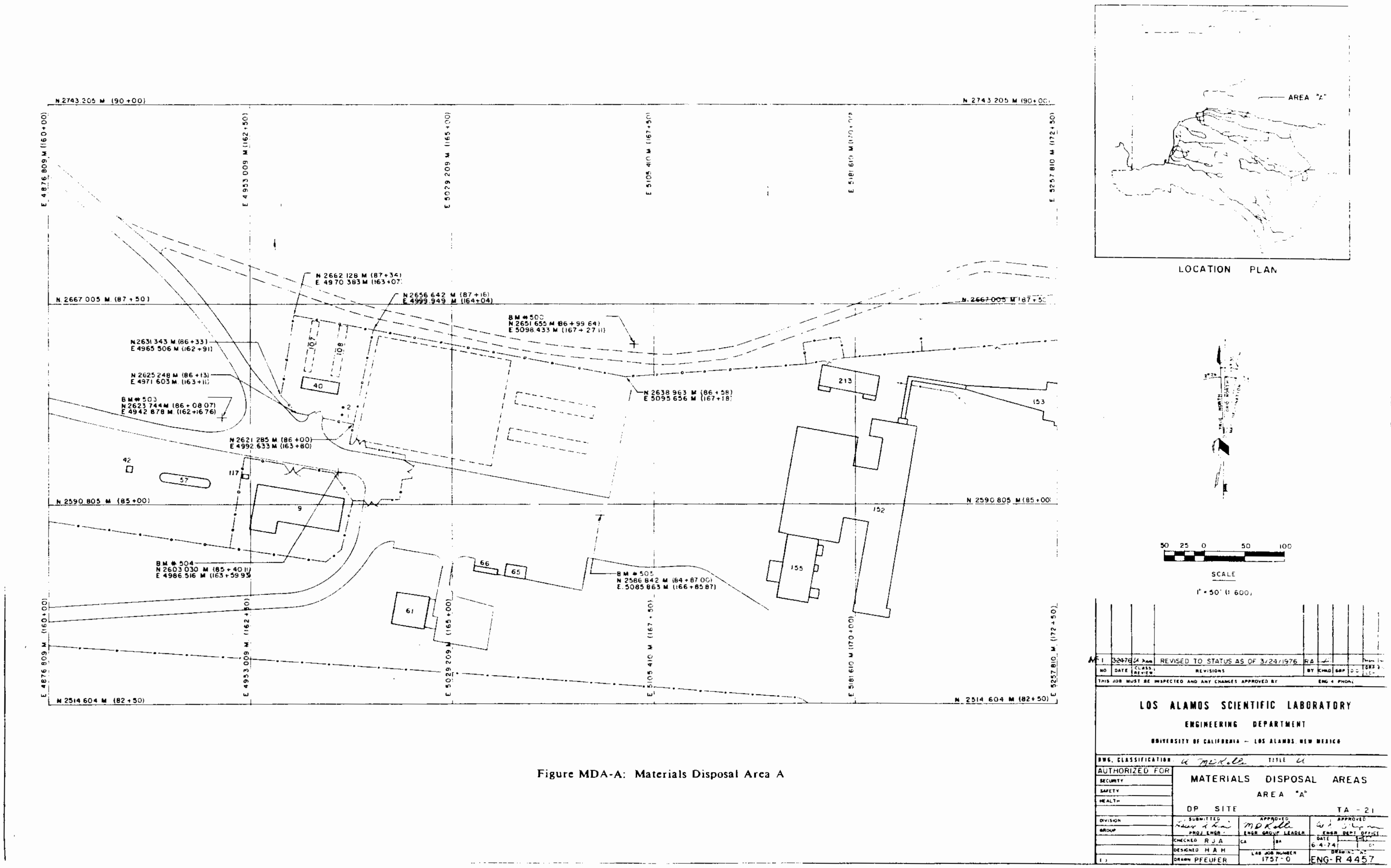


Figure MDA-A: Materials Disposal Area A

MATERIAL DISPOSAL AREA B

DISCUSSION

Background--Inactive Material Disposal Area B is located south of DP Road near TA-21. With the information now available, the exact number of pits cannot be ascertained. One employee mentioned in an interview that Area B was basically one large pit. As more pit space was needed, the pit was enlarged at one end, and as it was filled, it was closed from the other end (Employee Interviews 1984). The wastes consist primarily of solids with various radioactive contaminants such as plutonium, polonium, uranium, americium, curium, and actinium. At least one truck contaminated with fission products from the Trinity test is buried there. At the east end, several small slit trenches were dug for chemical disposal. These trenches were 3 to 4 ft deep, 2 ft wide, and less than 40 ft long (Employee Interviews 1984). When chemical disposal was started at Area C, it was discontinued at Area B. Chemicals disposed of include old bottles of organics, perchlorates, ethers, solvents, etc. Lecture bottles of mixtures, spent chemicals, old chemicals, and corrosive gases may be in these trenches (Employee Interviews 1985). A section of the western portion of the site has been paved and the surface has been leased to Los Alamos County, which in turn rents parking spaces to store trailers, old cars, etc. Erosion on the south perimeter of Area B is a continuing problem.

A study of the area in 1966 by the U.S. Geological Survey (USGS) indicated possible lateral movement of water--probably from the pit. The amount of water moving through the tuff was well below the estimated effective porosity of the tuff. Radiochemical analyses of the soil and tuff from the 13 test holes around the perimeter showed no indication of radioactive contamination (Rogers 1977). Investigations of the eastern end of the site in the late 1970s showed plant root penetration of the waste and animal intrusion. The surface of the eastern portion of the site was extensively renovated in 1982 and replanted in 1984. All vegetation was removed and it was divided into two areas for treatment. The control was adding (from the top) a 6-in. layer of topsoil followed by 30 in. of crushed tuff with 6 in. of topsoil below that. Grass plugs (sand dropseed) and rabbit brush were then planted. The other treatment, starting from the top, was to spread 6 in. of topsoil, 18 in. of crushed tuff, and 2 ft of cobble (for a biobarrier) and 6 in. top soil on the bottom. Grass plugs and rabbit bush were also planted in the area. The effectiveness of this new trench cap is being studied by the LANL Environmental Science Group (HSE-12). This area is being monitored for radioactive transport under the IWMP.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 14.8 (Appendix B).

Planned Future Actions--This site will be evaluated for the radiological and nonradiological constituents under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-B: Material Disposal Area B

REFERENCES

Employee Interviews. 1984. Information obtained through employee interviews by CEARP personnel, Los Alamos National Laboratory, 1984.

Employee Interviews. 1985. Information obtained through employee interviews by CEARP personnel, Los Alamos National Laboratory, 1985.

Rogers, M. A. 1977. "History and Environmental Setting of LASL Near-Surface Land Disposal Facilities for Radioactive Wastes (Areas A, B, C, D, E, F, G, and T)," Los Alamos Scientific Laboratory report LA-6848-MS, Vols. I and II, June 1977.

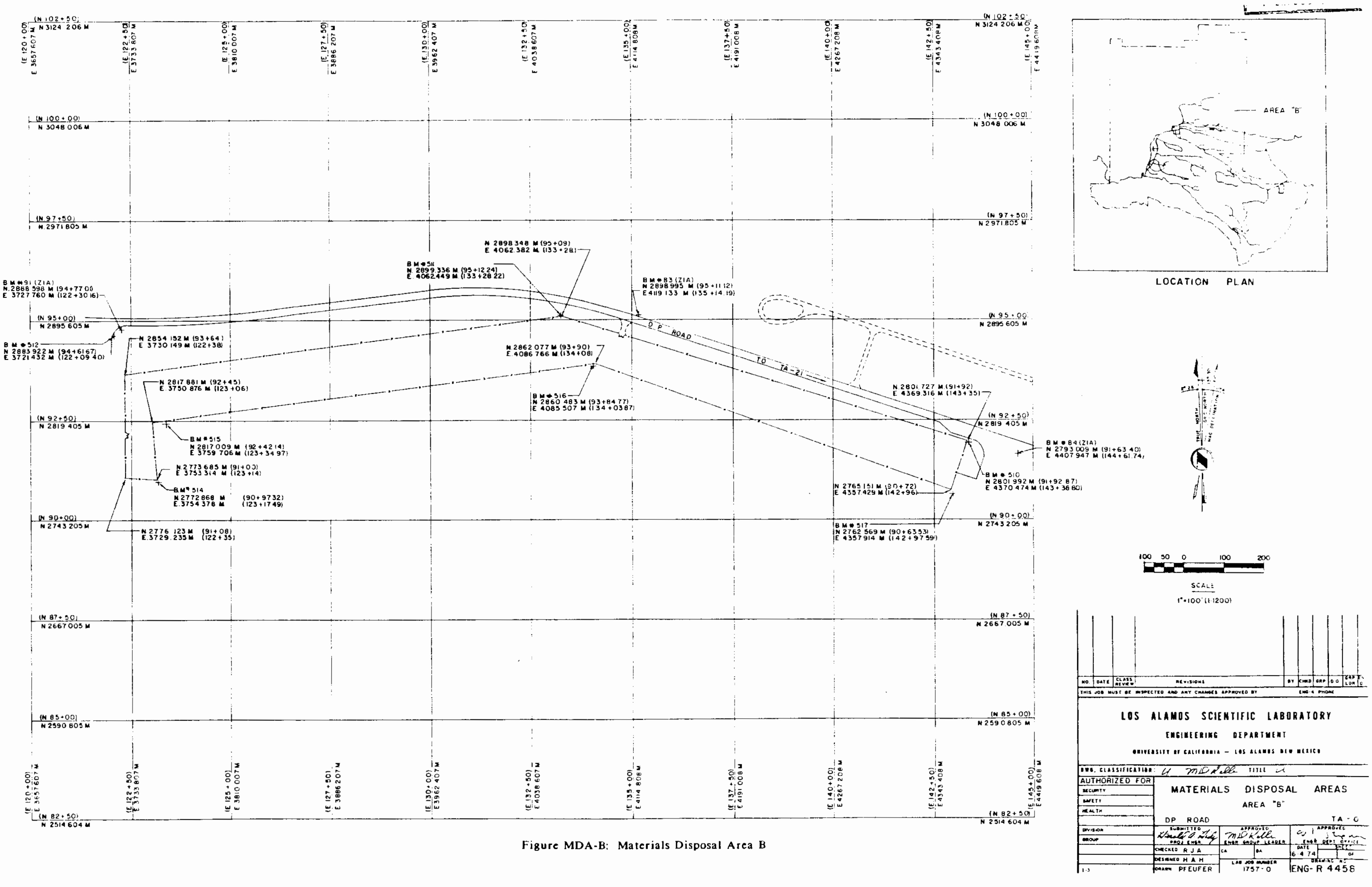


Figure MDA-B: Materials Disposal Area B

MATERIAL DISPOSAL AREA C

DISCUSSION

Background--The 11.8-acre inactive Material Disposal Area C is located on the north side of Pajarito Road adjacent to TA-50. It was opened in 1948 and is composed of six radioactive waste pits, a chemical pit, and 107 numbered shafts (Rogers 1977). Pit disposal ended in 1964 and shaft disposal ended in 1969 (Department of Energy 1979). Studies in the late 1970s indicated animal intrusion into the waste and other problems. The surface was improved in 1984 by adding soil cover (depths $\geq$ 6 in. with average cover approximately 2 ft), recontouring, and seeding with native grasses.

The types of radioactively contaminated waste buried at Area C include building debris from the demolition of TA-1 and TA-10, routine contaminated trash, sludge from waste treatment plants, and depleted uranium chips (Rogers 1977). Plutonium-contaminated sodium loops from TA-35 were buried in shafts (Enders 1964). Noncombustible waste was put in the west end of pit 5 in 1957 (Meyer 1957).

About the chemical pit (pit 6), one reference states, "A variety of chemicals, pyrophoric metals, hydrides and powders, sealed vessels containing sodium-potassium alloy or compressed gases, and equipment not suitable for salvage, public dump or the contaminated dump have been placed in the pit. No high explosives have ever been put in this pit. Normal uranium powders and hydrides have been disposed of in this pit. Inadvertently some plutonium-contaminated objects were placed in the pit. . . . Because of the uranium disposal it should be assumed that the pit is mildly alpha contaminated" (Stearns 1964a). It was mentioned that before the closing out of Area C, the safety office would "place approximately 200 gas cylinders which are full or partially full in this dump then cover the cylinders with approximately 10 ft of compacted fill. . . . Any exploratory drilling must not be permitted and this disposal area should be clearly defined on drawings" (Stearns 1964b). Some full nickel carbonyl cylinders (lecture bottles--approximately 1 lb) may have also been put in the chemical pit. (This was the recommended procedure because it was felt the nickel carbonyl would corrode the bottles and develop pinhole leaks through which the contents could slowly be released [Employee Interviews 1984].) Carboys of di- or triethylbenzene from the whole-body counter at TA-43 were deposited on the ground where the present solar panels are located (Employee Interviews 1984).

A new surface cover, applied to the easten half and extreme western end of the site in 1984, consisted of the addition of 0.15 m of topsoil over 0.5 m of crushed tuff, slope recontouring, and seeding of the cover with native grasses. The new cover was not applied to the extreme northeast corner of Area C because this area does not include any of the waste trenches. A very heavy cover of white and yellow clover has invaded the site.

Area C is being monitored for radioactivity under the IWMP.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 17.4 (Appendix B).

Planned Future Actions--This site will be evaluated for radiological and nonradiological constituents under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-C: Material Disposal Area C

REFERENCES

Department of Energy. 1979. "Final Environmental Impact Statement, Los Alamos Scientific Laboratory Site," Department of Energy report DOE/EIS-0018, December 1979.

Employee Interviews. 1984. Information obtained through employee interviews by CEARP personnel, Los Alamos National Laboratory, 1984.

Enders, J. W. 1964. "Disposal of Plutonium Contaminated Sodium Loops from Ten Site," Los Alamos Scientific Laboratory memorandum, August 7, 1964.

Meyer, D. D. 1957. "Dumps for Contaminated Waste," Los Alamos Scientific Laboratory memorandum, September 12, 1957.

Rogers, M. A. 1977. "History and Environmental Setting of LASL Near-Surface Land Disposal Facilities for Radioactive Wastes (Areas A, B, C, D, E, F, G, and T)," Los Alamos Scientific Laboratory report LA-6848-MS, Vols. I and II, June 1977.

Stearns, J. G. 1964a. "Closing Out of the Hazardous Chemical Pit, Area C, Pajarito and Pecos Road Intersection," Los Alamos Scientific Laboratory memorandum, May 22, 1964.

Stearns, J. G. 1964b. "Future Land Use Control-Chemical Disposal Area, Pajarito Road and Ten-Site Road Intersection," Los Alamos Scientific Laboratory memorandum, February 12, 1964. See also J. H. Abrahams, "Physical Properties and Movement of Water in the Bandelier Tuff, Los Alamos and Santa Fe Counties, New Mexico," U.S. Geological Survey open file report (1963).

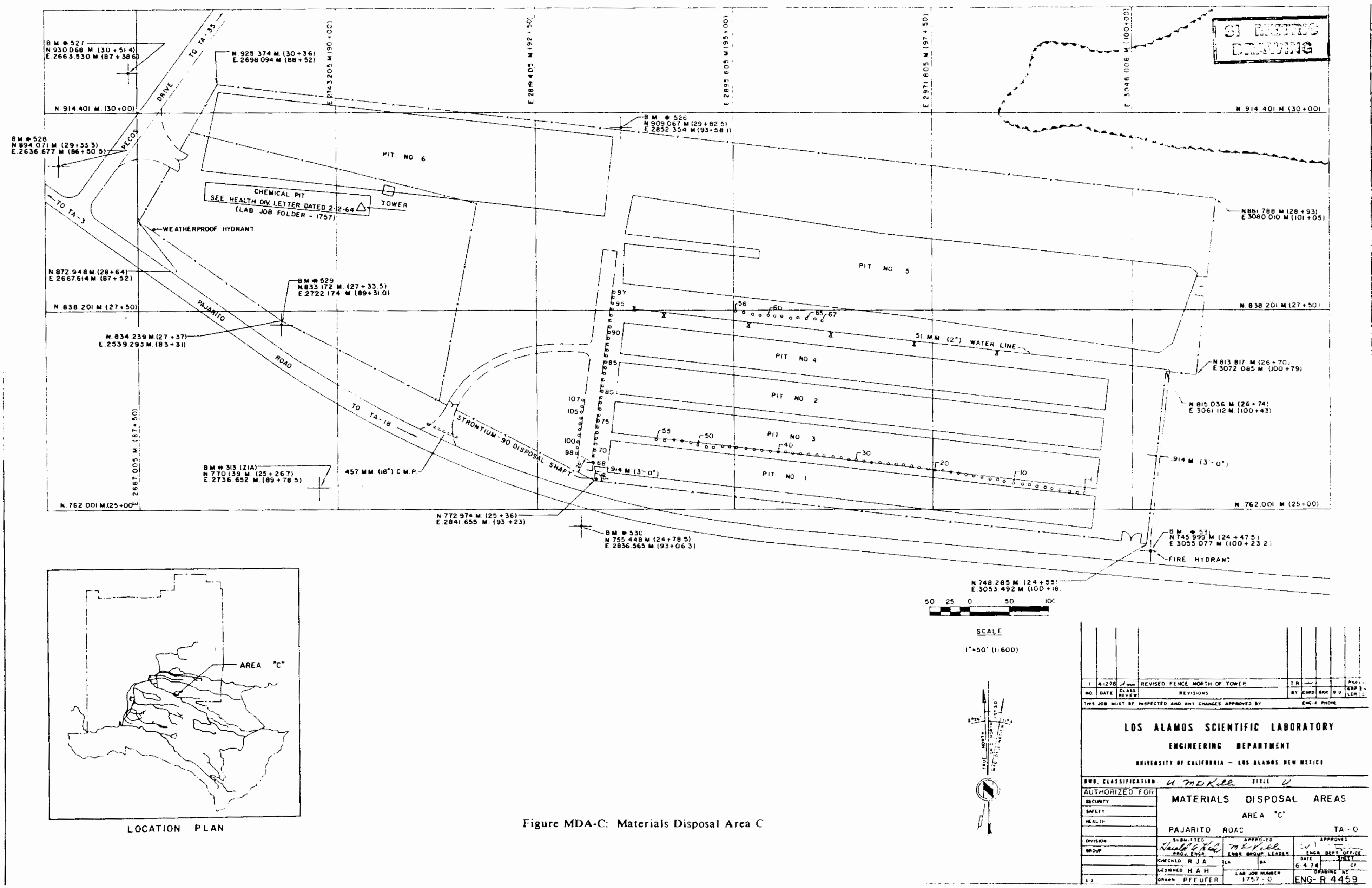


Figure MDA-C: Materials Disposal Area C

MATERIAL DISPOSAL AREA D

DISCUSSION

Background--Inactive Material Disposal Area D is at TA-33 and is described in detail in Rogers 1977. Basically, there are two 6- by 8-ft concrete-lined shafts that are 46 ft deep. At the bottom of each shaft is an octagonal room to one side. The rooms were used for tests on weapon components. The principal contaminant was polonium-210, but beryllium may also have been used, probably in small amounts. Shaft one was used once on April 14, 1948. Shaft two was used twice--on December 23, 1948, and April 15, 1952. The April 1952 test used 600 mCi of polonium-210, which has a half-life of 138.4 days and decays by alpha emission to stable lead-206. In the ensuing 34 years since that test, the polonium has undergone 90 half-lives of decay. In seven half-lives, the decay rate is less than 1% of the original activity. Because an additional 83 half-lives have occurred, there is no more polonium in Area D.

CERCLA Findings--Positve for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 7.1 (Appendix B).

Planned Future Actions--This site will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-D: Material Disposal Area D

REFERENCE

Rogers, M. A. 1977. "History and Environmental Setting of LASL Near-Surface Land Disposal Facilities for Radioactive Wastes (Areas A, B, C, D, E, F, G, and T)," Los Alamos Scientific Laboratory report LA-6848-MS, Vols. I and II, June 1977.

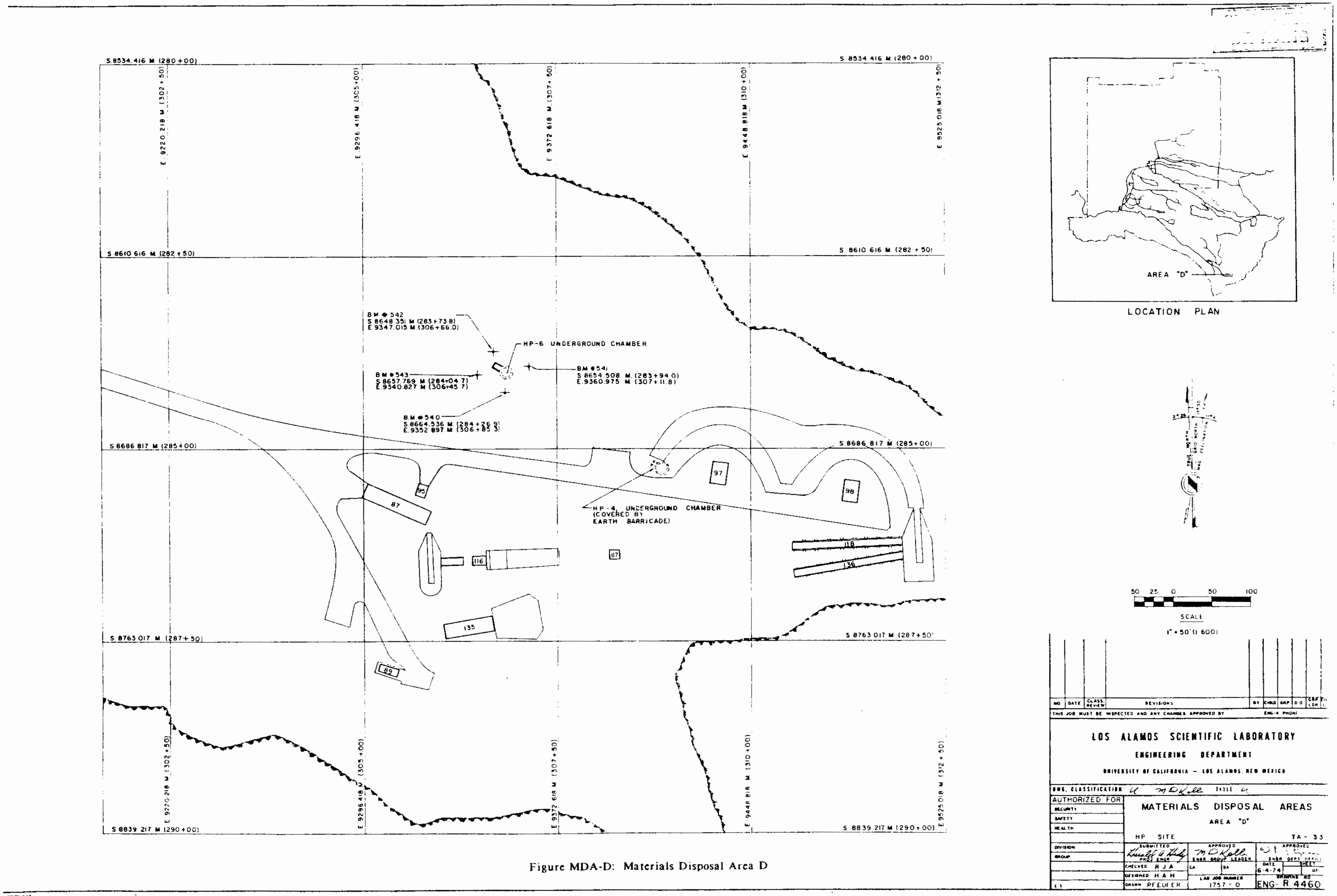


Figure MDA-D: Materials Disposal Area D

MATERIAL DISPOSAL AREA E

DISCUSSION

Background--Inactive Material Disposal Area E is located at TA-33. Although its history is not well known, it probably contains solid waste contaminated with polonium-210 (now decayed away) and uranium. One note indicates one pit contains a can of beryllium dust immersed in kerosene (Rogers 1977). Drawings indicate six pits and one test shaft; however, it is not known whether all pits were used. The shaft was used for a weapons component test and contained only polonium-210 and beryllium as contaminants. The polonium-210 would be decayed by now and the beryllium is probably in small quantities. Subsidence has occurred around the shaft.

With the possibility that a pit was not included in the drawings for Area E or within the fence line of Area E, how well the presently known pits are documented can be questioned.

Area E is being monitored for radioactivity under the IWMP. Monitoring showed some tritium in soil moisture that was above background levels.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 6.9 (Appendix B).

Planned Future Actions--This site will be evaluated for hazardous constituents under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-E: Material Disposal Area E

REFERENCE

Rogers, M. A. 1977. "History and Environmental Setting of LASL Near-Surface Land Disposal Facilities for Radioactive Wastes (Areas A, B, C, D, E, F, G, and T)," Los Alamos Scientific Laboratory report LA-6848-MS, Vols. I and II, June 1977.

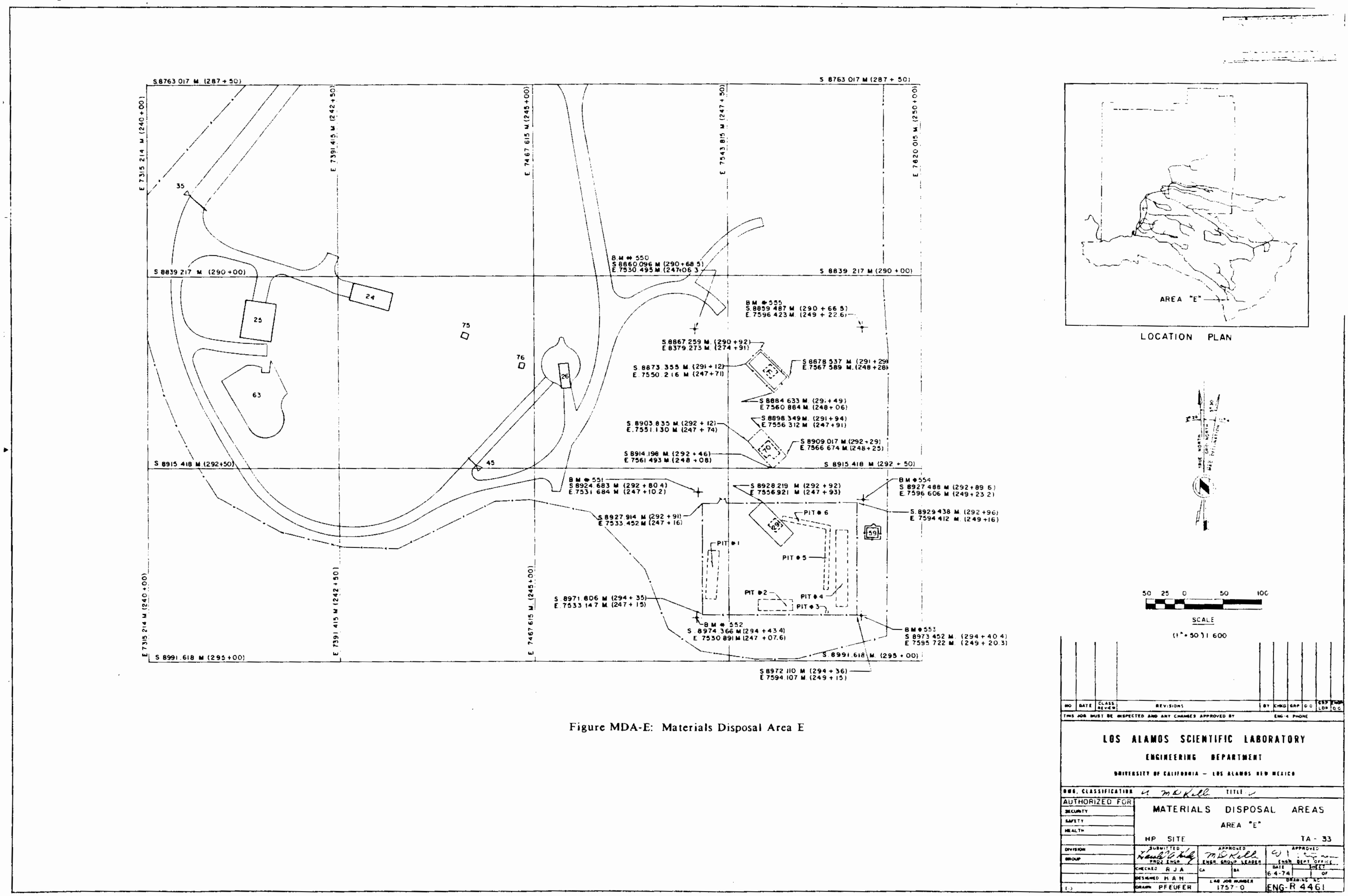


Figure MDA-E: Materials Disposal Area E

MATERIAL DISPOSAL AREA F

DISCUSSION

Background--Inactive Material Disposal Area F is located on Two-Mile Mesa near TA-6. Maps indicate two pits, but the maps may not accurately reflect field conditions. Area F was opened in 1946 for disposal of unsalvageable classified objects--particularly those that would be too difficult to cut up or otherwise destroy. One individual recalled a large number of large metal parts and some depleted uranium (less than 5 lbs). One group put some blocks of high explosive and primacord in the pit, but at one side. Another individual recalled the large pit was used for casings and handling equipment of the Fatman unit (the plutonium implosion weapon) and metal parts from other groups at the Laboratory. The small pit is reported to contain firing gap units that contained small amounts of cesium-137 and small detonators with squibs, both of which would be hazardous to disturb (Courtright 1964).

It is not likely that great deal of hazardous material was disposed of in Area F, other than the high explosive buried there. Because the type of high explosive is not known, it is difficult to predict its present state. Some types biodegrade rather rapidly and others persist for quite some time. Also, the possibility exists that several small pits near Area F were used for the disposal of nonhazardous classified material.

Area F is behind a security fence and is monitored for radioactivity under the IWMP. Surface stabilization, using research and development-based technology, was completed at this site in FY 1986.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 1.6 (Appendix B).

Planned Future Actions--This site will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-F: Material Disposal Area F

REFERENCE

Courtright, W. C. 1964. "Burial of Large Navy Guns and Ammunition," Los Alamos Scientific Laboratory memorandum to H-3 file, December 10, 1964.

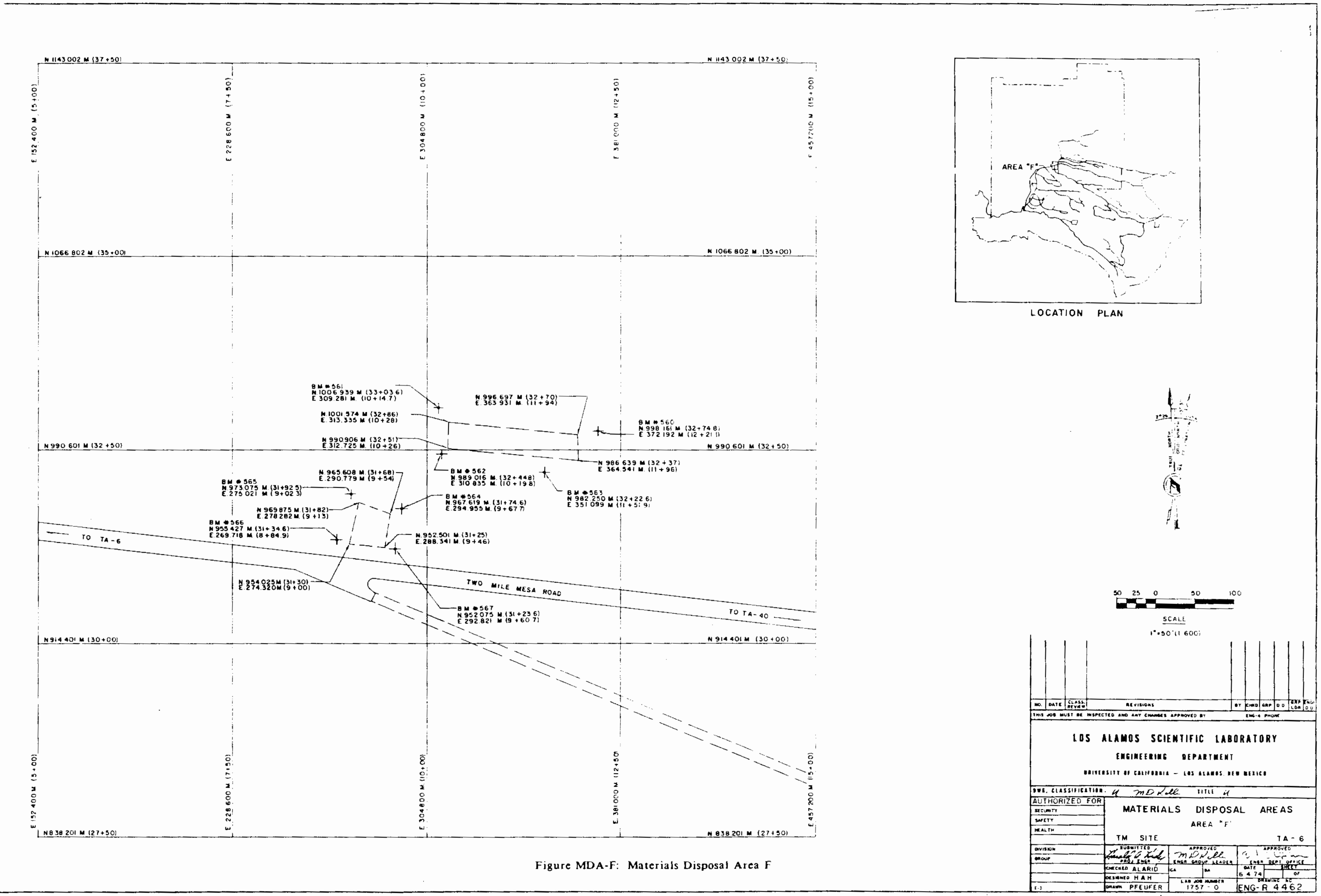


Figure MDA-F: Materials Disposal Area F

MATERIAL DISPOSAL AREA G

DISCUSSION

Background--Area G is located at TA-54 and is the main active radioactive solid waste burial/storage site at the Laboratory. Before Area G was established, geological surveys were made by the USGS; recommendations from these surveys led to its establishment. The area has been in use since 1957 and is expected to remain active through the foreseeable future to dispose of low-level waste. In FY 1977, the active portion of the site was expanded to 63 acres, and future expansions are planned. One hundred acres at TA-54 have been dedicated to waste disposal. Burial/storage facilities within the area include pits, shafts, trenches, and pads, all of varying dimensions. Although early disposals did not have recorded details on curie contents, the isotopic composition was noted. Current practice calls for maintaining detailed information on all aspects of the waste. Since 1971, solid waste contaminated with transuranic (TRU) radionuclides at activity levels >10 nCi/g of waste (>100 nCi/g for plutonium-238) has been stored and made retrievable for possible transport to a repository. The limit for all forms of retrievable TRU waste was changed to >100 nCi/g in 1983. In addition to TRU waste, the main radioactive wastes are uranium, strontium-90, cobalt-60, tritium, fission products, and induced activity. For several years during the 1970s, plutonium and uranium wastes were segregated into separate pits. Additionally, asbestos wastes and materials contaminated with PCBs are still placed in Area G.

Environmental studies have been conducted at Area G since about 1970 (Rogers 1977, Mayfield 1983). They include extensive moisture measurements, vertical and horizontal drill holes, air sampling, surface sampling, and direct radiation measurements. Results generally indicate that tritium is diffusing slowly away from its disposal location, that there is some surface contamination, and that this surface contamination causes somewhat elevated local air concentration for plutonium-239. Sediment sampling stations in the vicinity of Area G indicate some transport of plutonium-238 and plutonium-239 surface contamination. In 1984 the maximum plutonium-238 and plutonium-239 concentrations were 0.73 and 0.44 pCi/g, respectively, in stream channel sediments (Environmental Surveillance Group 1985). These values, and the tritium values, are well below any present or proposed environmental standards for these radionuclides.

Area G has stopped receiving RCRA chemical waste under interim status. It will continue to receive radioactive waste. Mixed waste is not being disposed of at Area G but is presently being stored at Area L. Area G has been used for disposal of classified waste contaminated with radioactivity and is still used for that purpose.

DOE has applied for an interim-status groundwater waiver in compliance with RCRA. In response to the application, the New Mexico EID issued a compliance order that required DOE to complete a vadose zone characterization program. DOE submitted the final report on the vadose zone characterization to the EID during March 1987.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 20.4 (Appendix B).

Planned Future Actions--As appropriate, disposal units within Area G are covered by routine LANL operations or will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-G: Material Disposal Area G

REFERENCES

Environmental Surveillance Group, LANL. 1985. "Environmental Surveillance at Los Alamos During 1984," Los Alamos National Laboratory report LA-10421-ENV, April 1985.

Mayfield, D. L. 1983. "Radiological Conditions at TA-35 Former Area W," Los Alamos National Laboratory memorandum to W. R. Hanson, December 14, 1983.

Rogers, M. A. 1977. "History and Environmental Setting of LASL Near-Surface Land Disposal Facilities for Radioactive Wastes (Areas A, B, C, D, E, F, G, and T)," Los Alamos Scientific Laboratory report LA-6848-MS, Vols. I and II, June 1977.

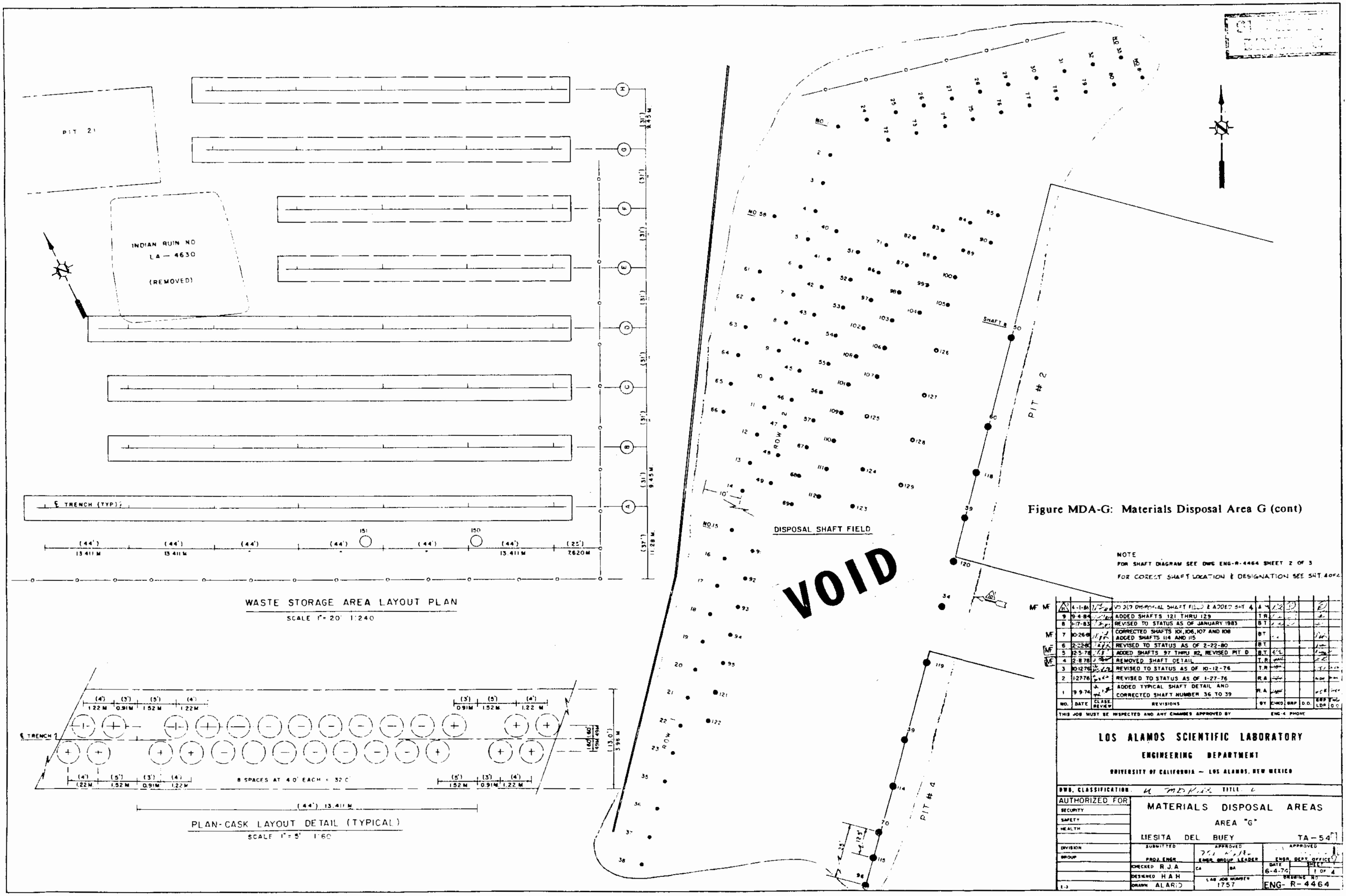


Figure MDA-G: Materials Disposal Area G (cont)

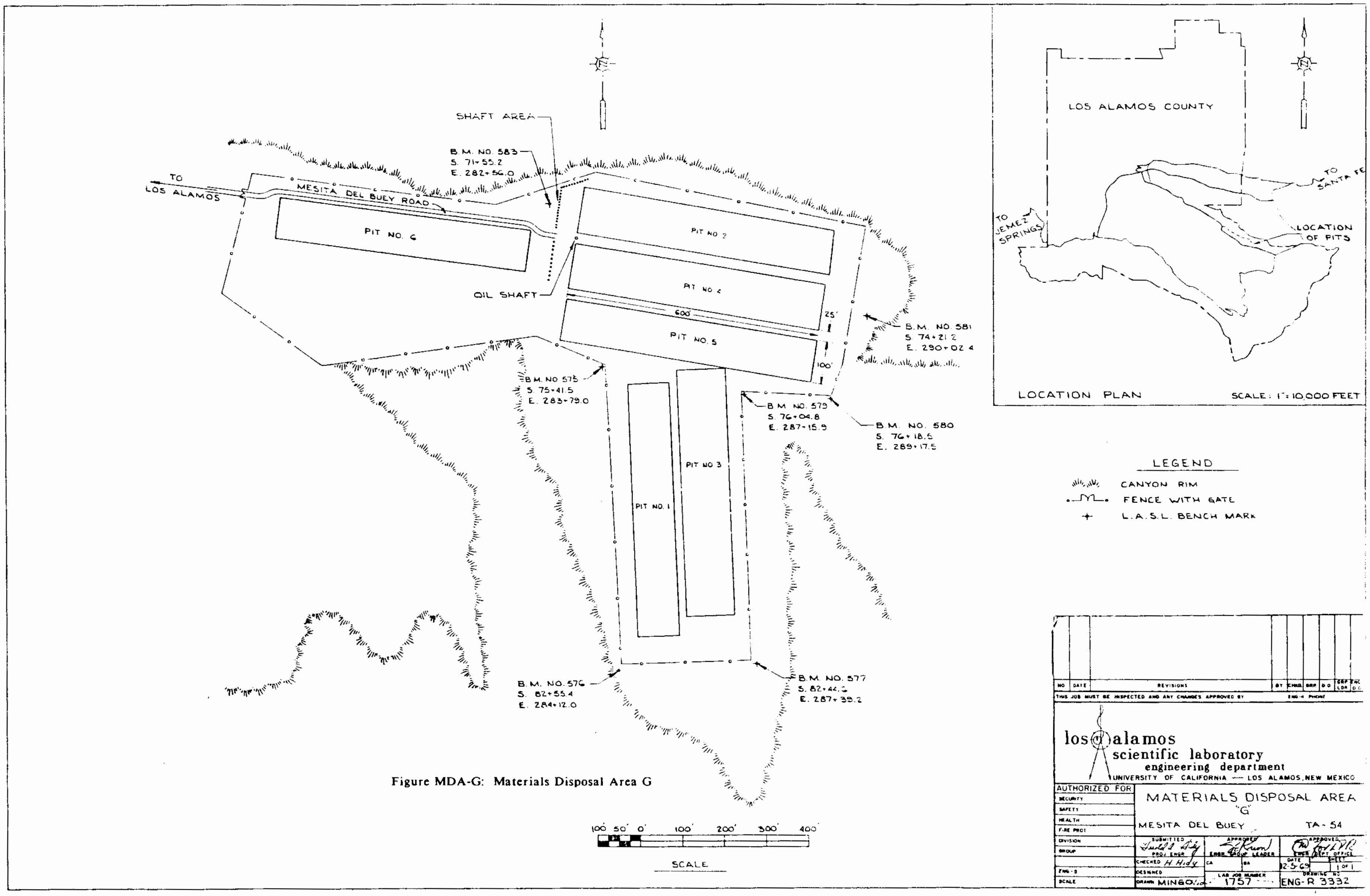


Figure MDA-G: Materials Disposal Area G

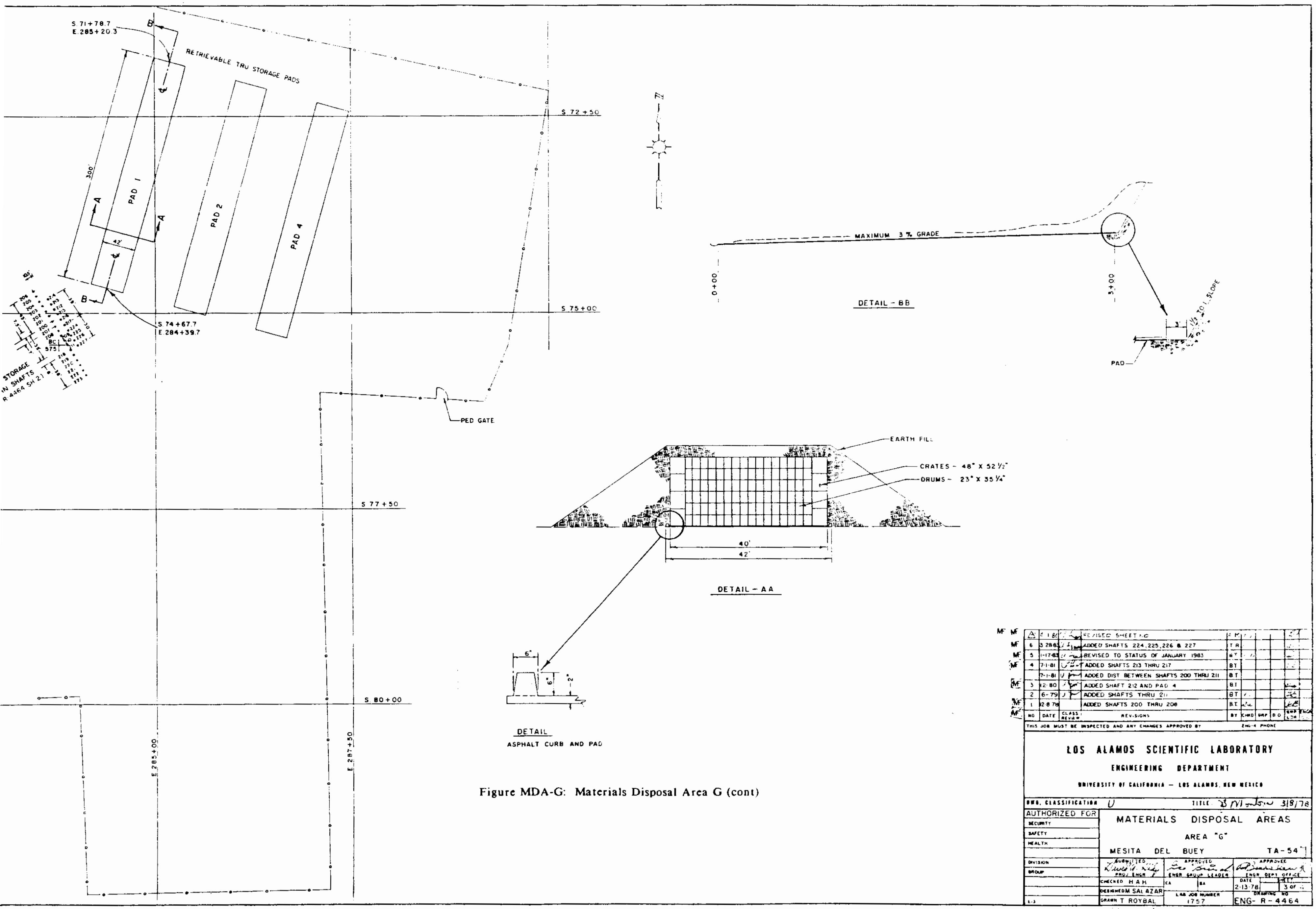


Figure MDA-G: Materials Disposal Area G (cont)

MATERIAL DISPOSAL AREA H

DISCUSSION

Background--Area H, which consists of nine shafts 6-ft in diameter that are up to 60 ft deep, was built between 1959 and 1963 at TA-54 for disposal of uncontaminated material. Additionally, it appears that some radioactive material was placed in this area because trace-level tritium contamination was detected in subsurface samples taken near one of the shafts. It is known that parts contaminated with or containing depleted uranium have been placed in Area H and there is a possibility that some transuranic-contaminated parts were also put into Area H in shafts 1-8, which were used from May 3, 1960, to December 12, 1979. Log book notes indicate beryllium, lithium, and items contaminated with high explosives are buried in shafts 1-8. The shafts were apparently capped with soil to an unknown depth.

Shaft 9, which is still being used, was first used on July 3, 1980. Two containers containing 15 lbs of lithium hydride in solid form were put into this shaft in 1981. Other material disposed of includes beryllium, magnesium, depleted uranium, and various foams.

No radioactive or RCRA waste has been placed in shaft 9 since November 1984. A closure plan was submitted for Area H under RCRA regulations.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 14.9 (Appendix B).

Planned Future Actions--As appropriate, disposal units within Area H are covered by routine LANL operations or will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-H: Material Disposal Area H

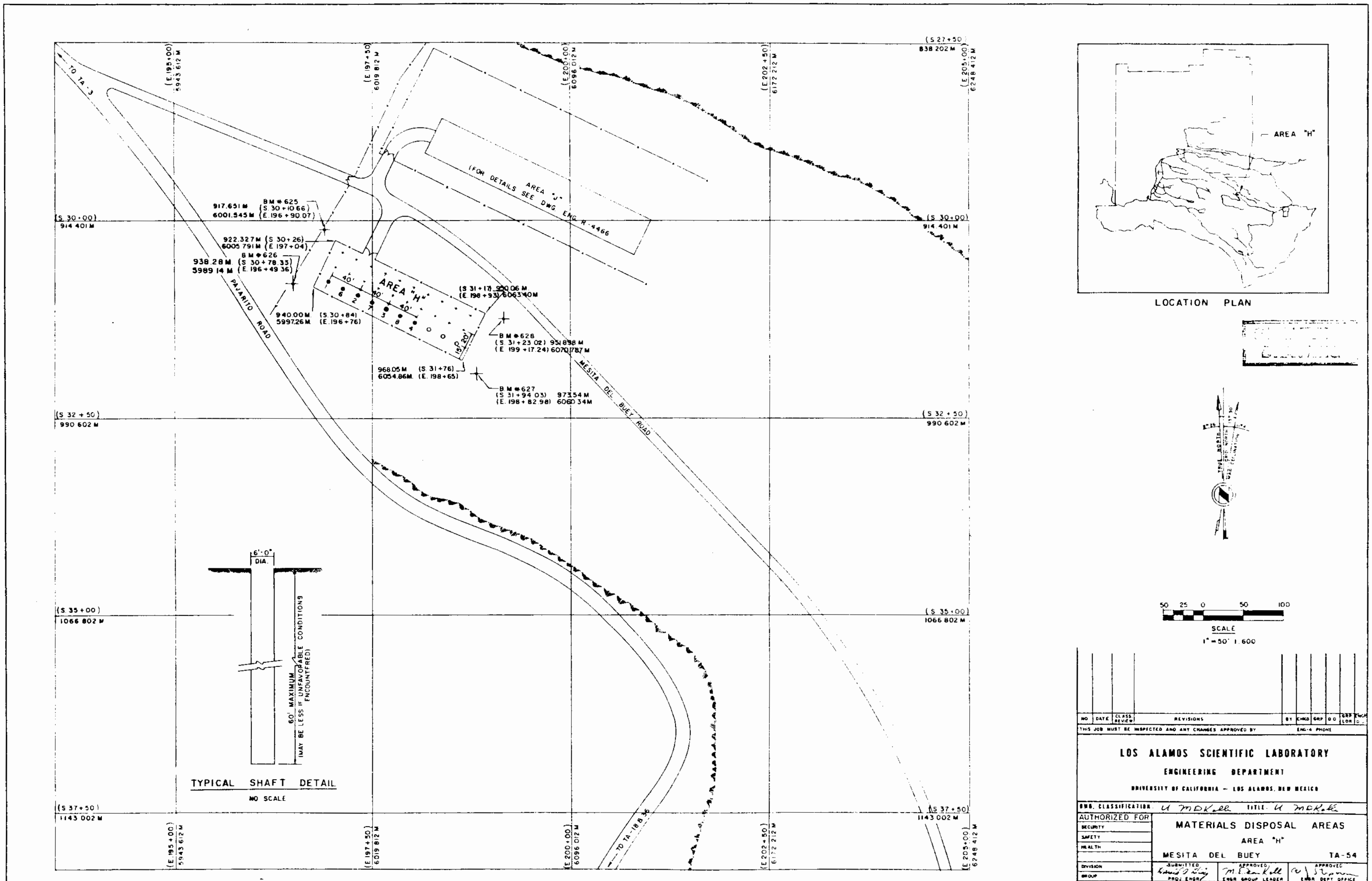


Figure MDA-H: Materials Disposal Area H

MATERIAL DISPOSAL AREA I

DISCUSSION

Background--The letter I was never used to designate a material disposal area; thus, no such area exists.

MATERIAL DISPOSAL AREA J

DISCUSSION

Background--Area J is a 2.65-acre site in TA-54 that is used for the disposal of equipment wastes over which the Laboratory wishes to maintain administrative control, such as those that are possibly contaminated with high explosives. Pit 1 was filled in 1966. Pit 2 was filled in 1984. A third pit and two 6-ft-diam, 65-ft-deep shafts were excavated in 1984 and have been used for disposal since then (Balo and Warren 1984). All wastes currently buried at Area J must be certified to be free of detonatable quantities of high explosives.

CERCLA Findings--Positive for FFSDIF, PA, and PSI; HRS Migration Mode Score is 8.5 (Appendix B).

Planned Future Actions--As appropriate, disposal units within Area J are covered by routine LANL operations or will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-J: Material Disposal Area J

REFERENCE

Balo, K. A., and J. L. Warren. 1984. "Waste Management Site Plan, Los Alamos National Laboratory, December, 1984," Los Alamos National Laboratory report LA-UR-85-336, December 1984.

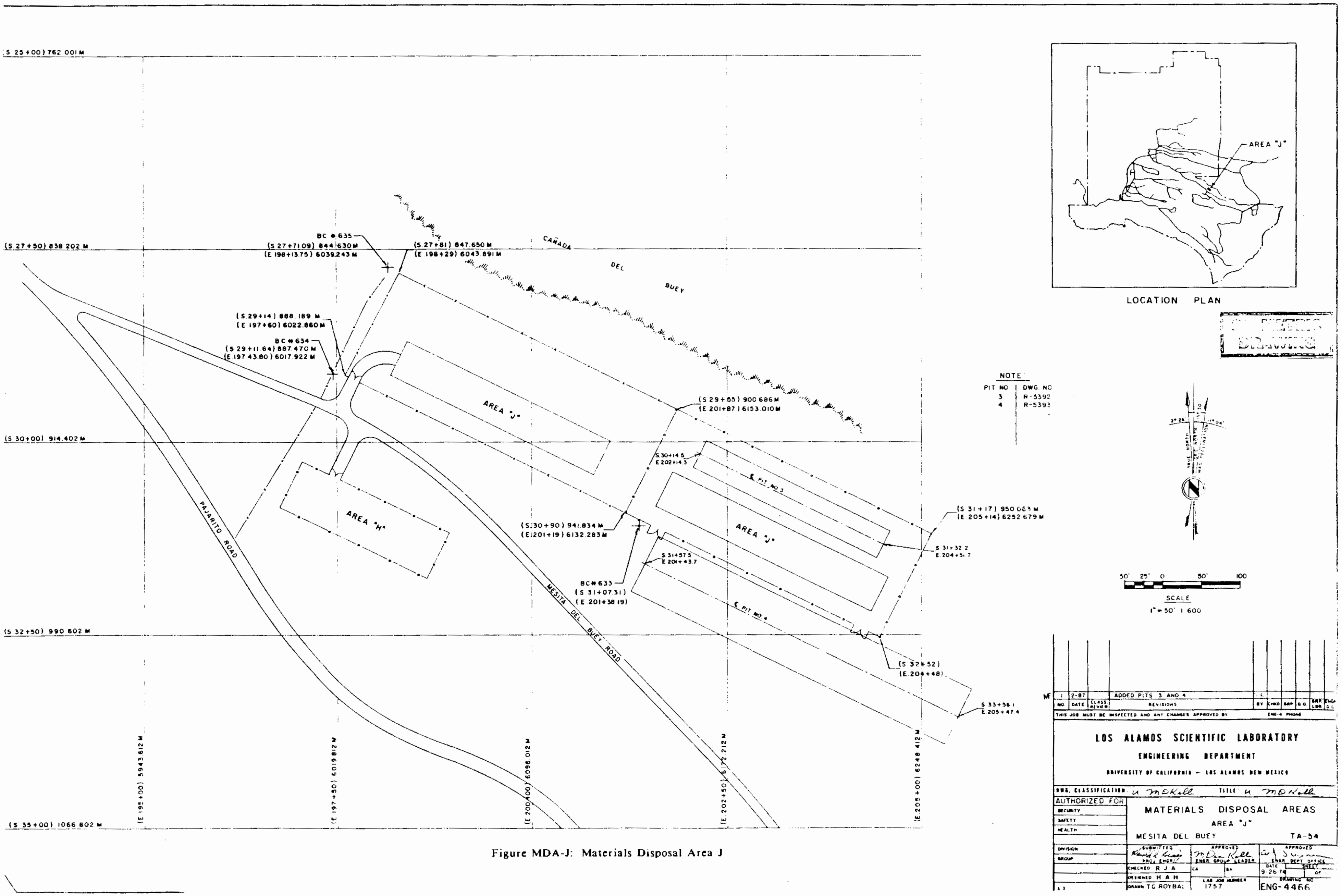


Figure MDA-J: Materials Disposal Area J

MATERIAL DISPOSAL AREA K

DISCUSSION

Background--Area K is composed of one or two sump pits at TA-33 that serve building TA-33-86. The drawings for Area K indicate one pit identified as TA-33-134 that is 4 ft in diameter and 6 ft deep. Engineering records indicate TA-33-133 is also a sump pit located just a few feet west of sump 134. The sumps are not indicated on a 1957 map but Area K was identified in 1965 (Engineering Division 1965). The principal contaminant from TA-33-86 is tritium. Uranium is another possible radioactive contaminant. Chemical constituents of the waste are not presently known. The sump(s) are scheduled for removal when TA-33-86 is decommissioned. It is believed that these sumps served a large sink that was built to maintain and repair an old-style tritium transfer pump. Solvents and oils contaminated with tritium were probably used.

Area K is being monitored for radioactive transport under the IWMP.

CERCLA Findings--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 10.2 (Appendix B).

Planned Future Actions--The site will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-K: Material Disposal Area K

REFERENCE

Engineering Division, LANL. 1965. "Approximate Acreages of Materials Disposed Areas A through Q," Los Alamos Scientific Laboratory memorandum, April 9, 1965.

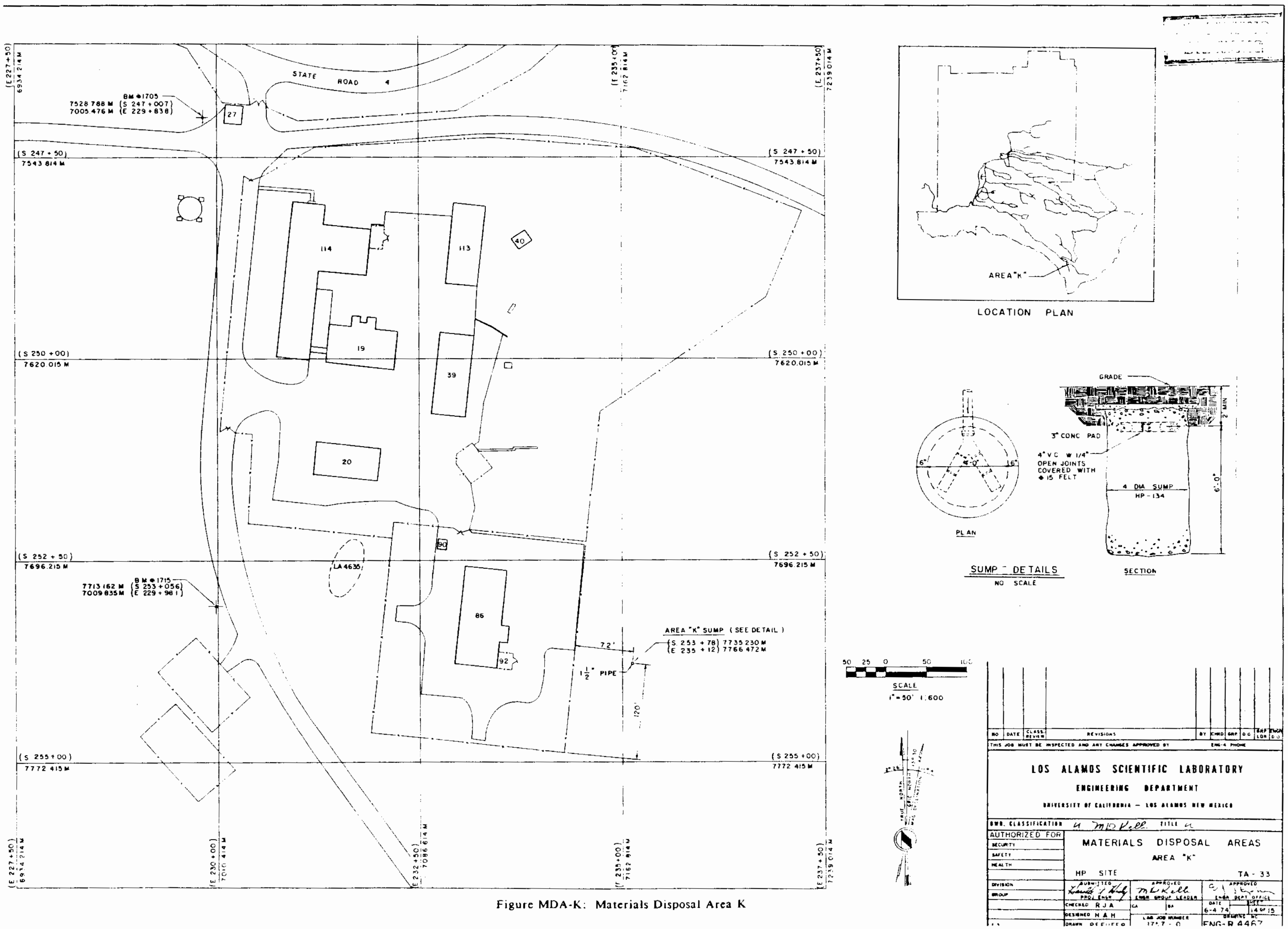


Figure MDA-K: Materials Disposal Area K

MATERIAL DISPOSAL AREA L

DISCUSSION

Background--Area L is a 2-acre site within TA-54 that was the principal chemical waste disposal area for the Laboratory from 1964 to November 1985. From 1964 through May 1975, all wastes were put into three pits. The last pit was covered in June 1975. Disposal from then until November 1985 was in shafts that range from 2 to 8 ft in diameter and are up to 65 ft deep. The shafts have now all been filled and capped with concrete. Different shafts were used for different categories of waste chemicals (organics, inorganics, oils, acids, bases, reactive metals) to assure that incompatible chemicals did not mix and react.

Two small pits at the site were used to dispose of bulk quantities of treated aqueous waste--water quickly evaporated from these wastes, leaving a salt cake in the bottom of the pit. When a salt cake reached 1 yd from the top, the pit was backfilled. This practice was stopped in FY 1984 (Balo and Warren 1984). The impoundment is now undergoing characterization in accord with a compliance order issued by the New Mexico EID, and the results will determine the closure actions to be taken.

DOE has applied for an interim-status groundwater waiver in compliance with RCRA. In response to the application, the New Mexico EID issued a compliance order that required DOE to complete a vadose zone characterization program. DOE submitted the final report on the vadose zone characterization to EID during March 1987.

The DOE has applied for a long-term permit to continue to treat and store waste at Area L through the RCRA Part B application submitted to the EID. No further disposal is planned. A closure plan for Area L was submitted on November 23, 1985. Monitoring requirements have not yet been issued.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS Migration Mode Score is 19.3 (Appendix B).

Planned Future Actions--As appropriate, disposal units within Area L are covered by routine LANL operations or will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-L: Material Disposal Area L

REFERENCE

Balo, K. A., and J. L. Warren. 1984. "Waste Management Site Plan, Los Alamos National Laboratory, December, 1984," Los Alamos National Laboratory report LA-UR-85-336, December 1984.

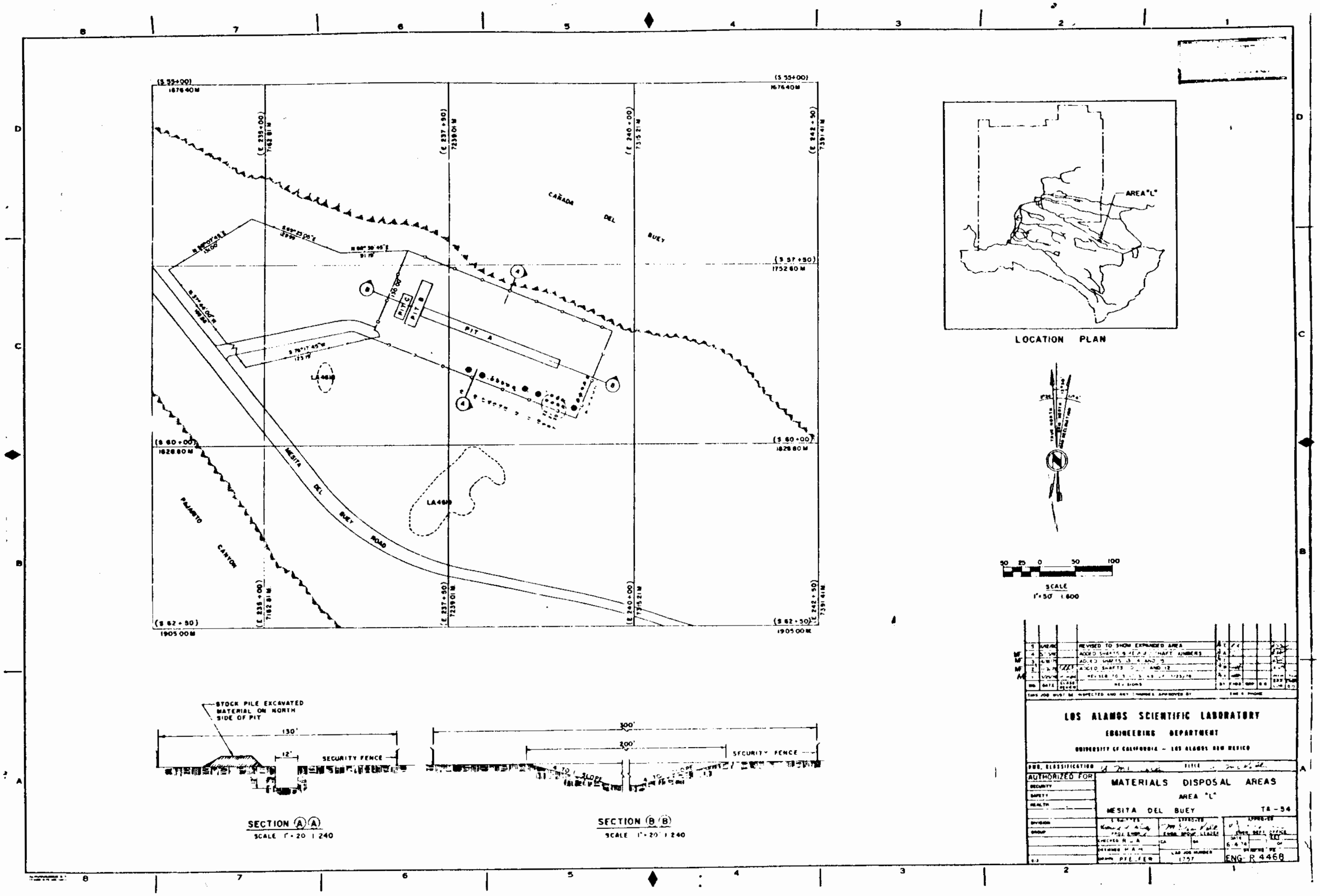


Figure MDA-L: Material Disposal Area L

MATERIAL DISPOSAL AREA M

DISCUSSION

Background--Area M was created by the AEC about 1947 as a disposal site for construction debris (Employee Interviews 1983). It is in an isolated location in the woods near TA-9 and covers approximately 3.2 acres (Engineering Division 1965). According to engineering drawing ENG-R102 (Rev. 12), April 1965, designating Area M as a material disposal area, debris was suspect of being contaminated with explosives or chemicals. The area has been inactive for many years.

Most of the debris is rubble from the demolition of old facilities. The debris is thought to come from TA-6, -8, and -9, and possibly from TA-15 and -16, and includes tile, cabinets, asbestos-covered pipes, conduits, and fluorescent lighting fixtures. Over the years, other things were added to the site, including some uranium-contaminated firing site debris, chemical bottles, paint cans, pails, and garbage cans. The containers observed during the 1984 field reconnaissance studies were empty.

In addition to Area M, several subsidiary surface disposal areas were created along the road going into Area M. They contain what appears to be building demolition debris, concrete rubble, metal, and tile for the most part.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 0.5 (Appendix B).

Planned Future Actions--This site will be evaluated for radiological and nonradiological constituents under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

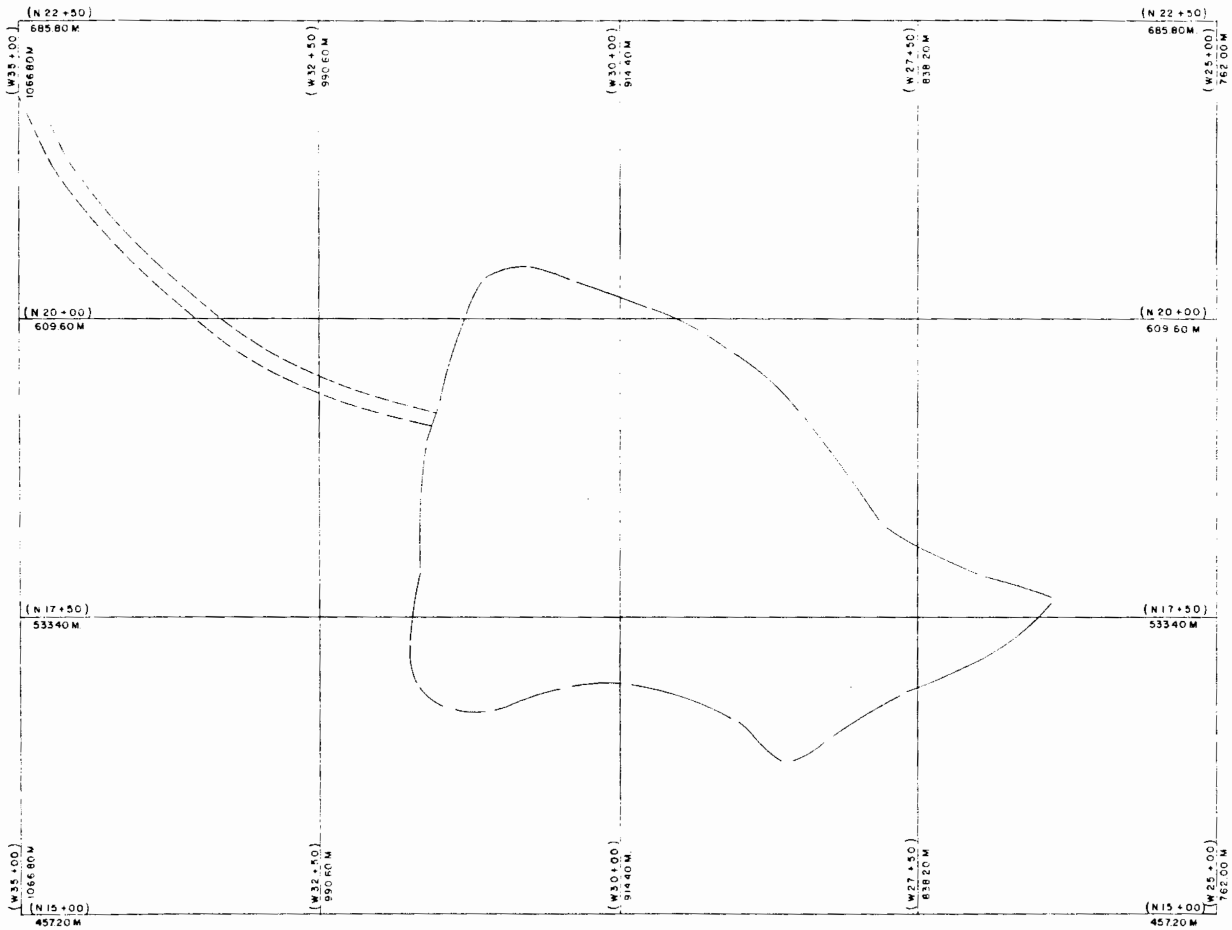
FIGURE

Figure MDA-M: Material Disposal Area M

REFERENCES

Employee Interviews. 1983. Information obtained through employee interviews by CEARP personnel, Los Alamos National Laboratory, 1983.

Engineering Division, LANL. 1965. "Approximate Acreages of Materials Disposed Areas A through Q," Los Alamos Scientific Laboratory memorandum, April 9, 1965.



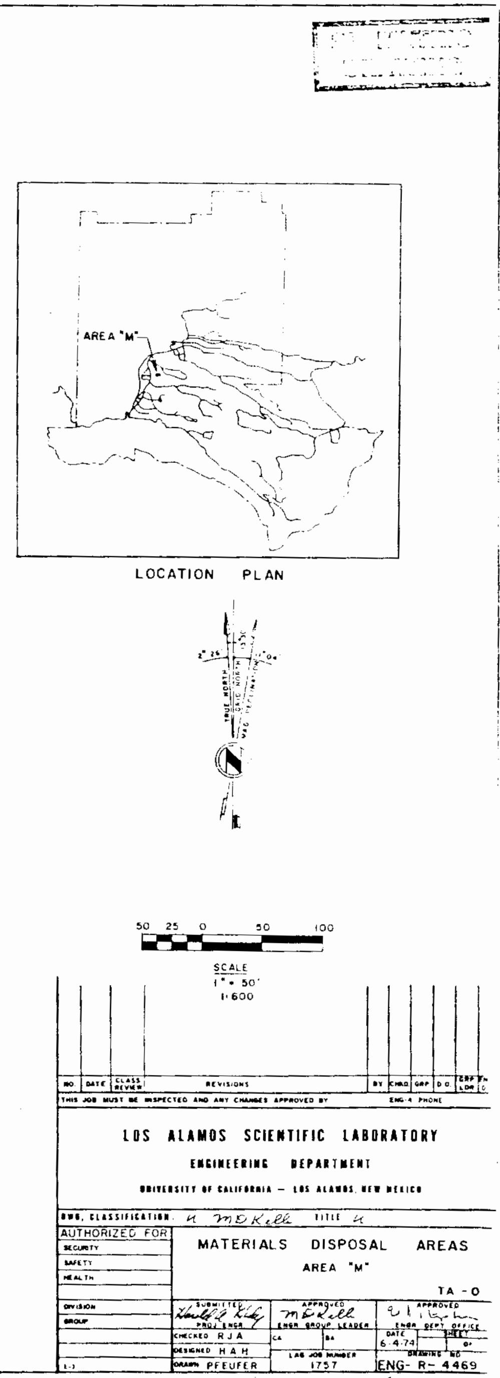


Figure MDA-M: Materials Disposal Area M

MATERIAL DISPOSAL AREA N

DISCUSSION

Background--Inactive Material Disposal Area N is located at TA-15. Area N is described in engineering drawing ENG-R102 (Rev. 12), April 1965, as a pit "containing remnants of several structures from R-Site which had been exposed to explosives or chemical contamination." The pit ends were surveyed and marked in 1985. Its area is estimated at 0.10 acres (Engineering Division 1965).

CERCLA Findings--Positive for FFSDIF, PA, and PSI; HRS Migration Mode Score is 3.7 (Appendix B).

Planned Future Actions--This site will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-N: Material Disposal Area N

REFERENCE

Engineering Division, LANL. 1965. "Approximate Acreages of Materials Disposed Areas A through Q," Los Alamos Scientific Laboratory memorandum, April 9, 1965.

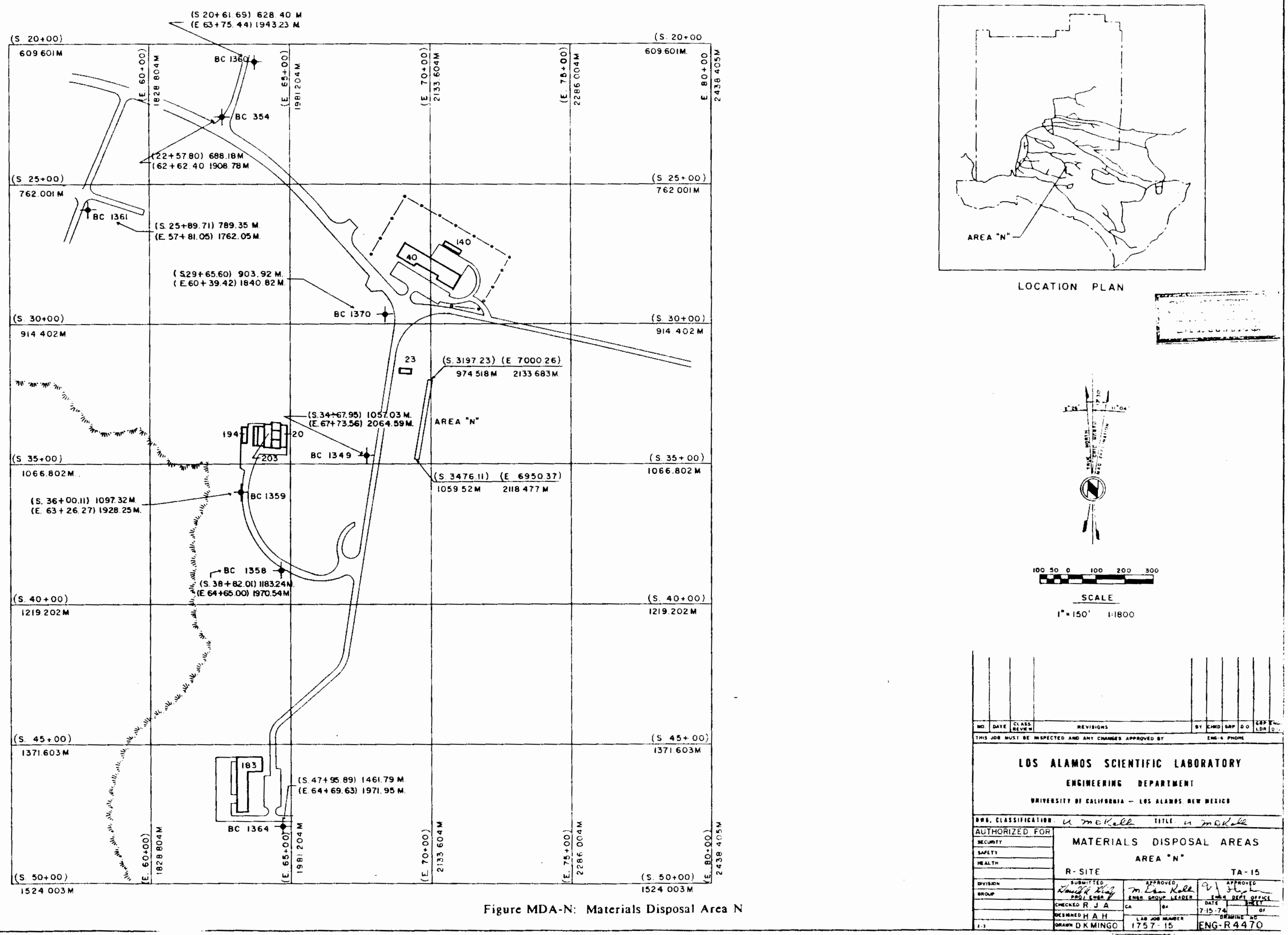


Figure MDA-N: Materials Disposal Area N

MATERIAL DISPOSAL AREA O

DISCUSSION

Background--The letter O was never used to designate a material disposal area; thus, no such area exists.

MATERIAL DISPOSAL AREA P

DISCUSSION

Background--Area P is a 6.7-acre site located at TA-16 at the edge of Canyon de Valle. Its principal use has been for disposal of noncombustible debris remaining from burning structures that had been exposed to high explosive chemical contamination. These structures include old magazines and explosives buildings from TA-6, -9, -11, and -16. A number of other materials have been added over the years, including ashes from an incinerator in which combustible materials from TA-16 were burned (Employee Interviews 1984), items that were suspected to be contaminated with high explosive--such as chemical bottles and buckets from operations at TA-16, and other general trash. The major portion of the site has been covered with soil and leveled. However, some debris has fallen to the canyon bottom and the material on the edge of the filled area is uncovered. A culvert draining runoff water from a waste explosive burning pad was directed across the top of the site and caused some erosion and subsidence in the surface in 1985. The drainage from this area was directed around the edge of Area P in 1986. The site was closed in 1985 and a closure plan has been filed with the New Mexico EID in compliance with RCRA.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS Migration Mode Score is 1.6 (Appendix B).

Planned Future Actions--Area P is covered by routine LANL operations.

FIGURE

Figure MDA-P: Material Disposal Area P

REFERENCE

Employee Interviews. 1984. Information obtained through employee interviews by CEARP personnel, Los Alamos National Laboratory, 1984.

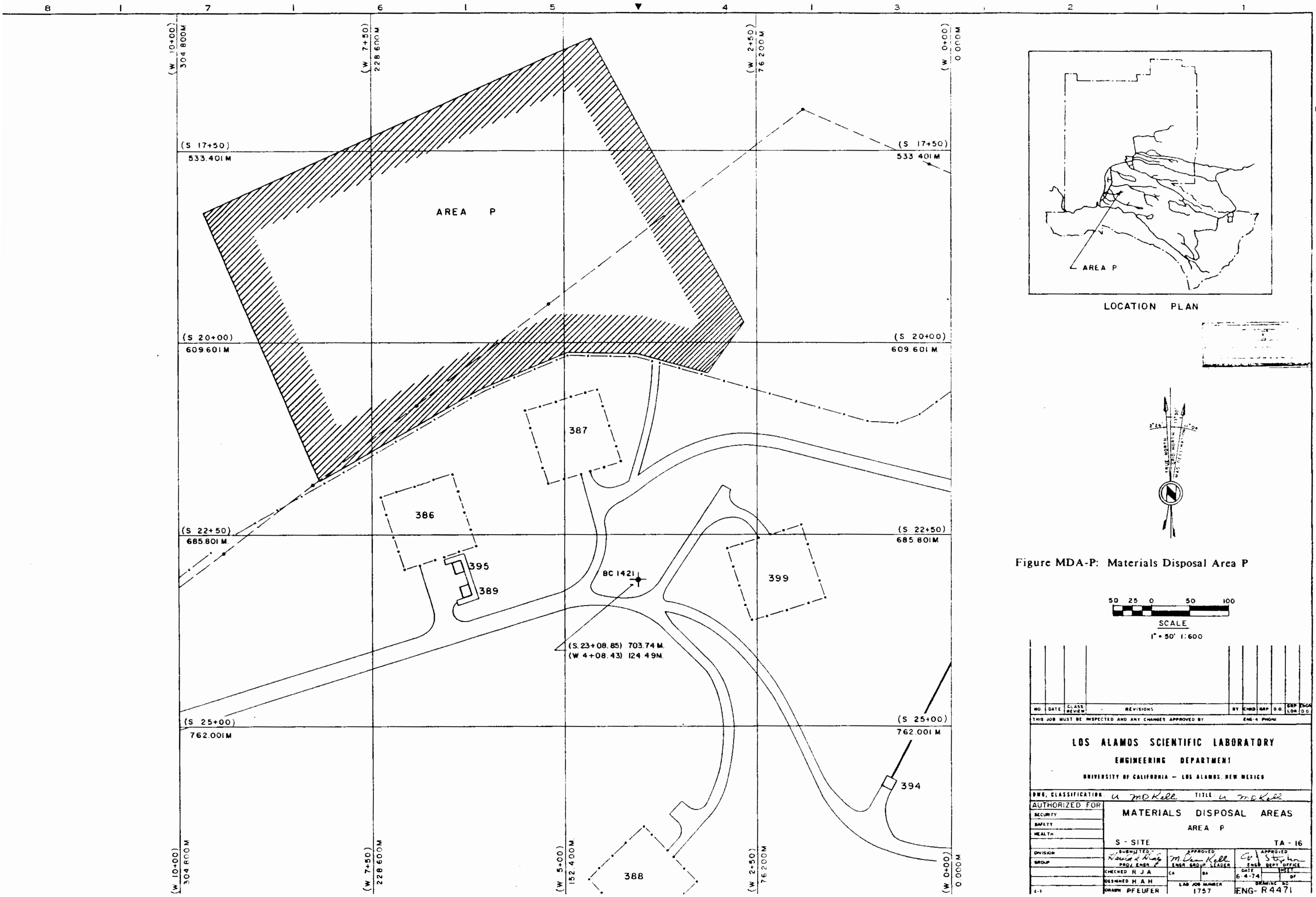


Figure MDA-P: Materials Disposal Area P

MATERIAL DISPOSAL AREA Q

DISCUSSION

Background--Area Q is a 30-ft^2 pit near TA-8-1. The pit contains gun barrels (one nearly 18 ft long), some 80 inert projectiles, about 50 steel blocks with holes in the center and 3-in. projectiles imbedded in them, 3- and 6-in. expended casings, and some Little Boy (1945 uranium gun weapon) bomb parts. The pit's location was easily identified with a metal detector in 1964 (Courtright 1964). A gun mount was dug up and retrieved for use at TA-33 in 1947. People interviewed did not recollect burial of radioactively contaminated items there. There is no indication that hazardous chemicals were disposed of in Area Q, although material is suspected to have trace high explosive contamination. Surveyors marked the pit's location in 1984.

CERCLA Findings--Positive for FFSDIF, PA, and PSI; HRS Migration Mode Score is 2.1 (Appendix B).

Planned Future Actions--The site will be evaluated for high explosives under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-Q: Material Disposal Area Q

REFERENCE

Courtright, W. C. 1964. "Burial of Large Navy Guns and Ammunition," Los Alamos Scientific Laboratory memorandum to H-3 file, December 10, 1964.

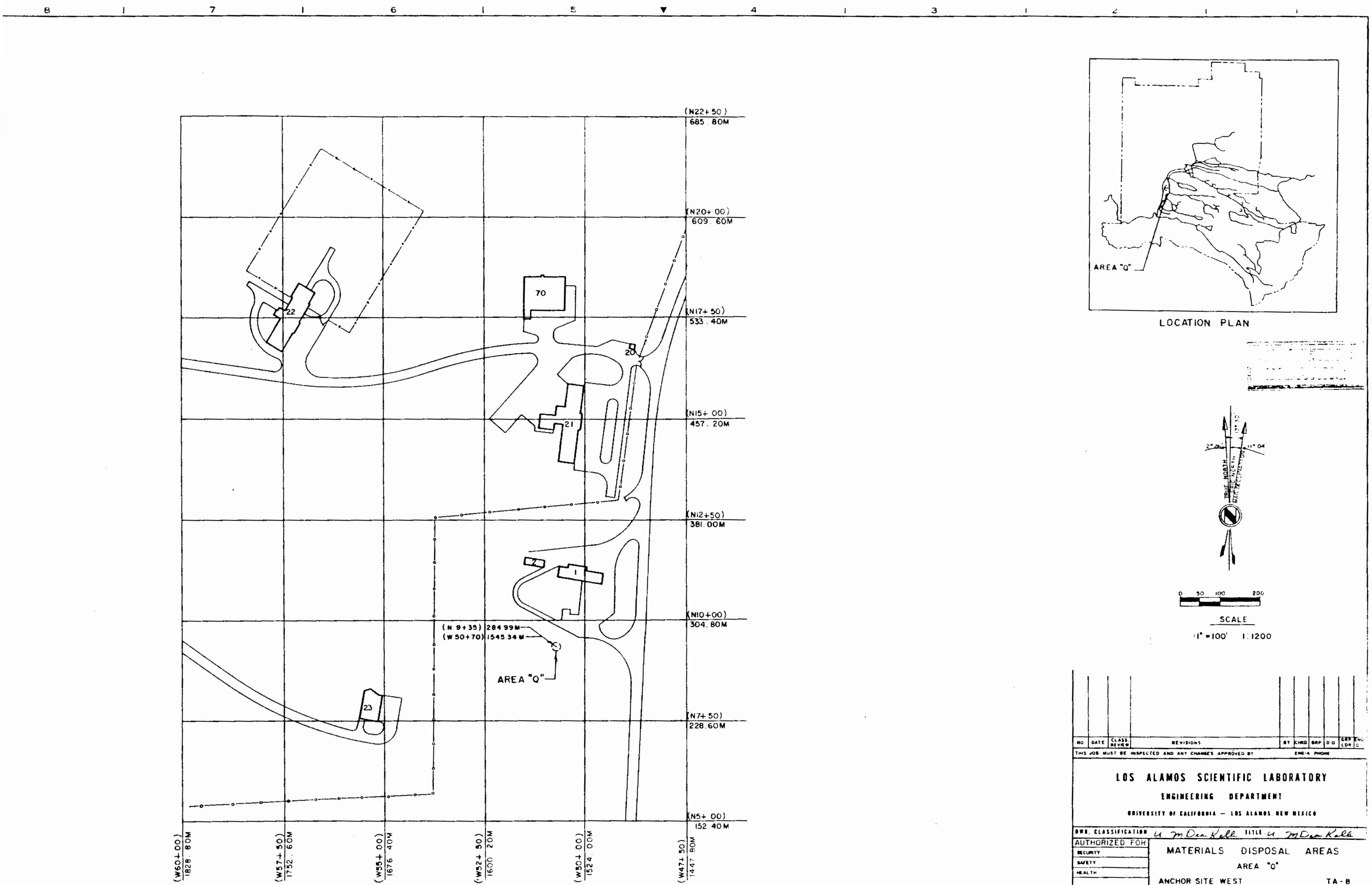


Figure MDA-Q: Materials Disposal Area Q

MATERIAL DISPOSAL AREA R

DISCUSSION

Background--Area R, which was abandoned in 1948 or 1949, is a 2.27-acre site located at TA-16. It is described as follows: "The area was used as a burning ground for waste explosives prior to construction of the 132 Group buildings and the present burning area. During the course of new construction the ground surface was graded and pushed into the canyon" (Engineering Division 1965). There is no present indication that it was ever used for disposal of objects or debris. Several trees growing in the area suggest the ground surface has not been disturbed for a number of years.

CERCLA Findings--Positive for FFSDIF, PA, and PSI; HRS Migration Mode Score is 2.1 (Appendix B).

Planned Future Actions--The site will be evaluated for residual waste explosives under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-R: Material Disposal Area R

REFERENCE

Engineering Division, LANL. 1965. "Approximate Acreages of Materials Disposed Areas A through Q," Los Alamos Scientific Laboratory memorandum, April 9, 1965.

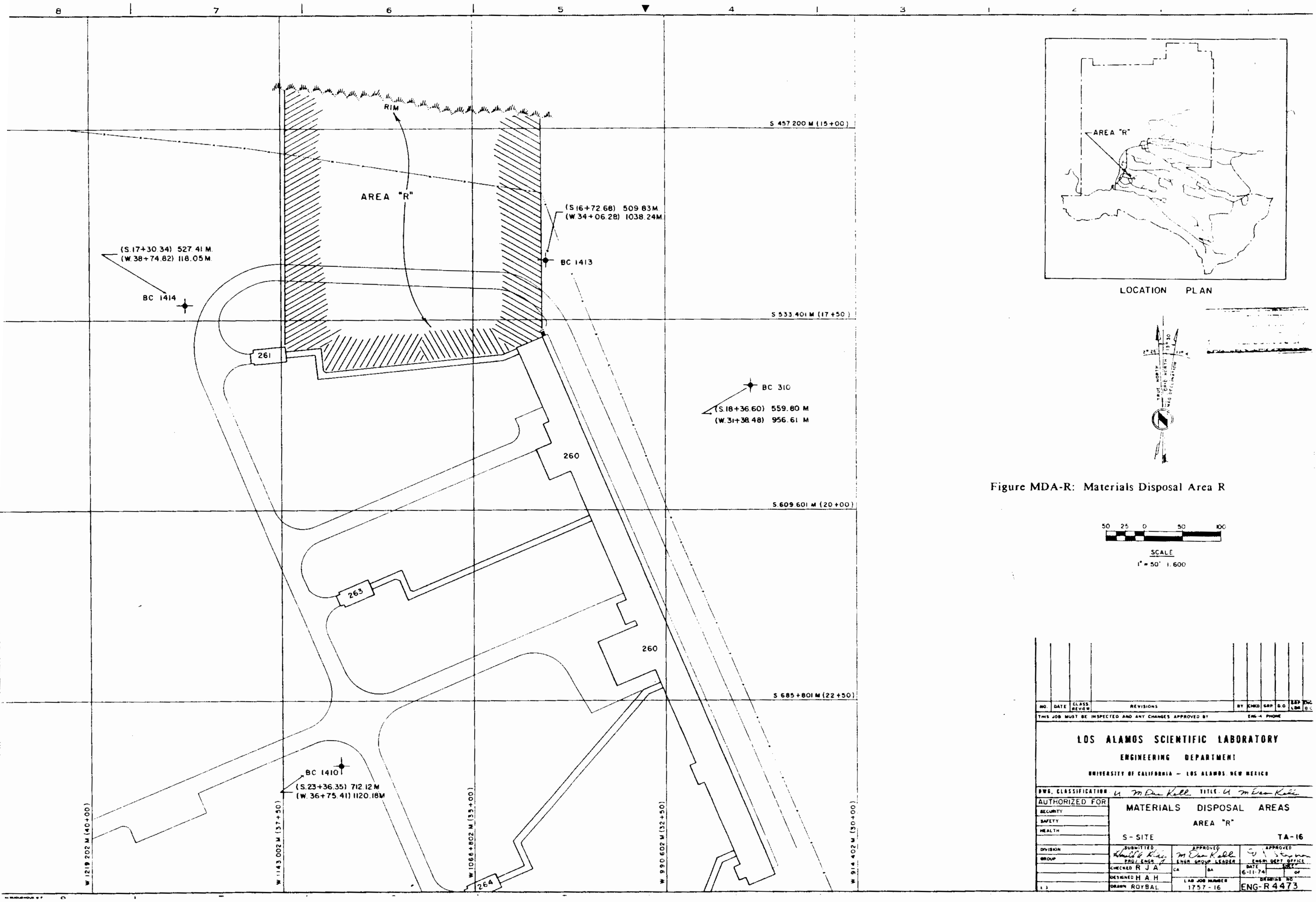


Figure MDA-R: Materials Disposal Area R

MATERIAL DISPOSAL AREA S

DISCUSSION

Background--Area S is a 10-ft^2 area still in use located approximately 80 ft southeast of magazine K-36, TA-11. It is enclosed by a pipe rail and is being used for soil studies in connection with disposing of explosives. In 1965, 12 different types of high explosive were deliberately buried at Area S in designated locations. Periodically, samples are excavated and analyzed to determine rates of decomposition of high explosive in soil. In the sample plots, 2 oz of explosive was homogeneously mixed with 11 lbs of soil and then placed in a known location in an open-ended cylinder with a fine mesh screen on the bottom and hardware cloth over the top. Four locations had a homogeneous mixture with a culture of the bacteria Pseudomonas aeruginosa added. The bacteria did not survive beyond 6 months so their effect on the decomposition of high explosive is not known. Small cylinders (5/8 in. diameter by 1/4 in. high) of each of the explosives were also buried.

After the explosives had been exposed for 4 years, the conclusions about them were that "Only those explosives containing TNT, barium nitrate, or boric acid disappear at a rate that can be considered useful for their effective elimination from the environment" (Dubois and Baytos 1972). Results at 8 years indicated these conclusions were still valid. Samples have been taken on a roughly doubling interval between sets of samples. Only the baratol was severely deteriorated by the environment. The others were not affected to any appreciable extent. The cylinders have all been removed. Only the homogeneous mixtures remain and no more than 3 oz of high explosive remains.

CERCLA Finding--Negative for FFSDIF, PA, and PSI; therefore, a HRS Migration Mode Score is not calculated.

Planned Future Actions--The Dynamic Testing Division (M) or its successor will ensure that continuity of knowledge is maintained on the form, amount, types, and locations of remaining explosives as long as explosives are buried at Area S. Using current standards, persons knowledgeable in explosives safety will determine the adequacy of the pipe rail fencing. When M Division no longer wishes to continue this experiment, all buried material will be removed, and the area will be restored to its nearly natural state. Area S will then be removed from the list of material disposal areas.

FIGURE

Figure MDA-S: Material Disposal Area S

REFERENCE

Dubois, F. W., and J. F. Baytos. 1972. "Effects of Soil and Weather on the Decomposition of Explosives," Los Alamos Scientific Laboratory report LA-4943, June 1972.

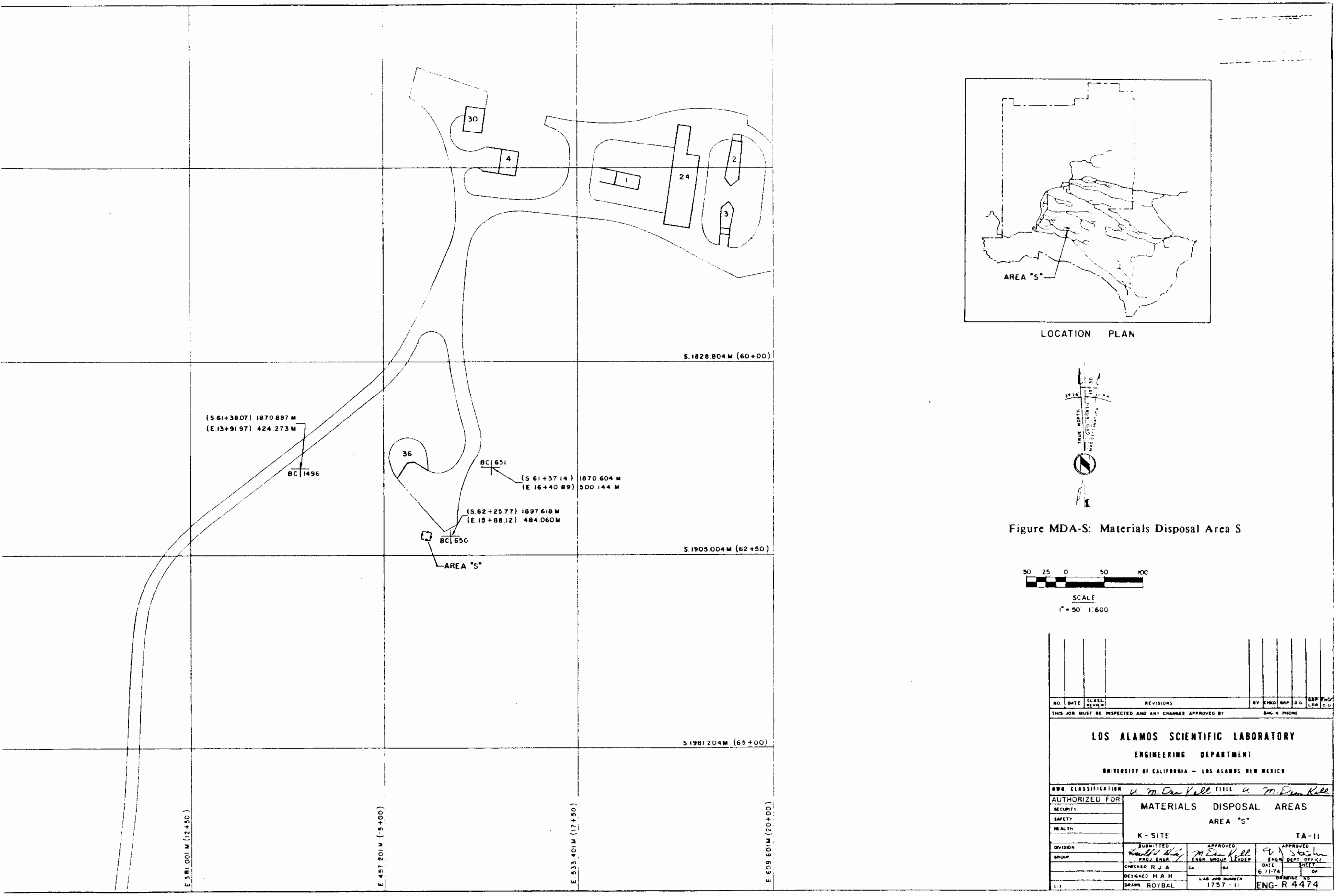


Figure MDA-S: Materials Disposal Area S

MATERIAL DISPOSAL AREA T

DISCUSSION

Background--Inactive Material Disposal Area T is a set of four absorption beds at TA-21. Untreated waste (14 million gal) from processing plutonium was released to the pits from 1945 to 1952. Largely because the volume of liquid discharged to the beds had exceeded their holding capacity, after 1952 wastes were treated in Building TA-21-35, and at infrequent intervals, a few hundred gallons of treated wastes were discharged until 1967. Waste treatment operations shifted to a new treatment plant in 1968. Batch americium wastes from that time were mixed with cement and pumped down shafts augered between two absorption beds. Starting December 31, 1975, TRU wastes were mixed with cement and pumped into corrugated metal pipe, which was stored in a pit dug between two rows of absorption beds. In addition to plutonium in the waste (estimated at 60 counts/min/ml) before 1952, the average fluoride concentration was 160 ppm. In a 1-yr period, 10,500 gal. of effluent, highly concentrated with ammonium citrate, was also added to the absorption beds (Rogers 1977).

The absorption beds are trenches approximately 115 ft long by 20 ft wide by 4 ft deep. The trenches were backfilled with coarse material, grading from 8-in. boulders at the bottom, through gravel, to fine sand at the surface. The shafts, approximately 20 to 65 ft deep and 4 to 8 ft in diameter, were coated with asphalt prior to the disposal of the cement paste mixture (Rogers 1977).

Several studies have been done over the years to characterize the movement of radionuclides through the tuff. Five test holes were dug around the pits in 1953; two were through the pits and one was a 45-degree hole that angled below pit 1. Plutonium concentrations above background were found to extend 20 ft below the surface. In 1961, a 30-ft-deep caisson was dug so that horizontal cores could be taken. It was concluded from this study that plutonium had penetrated to a depth of a least 28 ft in the tuff beneath the pits and that penetration took place mainly along joints in the tuff. Clay-filled joints retain plutonium, resulting in localized areas of high plutonium concentrations. In 1967, several test holes drilled outside the pits showed no alpha, beta, or gamma contamination, but tritium was found in the effluent water (Purtymun 1967).

In a study completed in 1978 (Nyhan and Booth 1984), four sampling holes were drilled to a depth of 100 ft through two absorption beds. In two holes, americium-241 had migrated 100 ft and plutonium-239 to 99.5 ft below the surface. These holes were drilled in the vicinity of the place where the waste water entered the beds. The other two holes were drilled further away from the entrance point for the waste and showed americium-241 and plutonium-239 to depths of 44 and 21.5 ft, respectively.

Data starting in 1952 provide the mineral composition of the waste; before that date, it is unknown. The raw waste was estimated to have an organic content of 3% and the treated waste an organic content of 13% (Emelity 1975).

During FY 1986, 158 corrugated metal pipes containing TRU waste mixed in cement were removed from Area T to TA-54.

Area T is being monitored for radioactive transport under the IWMP.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 9.7 (Appendix B). Area T was aggregated with Areas A and U (which share the same watershed).

Planned Future Actions--This site will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-T: Material Disposal Area T

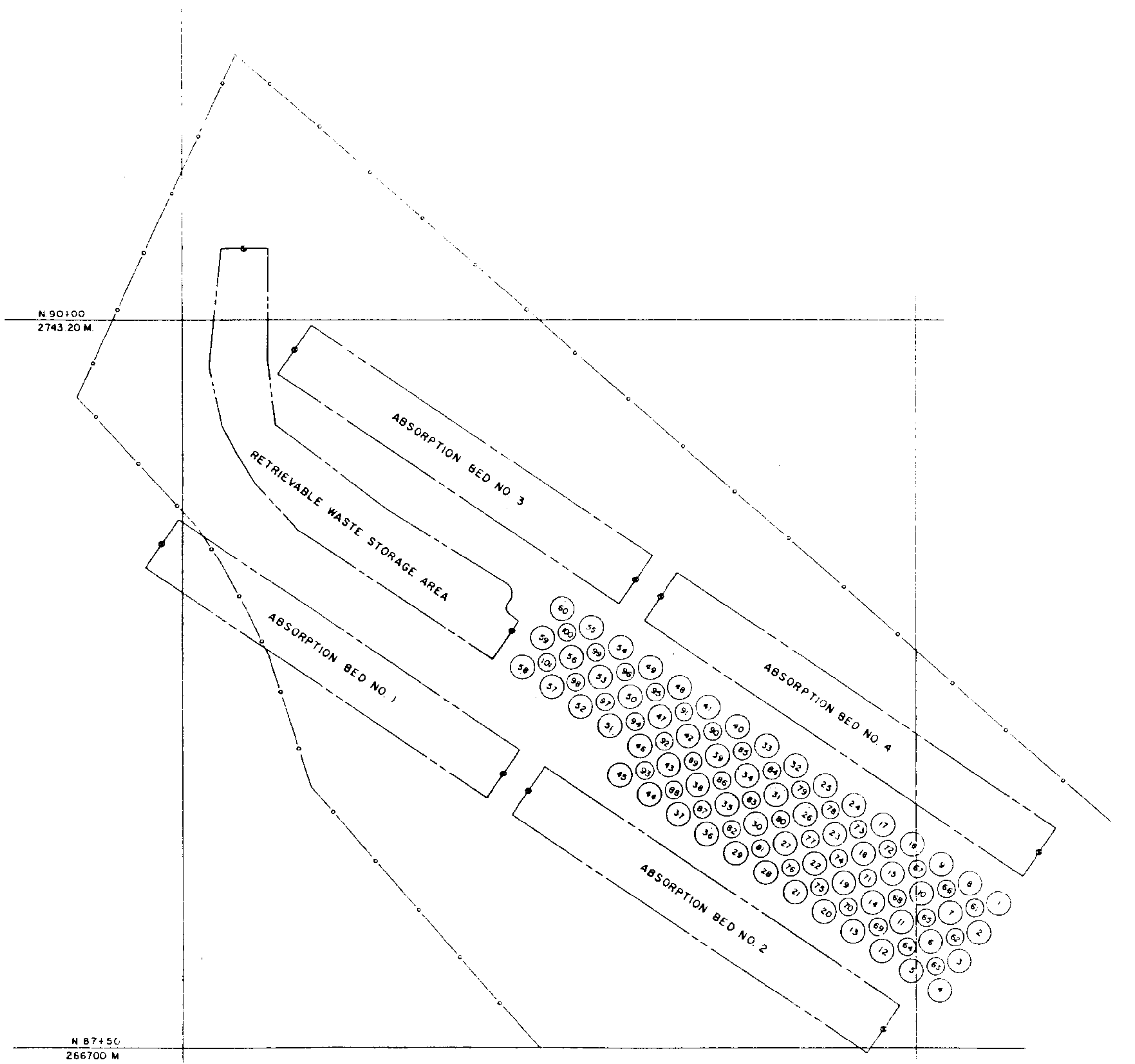
REFERENCES

Emelity, L. A. 1975. "Mineral Analyses of Wastes to Absorption Beds, Area T, Pre-1952," Los Alamos Scientific Laboratory memorandum, September 15, 1975.

Nyhan, J. W., and B. J. Booth. 1984. "Distribution of Radionuclides and Water in Bandelier Tuff Beneath a Former Los Alamos Liquid Waste Disposal Site After 33 Years," Los Alamos Scientific Laboratory report LA-10159-LLWM, July 1984.

Purtymun, W. D., 1967. Los Alamos Scientific Laboratory letter to William Kennedy, in CEARP files at Los Alamos National Laboratory, February 20, 1967.

Rogers, M. A. 1977. "History and Environmental Setting of LASL Near-Surface Land Disposal Facilities for Radioactive Wastes (Areas A, B, C, D, E, F, G, and T)," Los Alamos Scientific Laboratory report LA-6848-MS, Vols. I and II, June 1977.



●---- ABSORPTION BED COORDINATES

BED NO. 1
(N 89+23.14) 2719.78 M
(E. 157+43.04) 4798.49 M

(N 88+44.04) 2695.67 M
(E 158+59.43) 4833.96 M

BED NO. 2
(N. 88+38.42) 2693.96 M.
(E 158+67.70) 4836.48 M

(N 87+56.36) 2668.94 M
(E 159+88.45) 4873.26 M

BED NO. 3
(N 89+89.30) 2739.94 M
(E 157+87.99) 4812.19 M

(N. 89+10.20) 2715.83 M
(E 159+04.39) 4847.67 M

BED NO. 4
(N 89+04.58) 2714.12 M
(E.159+12.66) 4850.19 M

(N. 88+16.91) 2687.40 M
(E 160+41.69) 4889.52 M

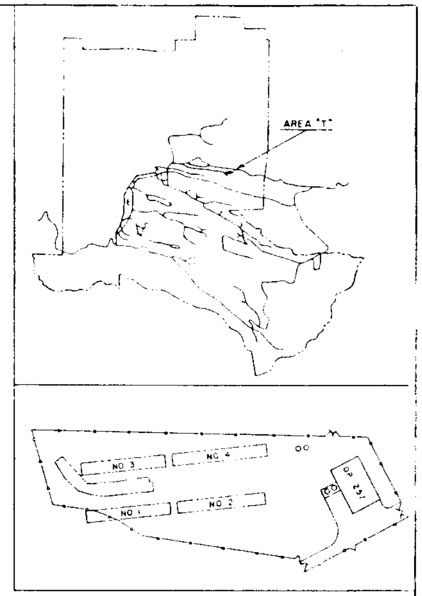
RETRIEVABLE WASTE STORAGE AREA
(N.90+23.61) 2750.40 M (E 157+71.74) 4807.236 M (N.88+92.47) 2710.430 M. (E 158+62.34) 4834.851 M

○ HOLES AUGERED
○ HOLES PROPOSED

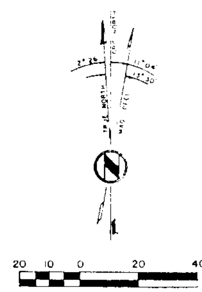
Figure MDA-T: Materials Disposal Area T

SHAFT NUMBER	SHAFT DIAMETER	DATE COMPLETED *	APPROXIMATE DEPTH *
1	8 2.4 M	5-17-7	
2	8'	10/69	25
3	8'	7/69	65
4			
5	8	3-24-71	65
6	8'	3-20-75	27
7			
8	8	6-6-74	66
9	8	10/69	65
10	8'	8/70	29
11	8	7/69	25
12			
13	8'	9-18-73	65
14			
15			
16			
17	8'	11/68	65
18	8'	1/69	59
19	8	4/69	65
20	8'	11-25-70	65
21	8'	3/71	21
22	8	4-9-70	65
23	8'	12-1-70	65
24	8'	3-13-70	60
25	8'	11-26-68	65
26	8'	1/69	23
27	8'	4/69	60
28	8'	7-5-73	66
29	8'	4-19-71	65
30	8'	8-7-70	60
31	8'	4-3-71	19
32	8	3-6-70	20
33	8'	N A	64
34	8'	5-6-71	65
35	8'	6-2-72	66
36	8'	4-22-71	65
37			
38			
39			
40			
41	8'	5-12-71	65
42	8'	8-28-70	23
43	8'	8-22-74	66
44	8'	5-28-71	30
45			
46	8'	10-11-72	67
47	8'	8-23-74	27
48	8'	10-31-72	65
49	8'	9-12-74	67
50	8'	10-25-72	65
51	8'	7-20-73	28
52	8'	10-31-72	26
53	8'	7-24-73	52
54	8'	10-20-72	65
55	8'	9-12-73	69
56	8'	10-6-72	67
57	8'	7-23-73	27
58	8'	10-28-72	27
59	6'	9-17-74	58
60	8'	10-16-72	65
61			
62			
63			
64			
65			
66			
67			
68			
69			
70 (6-10)	6' 1.8 M	8-20-75	68
71			
72			
73			
74			
75 (6-15)	6	3-25-75	66
76 (6-16)	6'	8-15-75	67
77			
78	6'	12-1-75	65
79			
80	6'	10-30-75	66
81			
82	6'	9-30-75	64
83 (6-23)	6'	10-15-75	24
84	6'	3-12-76	
85			
86			
87	6'	10-10-75	65
88			
89			
90			
91			
92			
93			
94			
95			
96			
97			
98			
99			
100	6'	3-25-76	N A
101			

* INFORMATION AS SHOWN IN ENG-4 FILES



LOCATION PLAN



SCALE 1" = 20'
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NO.	DATE	CLASS. REVIEW	REVISIONS	BY	CHKD	GRP	D O	GRP LDR	
1	3/25/76		REDRAWN AND REVISED TO STATUS AS OF 3/25/76	T R					

THIS JOB MUST BE INSPECTED AND ANY CHANGES APPROVED BY ENG-4 PHONE

LOS ALAMOS SCIENTIFIC LABORATORY

ENGINEERING DEPARTMENT

UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

DWG. CLASSIFICATION: U M Dan Kell TITLE U M Dan Kell

AUTHORIZED FOR: SECURITY / SAFETY / HEALTH / DIVISION / GROUP

MATERIALS DISPOSAL AREAS
AREA "T"

DP SITE — TA-21

SUBMITTED: PROJ. ENGR — APPROVED: M Dan Kell, ENGR. GROUP LEADER — APPROVED: ENGR. DEPT. OFFICE

CHECKED R J A — CA — BA — DATE 3/25/76 — SHEET OF

DESIGNED H A H — LAB JOB NUMBER 1757 — DRAWING NO. ENG- R-4475

DRAWN T ROYBAL

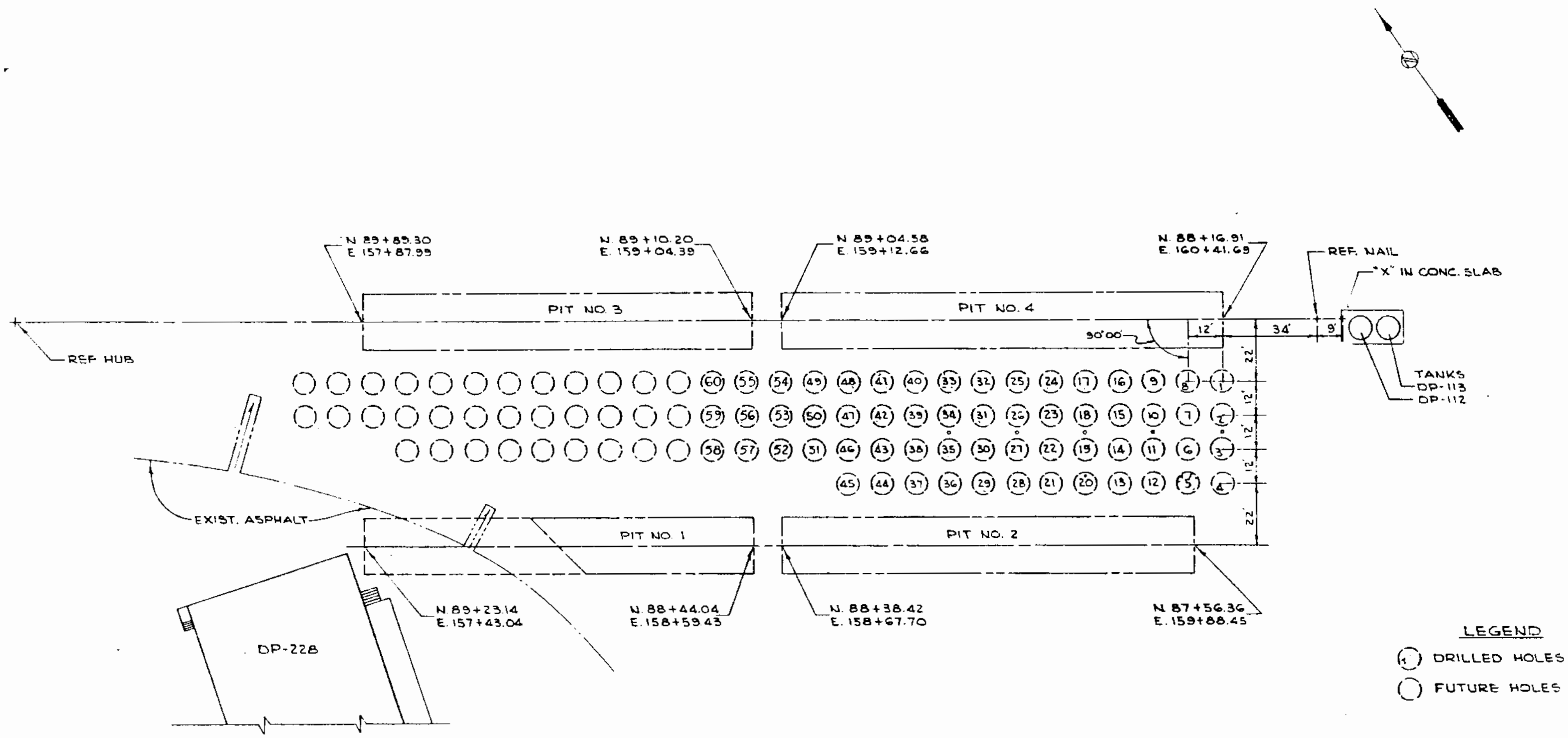


Figure MDA-T: Materials Disposal Area T (cont)

REVIEWER
CLASS

NO.	DATE	REVISIONS	BY	CHKD	GRP	D.O.	GRP. LDR.
2	12-4-72	ADDED DRILLED HOLES 1,5,21,31,29,34, 35,36,41,43,44,46,48,50,52,54,56,58,60	RA				
1	1-8-71	ADDED DRILLDED HOLES 10,20,23,30,33,42	TR				

THIS JOB MUST BE INSPECTED AND ANY CHANGES APPROVED BY ENG-4 PHONE

los alamos scientific laboratory
engineering department
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

AUTHORIZED FOR: SECURITY, SAFETY, HEALTH, FIRE PROT., DIVISION, GROUP, ENG-5

MATERIALS DISPOSAL AREA
AREA "T"
DP SITE TA-21

SUBMITTED — PROJ ENGR; APPROVED — ENGR GROUP LEADER; APPROVED — ENGR-DEPT OFFICE
CHECKED; DESIGNED; DRAWN TG ECYBAL
CA; BA
DATE 6-1-70; SHEET 1 OF
LAB JOB NUMBER 1757
SCALE 1" = 20'
DRAWING NO. ENG-R 356

MATERIAL DISPOSAL AREA U

DISCUSSION

Background--Inactive Material Disposal Area U, located at TA-21, contains two absorption beds similar to those in Area T. These beds were used for the subsurface disposal of contaminated liquid wastes between 1945 and 1968. The primary radionuclide in these wastes was polonium-210 which, with its 138-day half-life, has since decayed away. Several curies of actinium-227 were also discharged to these beds, principally from the effluents from a filter building that scrubbed actinium-227 out of the air in several process buildings at TA-21 (Department of Energy 1979). There were early problems with the pits; they did not function properly and "the oil washing down from the precipitrons is lying on top of the ground. This is very definitely contaminated to a high degree" (Drazer 1946). The area around the filter buildings was decontaminated when the buildings were removed in 1978 (Harper and Garde 1981). Area U was improved in 1985 with the removal of the piping from the absorption beds. (The pipe locations were different than those shown on the drawings.) In addition, a trench 20 ft wide, 100 ft long, and 4 to 13 ft deep was dug in the length of the beds, and soil contaminated with actinium was removed to Material Disposal Area G. Not all contamination was removed because of lack of time and money. A plastic lining was placed in the trench to indicate the excavation boundary, and then the trench was filled with uncontaminated tuff. The excavated area was covered with 6 in. of topsoil.

Area U is being monitored for radioactive material transport under IWMP.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 1.1 (Appendix B).

Planned Future Actions--This site will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

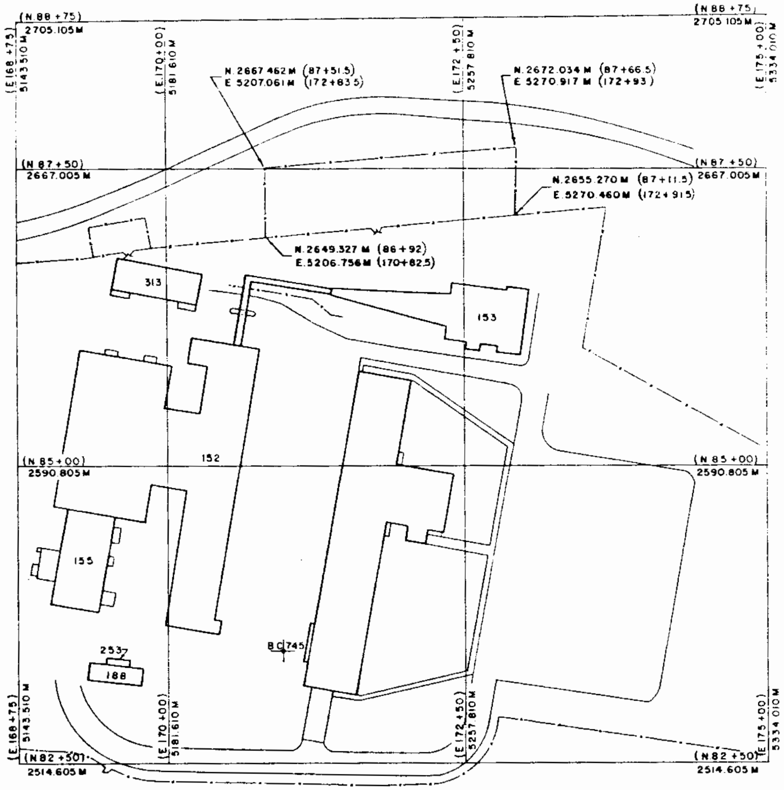
Figure MDA-U: Material Disposal Area U

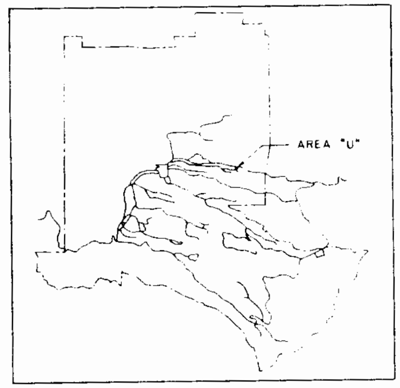
REFERENCES

Department of Energy. 1979. "Final Environmental Impact Statement, Los Alamos Scientific Laboratory Site," Department of Energy report DOE/EIS-0018, December 1979.

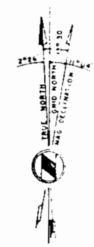
Drazer, H. W. 1946. "Preliminary Survey of Sewer System," Los Alamos Scientific Laboratory memorandum to E. R. Jette, June 11, 1946.

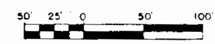
Harper, J. R., and R. Garde. 1981. "The Decommissioning of TA-21-153, A ^{227}Ac Contaminated Old Filter Building," Los Alamos National Laboratory report LA-9047-MS, November 1981.





LOCATION PLAN





SCALE
1" = 50' 1:600

NO	DATE	CLASS. REVIEW	REVISIONS	BY	CHKD	GRP	D.O.	GRP LDR	ENG D.O.

THIS JOB MUST BE INSPECTED AND ANY CHANGES APPROVED BY ENG-4 PHONE

LOS ALAMOS SCIENTIFIC LABORATORY

ENGINEERING DEPARTMENT

UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

DWG. CLASSIFICATION U McDell TITLE U

AUTHORIZED FOR: SECURITY, SAFETY, HEALTH

MATERIALS DISPOSAL AREAS
AREA "U"

DP - SITE TA - 21

DIVISION
GROUP

SUBMITTED Harold A. ... PROJ. ENGR. | APPROVED McDell ENGR GROUP LEADER | APPROVED ... ENGR DEPT OFFICE

CHECKED R J A.
DESIGNED H A H
DRAWN PFEUFER

LAB JOB NUMBER 1757 - 0
DATE 6-4-74
DRAWING NO ENG-R4476

Figure MDA-U: Materials Disposal Area U

MATERIAL DISPOSAL AREA V

DISCUSSION

Background--Inactive Material Disposal Area V, 1-acre site located at TA-21, was used for the disposal of contaminated liquid waste from laundry operations from 1945 to 1961. It used three absorption beds similar to those in Area T. An estimated 3 Ci of strontium-89, barium-140 and lanthanum-140, now decayed to undetectable levels, was discharged to these pits. Small quantities of strontium-90 and plutonium-239 were also discharged to the pits (Balo and Warren 1983; Department of Energy 1979). The pits did not always function properly; in a check of the area in 1946, "we found the seepage pits, for waste water, not functioning properly and that a large amount of contaminated water was lying above the ground in the pits" (Drazer 1946). Surface stabilization efforts were completed in FY 1985.

Material Disposal Area V is being monitored under the IWMP.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 2.6 (Appendix B).

Planned Future Actions--This site will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-V: Material Disposal Area V

REFERENCES

Balo, K. A., and J. L. Warren. 1983. "Waste Management Site Plan, Los Alamos National Laboratory, December 1983," Los Alamos National Laboratory report LA-UR-84-98, December 1983.

Department of Energy. 1979. "Final Environmental Impact Statement, Los Alamos Scientific Laboratory Site," Department of Energy report DOE/EIS-0018, December 1979.

Drazer, H. W. 1946. "Preliminary Survey of Sewer System," Los Alamos Scientific Laboratory memorandum to E. R. Jette, June 11, 1946.

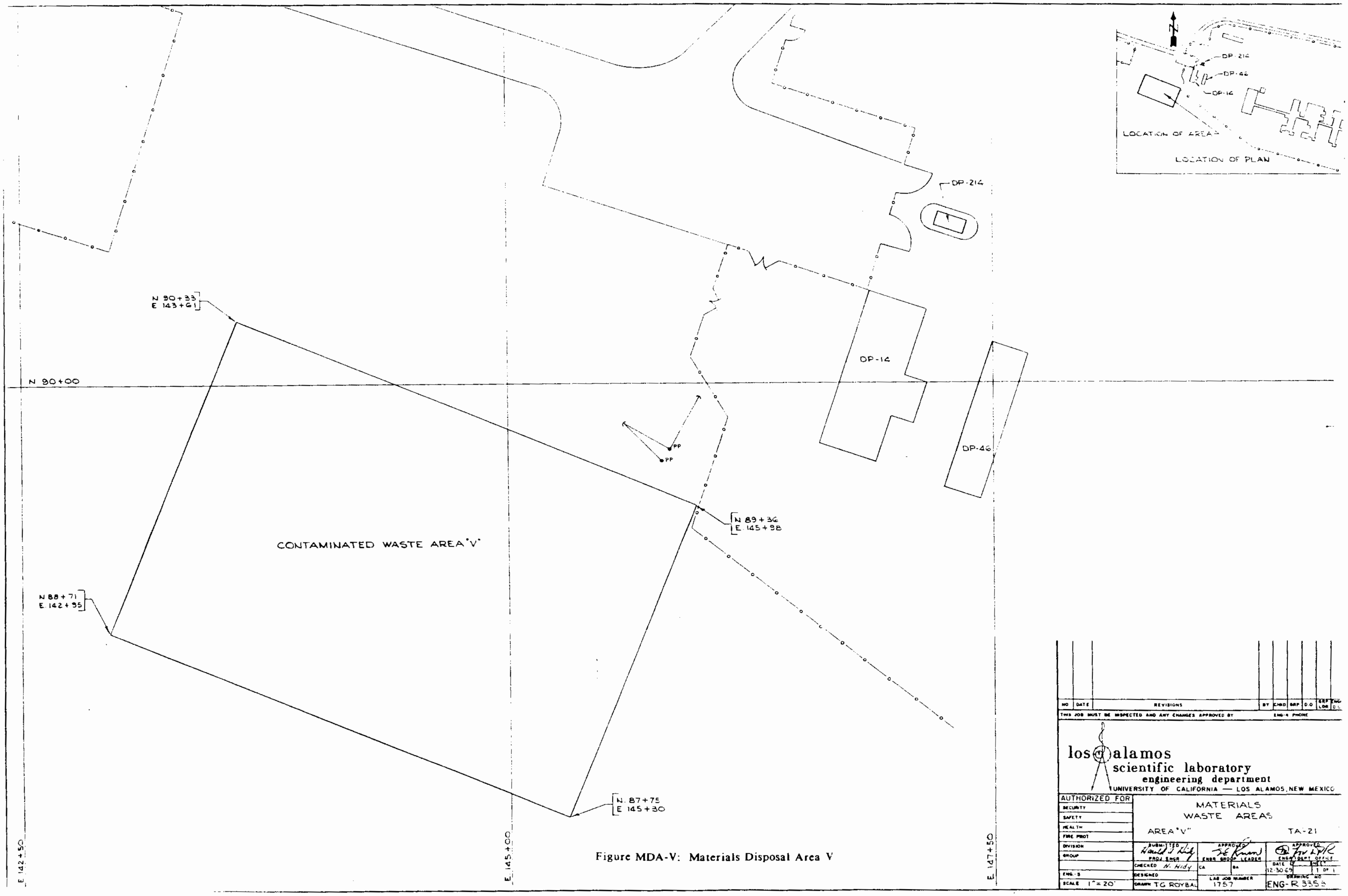


Figure MDA-V: Materials Disposal Area V

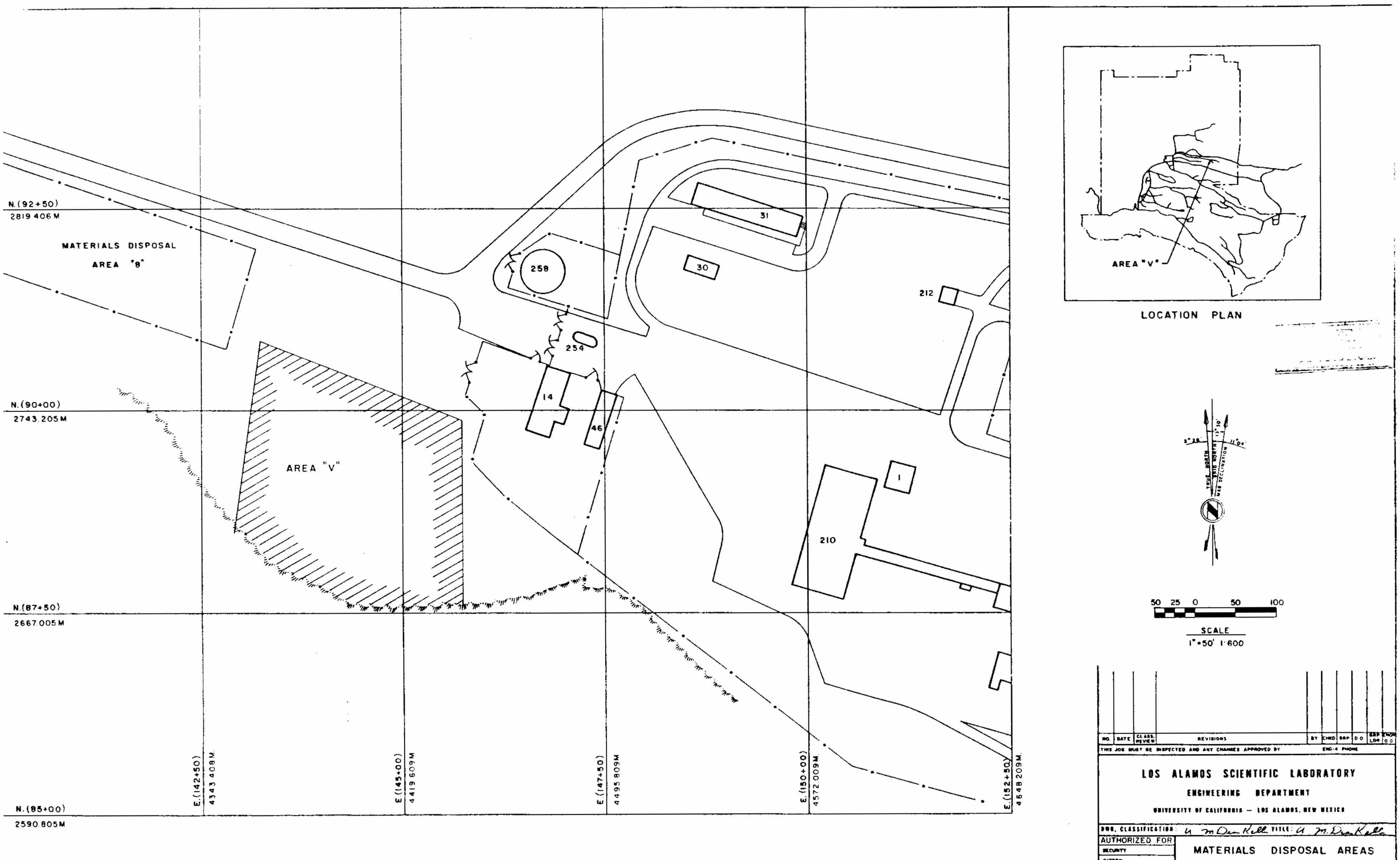


Figure MDA-V: Materials Disposal Area V (cont)

MATERIAL DISPOSAL AREA W

DISCUSSION

Background--Inactive Material Disposal Area W is located at TA-35. It consists of between 500 and 650 lbs, approximately 80 gal, of sodium and NaK (a sodium-potassium alloy that was used as coolant for the Los Alamos Plutonium Research Experiment [LAMPRE] reactor) stored in two vertical stainless steel tubes 4 in. in diameter and 120 ft long. The stored materials contain trace amounts of fission products and plutonium-239. The exact amounts of the radioactive contaminants are not known, although the plutonium is estimated at less than 1 ppm. The reactor was shut down in 1963, and 19 months after shutdown, the coolant showed sodium-22, cesium-137, cobalt-58, and tantalum-182. Of these fission products, all would have decayed away by now except for the cesium-137. The storage tubes were placed in separate steel-cased drill holes 115 ft deep (Department of Energy 1979; Meyer 1972). The portions of the stainless steel tubing extending above the surface were entombed in a concrete structure in 1979. The structure's lid can be removed and it is marked with a brass plate describing the contents.

CERCLA Finding--Because of the status of activities (i.e., CEARP Phase V), CERCLA findings under FFSDIF, PA, and PSI and HRS/MHRS scoring are not appropriate.

Planned Future Actions--Area W is covered by routine LANL operations.

FIGURE

Figure MDA-W: Material Disposal Area W

REFERENCES

Department of Energy. 1979. "Final Environmental Impact Statement, Los Alamos Scientific Laboratory Site," Department of Energy report DOE/EIS-0018, December 1979.

Meyer, D. D. 1972. "Storage of AEC-Controlled Radioactively Contaminated Na and NaK," Los Alamos Scientific Laboratory memorandum to E. E. Wingfield, September 11, 1972.

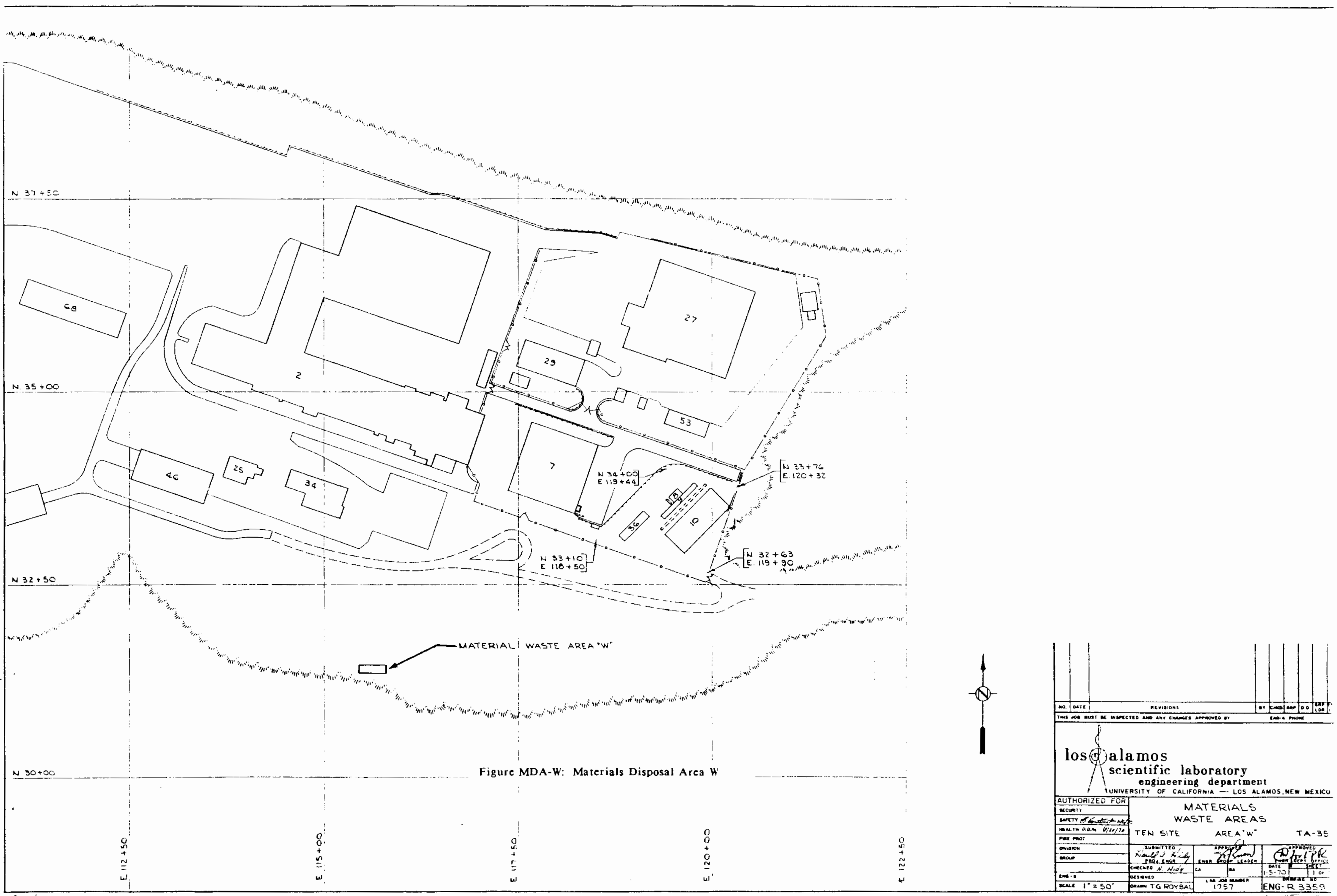


Figure MDA-W: Materials Disposal Area W

MATERIAL DISPOSAL AREA X

DISCUSSION

Background--Area X consists of the LAPRE II (Los Alamos Plutonium Reactor Experiment) reactor pressure vessel and associated piping and the remains of the associated pump pit (TA-35-28). The vessel contained a uranium solution for fuel, which has been removed. The area is located near the southeast end of TA-35-2. Presently the area is paved over and not marked.

Environmental dosimetry measurements in 1985 indicated that cesium-137 from Area X is causing radiation levels in the immediate area to be about 60% above local background levels (Environmental Surveillance Group 1985).

The remains of LAPRE II are on the list of Laboratory facilities to be decontaminated and/or decommissioned.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 7.7 (Appendix B).

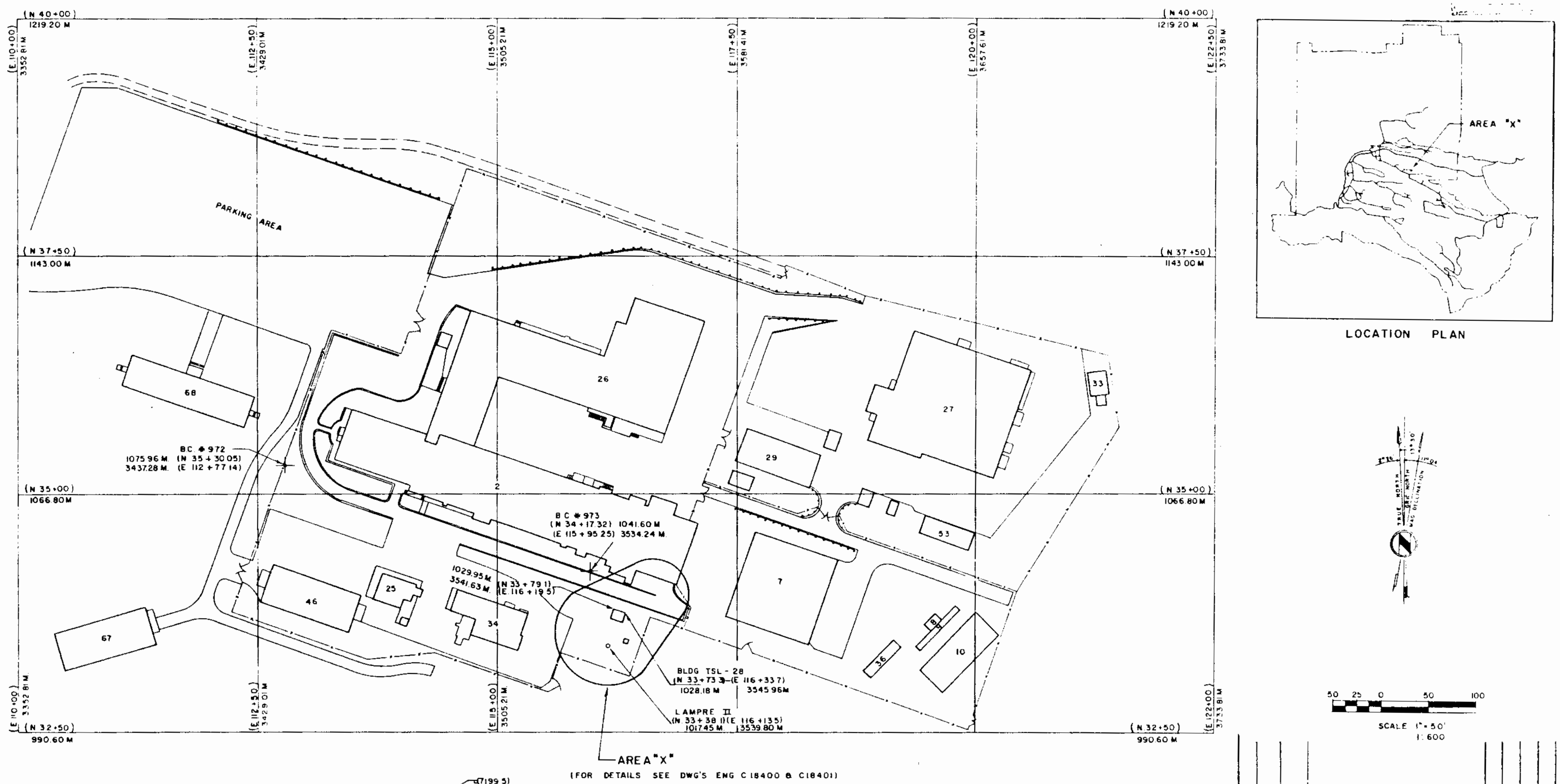
Planned Future Actions--The site will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

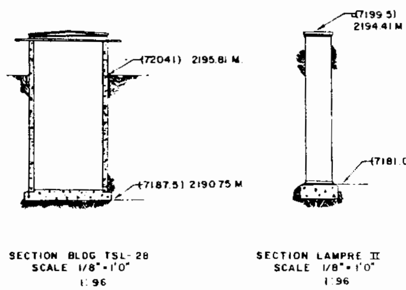
FIGURE

Figure MDA-X: Material Disposal Area X

REFERENCE

Environmental Surveillance Group. 1985. "Environmental Surveillance Quarterly Report July-September 1985," Los Alamos National Laboratory document, October 1985.





NO.	DATE	CLASS. REVIEW	REVISIONS	BY	CHKD	APP	DO	

THIS JOB MUST BE INSPECTED AND ANY CHANGES APPROVED BY ENG-4 PHONE

LOS ALAMOS SCIENTIFIC LABORATORY
ENGINEERING DEPARTMENT
UNIVERSITY OF CALIFORNIA — LOS ALAMOS, NEW MEXICO

DWG. CLASSIFICATION U M.D. Kelly TITLE U

AUTHORIZED FOR: SECURITY / SAFETY / HEALTH

MATERIALS DISPOSAL AREAS
AREA "X"
TEN SITE TA-35

DIVISION / GROUP
SUBMITTED: [signature] PROJ. ENGR. — APPROVED: M.D. Kelly ENGR GROUP LEADER — APPROVED: [signature] ENGR DEPT OFFICE
CHECKED R J A
DESIGNED H. HIDY
DRAWN PFEUFER
LAB JOB NUMBER 1757-0
DATE 6-4-74 SHEET 1 OF 1
DRAWING NO. ENG-R-4479

Figure MDA-X: Materials Disposal Area X

MATERIAL DISPOSAL AREA Y

DISCUSSION

Background--Inactive Material Disposal Area Y is located at TA-39. It is a long pit containing firing site debris such as cables, test stand remains, and other waste, such as packing boxes and office-type trash generated in normal activities at firing points (Employee Interviews 1985). The pit is full and has been covered over. A new pit has been started just south of Area Y. Area Y is the third pit used for such disposal. The first two pits are further south in Ancho Canyon.

Chemical wastes may have been disposed of in a pit at TA-39. However, it has never been a routine practice to put chemicals in pits at TA-39 (Employee Interviews 1985).

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 2.1 (Appendix B).

Planned Future Actions--As appropriate, disposal units within Area Y are covered by routine LANL operations or will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-Y: Material Disposal Area Y

REFERENCE

Employee Interviews. 1985. Information obtained through employee interviews by CEARP personnel, Los Alamos National Laboratory, 1985.

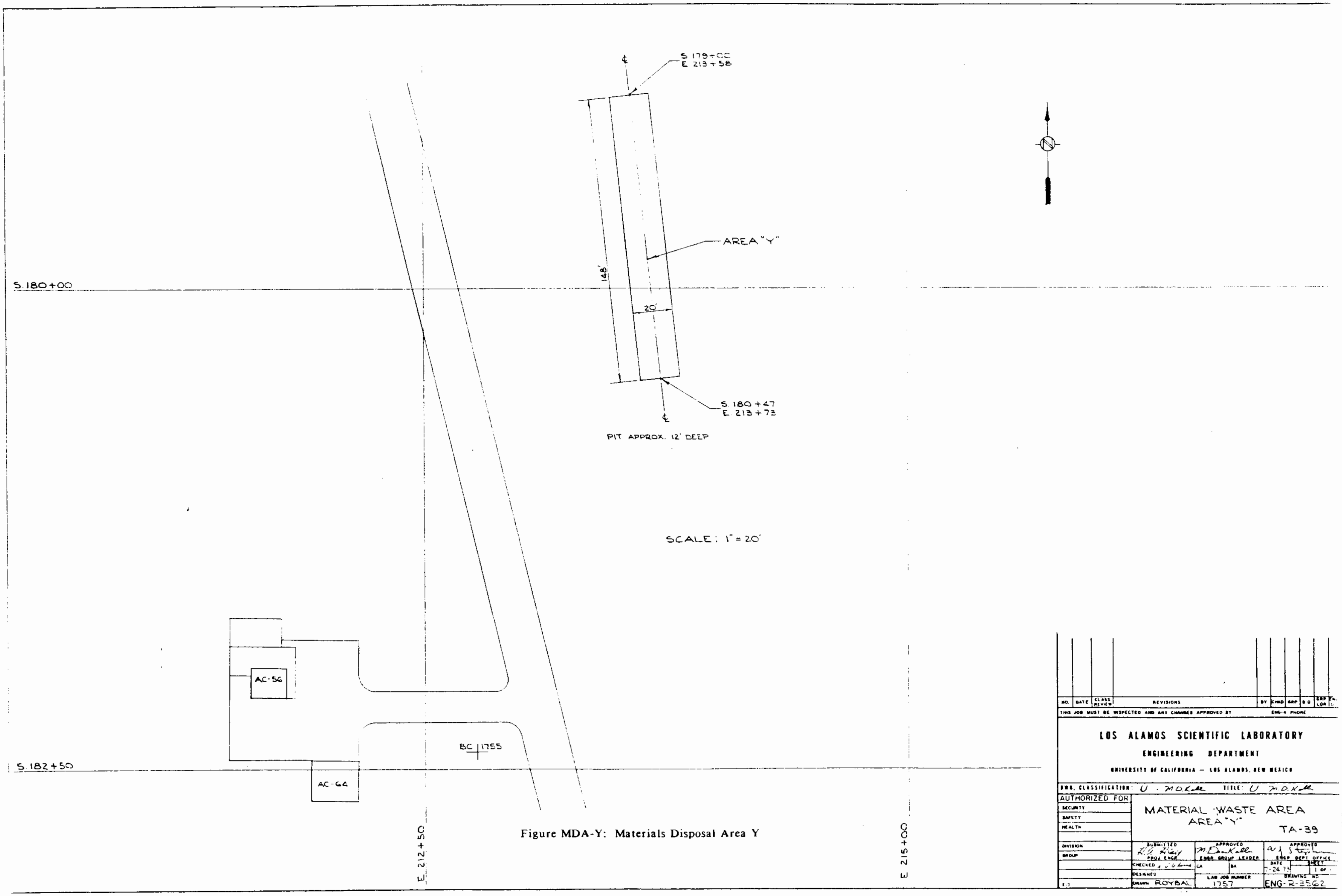


Figure MDA-Y: Materials Disposal Area Y

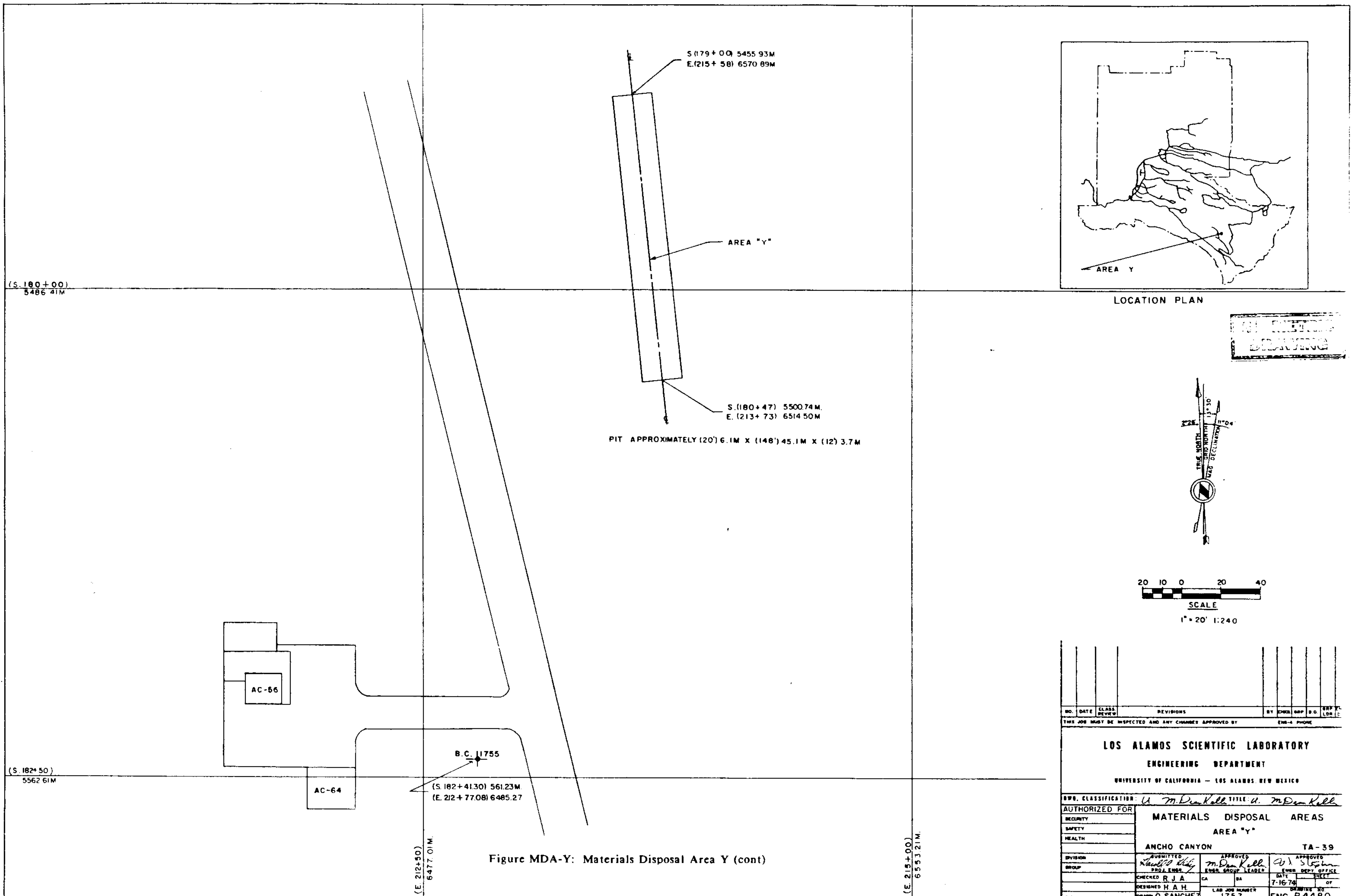


Figure MDA-Y: Materials Disposal Area Y (cont)

MATERIAL DISPOSAL AREA Z

DISCUSSION

Background--Inactive Material Disposal Area Z, an area of a few acres where material has been pushed over a bank, is located southeast of TA-15-183. Some of the material is covered by soil, but inspection of the visible portions of the material indicated construction debris, sandbags, and heavy woven cables. The sandbags and woven cables are most likely protective shielding used in dynamic testing at the nearby PHERMEX (pulsed high energy machine emitting x-rays) facility. CEARP field reconnaissance during 1987 indicates uranium contamination. Employees recall that the area was used from 1965 to 1981; however, there is a fair amount of uncertainty about these dates. Employees recall that a great deal of rubbish was put there from construction activities in addition to many sandbags that were used to provide shielding on dynamic tests. These sandbags likely contain depleted uranium, beryllium, and lead contamination. Mercury was used in these tests but most was probably volatilized by the tests. No records were kept regarding disposal.

CERCLA Findings--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 2.1 (Appendix B).

Planned Future Actions--The site will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-Z: Material Disposal Area Z

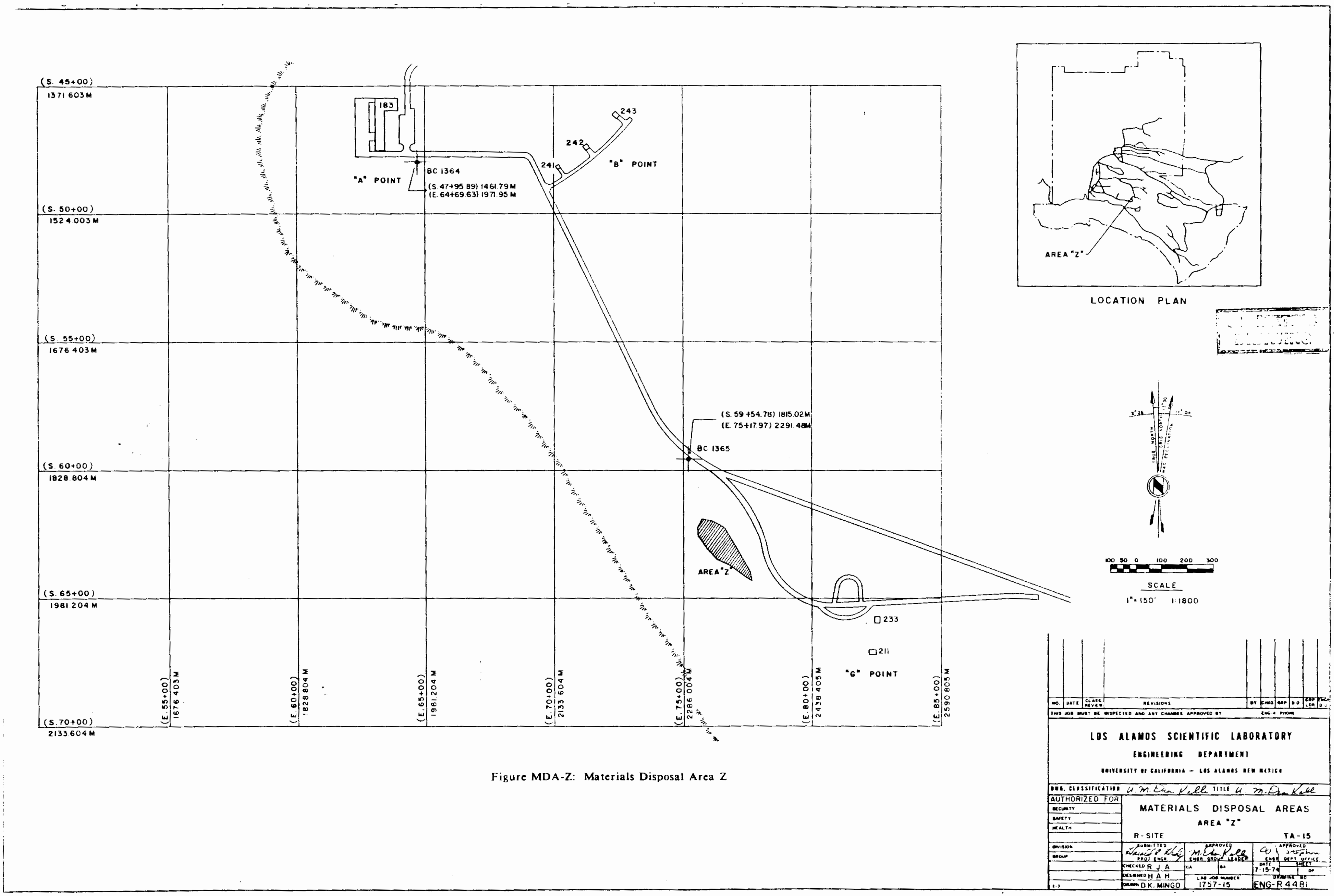


Figure MDA-Z: Materials Disposal Area Z

MATERIAL DISPOSAL AREA AA

DISCUSSION

Background--Area AA is located near TA-36-12 in the portion of TA-36 known as Lower Slobbovia. Pits at Area AA were used to burn firing site debris that could have been contaminated with high explosive. Basically, the debris is cables, wooden tables (or portions thereof), and paper wipes used in shot preparation. The area presently contains one open pit that is currently being used. (The used pits have been covered over.) Burns are conducted about four times a year.

One memo states that the only contaminated waste burial sites in TA-36 are two small ones located in Potrillo Canyon near building TA-36-12 (Campbell 1956). It is indicated that these contain the ash from fires in which depleted uranium was burned. The fires were near the edge of a firing pad at TA-36-12 and were thus near Area AA. The depleted uranium was from parts deliberately damaged in drop tests.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 10.1 (Appendix B).

Planned Future Actions--As appropriate, disposal units within Area AA are covered by routine LANL operations or will be evaluated under CEARP Phase II to determine whether future action is warranted under CEARP Phase III.

FIGURE

Figure MDA-AA: Material Disposal Area AA

REFERENCE

Campbell, A. W. 1956. "Location of Contaminated Waste Burial Sites," Los Alamos Scientific Laboratory memorandum to Dean D. Meyer, June 14, 1956.

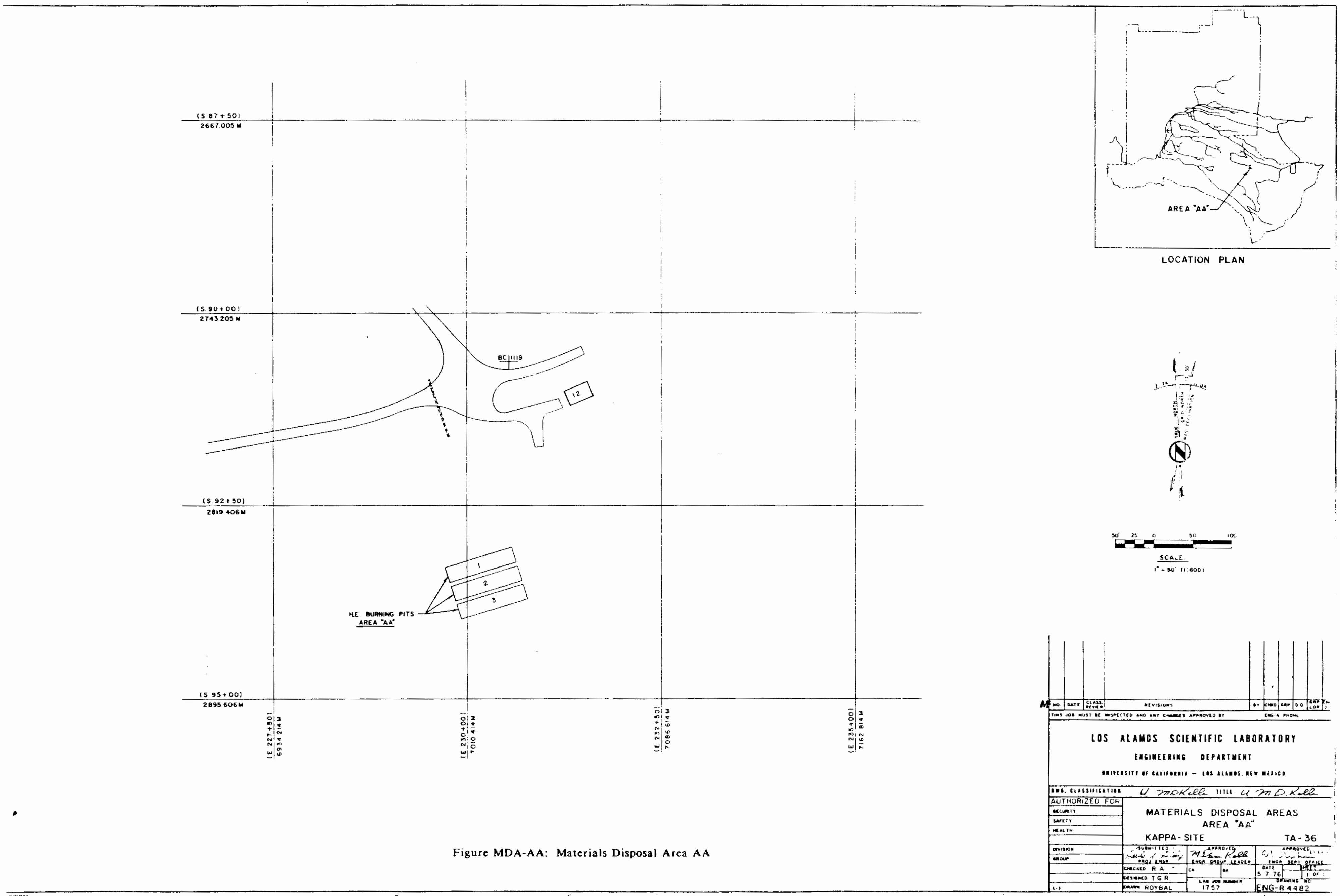


Figure MDA-AA: Materials Disposal Area AA

MATERIAL DISPOSAL AREA AB

DISCUSSION

Background--Area AB is located at TA-49. It consists of a series of 3-ft- and 6-ft-diam shafts ranging in depth from about 30 to 120 ft within experimental areas 1, 2 (including 2A and 2B), 3, and 4. The waste consists of the debris left in place after a series of hydronuclear and related experiments conducted in 1959 to 1961. The use of the area is discussed at greater length in the section on TA-49.

Most radioactive materials were left in the 31- to 108-ft deep holes in which the experiments were conducted. The principal radioactive materials of interest from an environmental standpoint include plutonium and uranium. A total of about 40.1 kg of plutonium, 93 kg of enriched uranium, and at least 82 kg of depleted uranium were used. A small amount of fission products (less than 1 mCi) would also be present. The principal nonradioactive materials include beryllium and lead. About 13 kg of beryllium was used. No estimate of the amount of lead left from the experiments is available, but engineering drawings will be reviewed during follow-up studies.

Other contaminated materials were also left in the experimental areas. One or more holes in each experimental area were used to permit expansion of gases passing through the sample collection devices and probably contain some particulate contamination. Some of the 6-ft-diam holes were used to dispose of pipes and other equipment contaminated during the experiments. Steel boxes buried adjacent to the experimental holes contained sample collection equipment and often became contaminated. These were filled with concrete and left in place.

CERCLA Finding--Positive for FFSDIF, PA, and PSI; HRS/MHRS Migration Mode Score is 6.7 (Appendix B).

Planned Future Actions--This site will be evaluated under CEARP Phase II to determine whether further action is warranted under CEARP Phase III.

FIGURE

Figure MDA-AB: Material Disposal Area AB (Note: same as Figure TA-49-1)

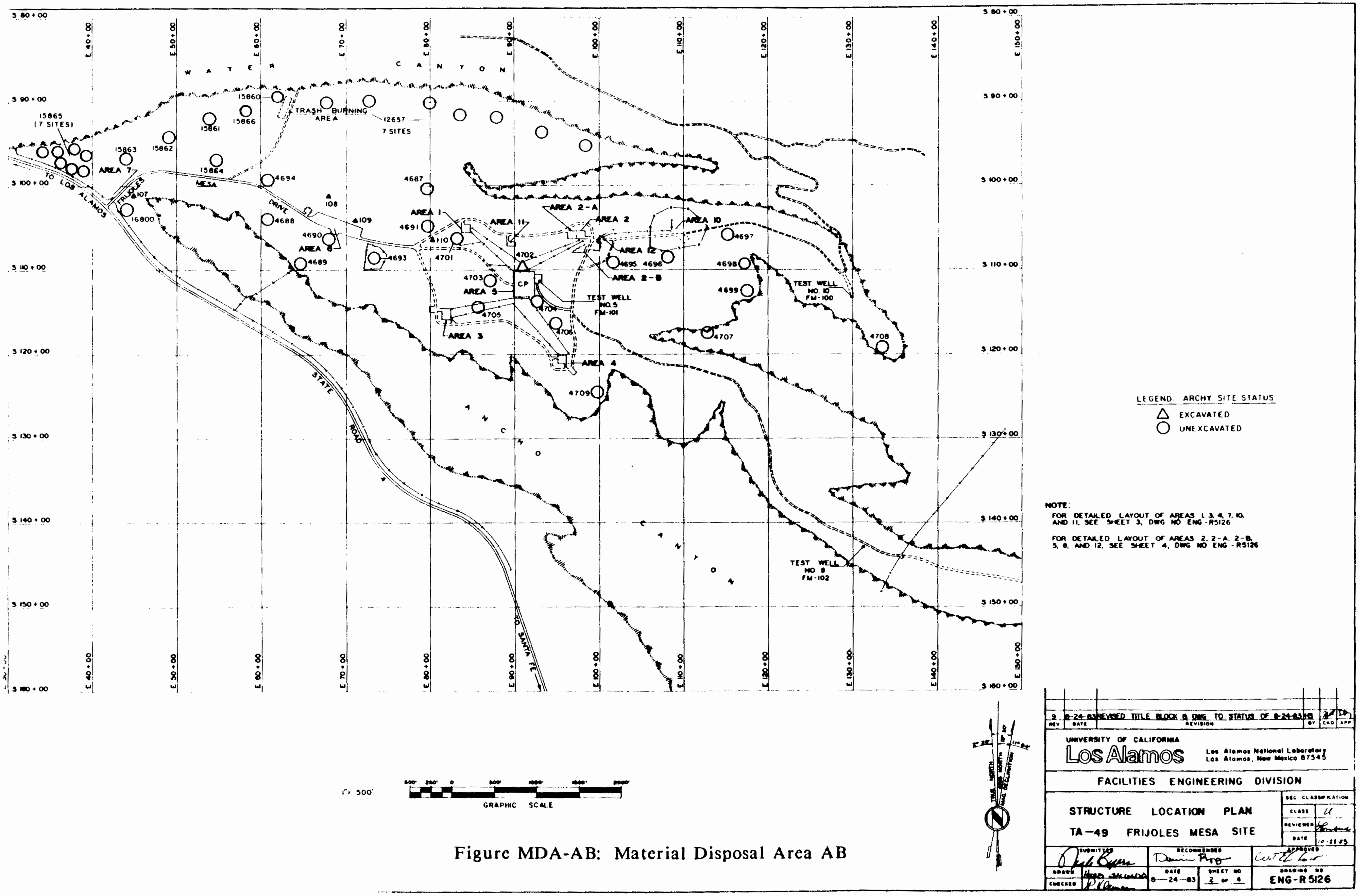


Figure MDA-AB: Material Disposal Area AB

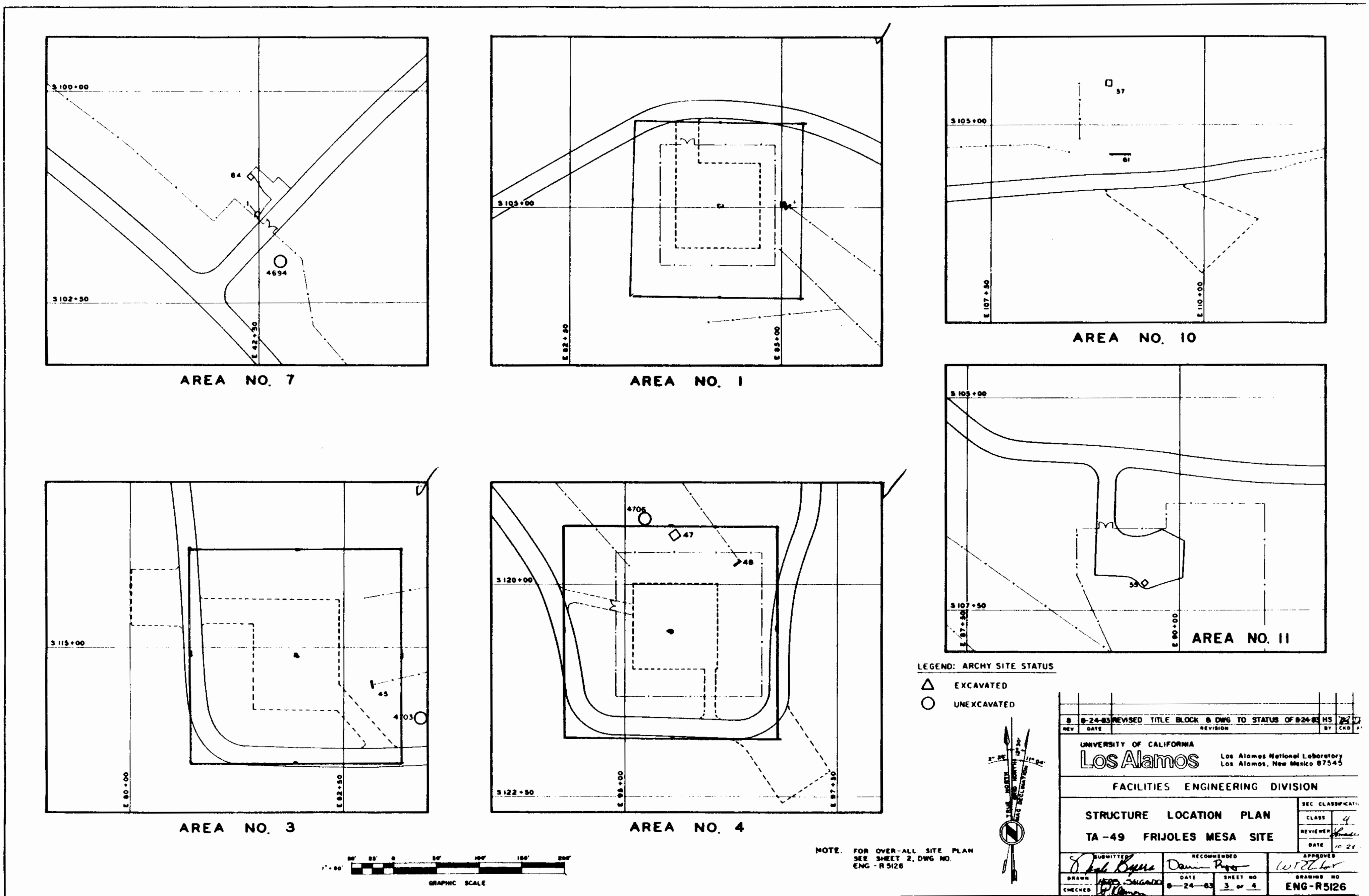


Figure MDA-AB: Material Disposal Area AB (cont)

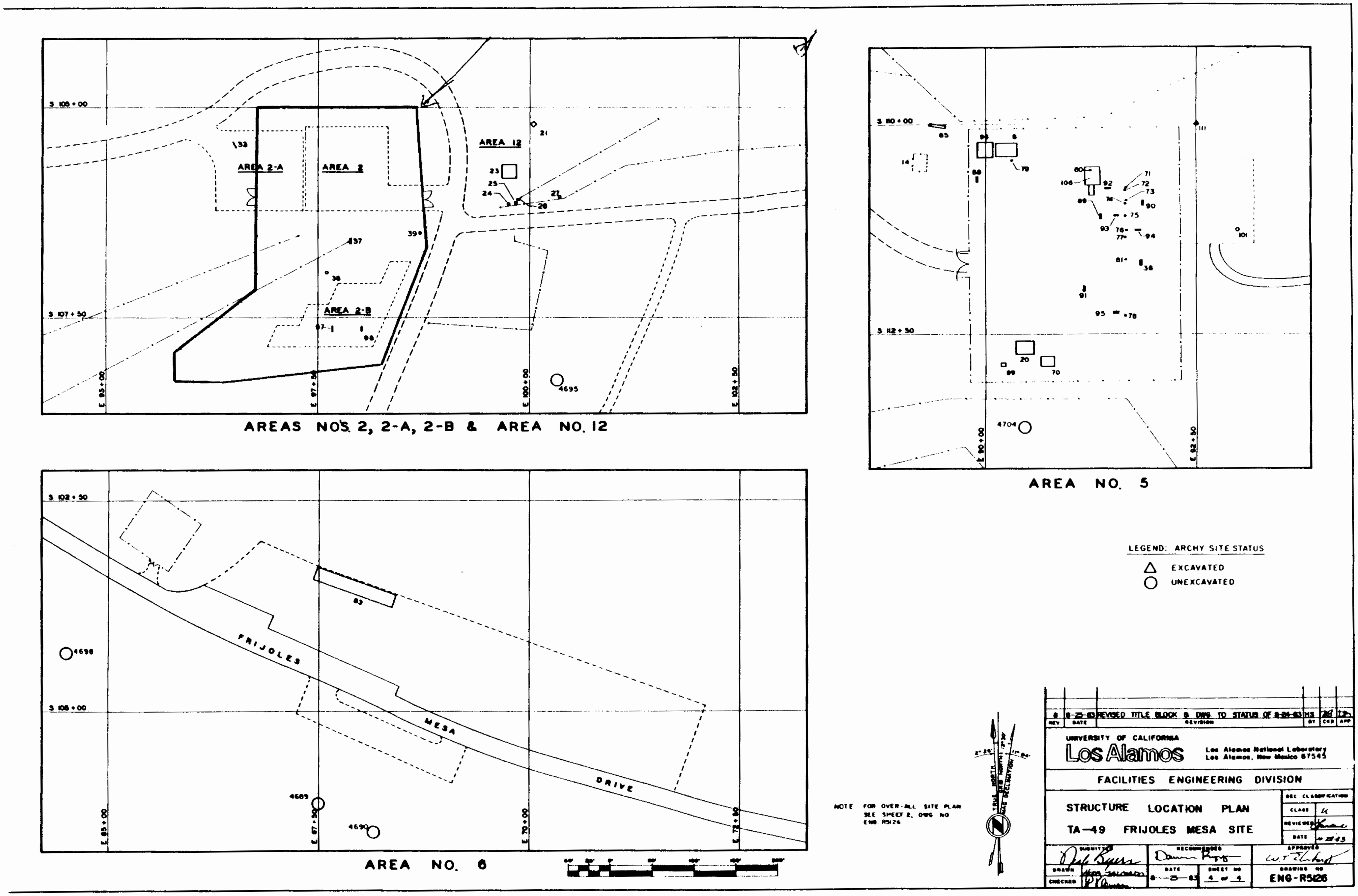


Figure MDA-AB: Material Disposal Area AB (cont)

V.C. WASTE GENERATION, HANDLING, AND DISPOSAL

V.C.1. HAZARDOUS WASTES

Laboratory activities generate three types of hazardous wastes: (1) wastes from processing operations, (2) wastes from research and development (R&D) activities, and (3) high-explosive waste. Each of these general types has unique characteristics. Wastes from processing operations typically are significant volumes of material that contain a very limited number of contaminants. Wastes from R&D, however, are usually lesser volumes of a number of different laboratory reagents, chemicals, solvents, and other general laboratory wastes. In addition, the composition and concentration of contaminants in a given process waste are generally uniform, unless modifications to the process are made. Conversely, the waste species from R&D activities continually vary, depending on the nature of the rapidly changing R&D efforts at the Laboratory. High-explosive wastes consist of a fairly constant but narrow assemblage of chemicals in varying concentrations.

Los Alamos has developed procedures for the identification and segregation of hazardous wastes. When a waste is identified as hazardous, it is directed to the appropriate method of treatment or disposal based on its characteristics as determined by the Waste Analysis Plan. Presented below is a description of the types of RCRA wastes generated, treated, and stored at the Laboratory and those disposed of at an offsite permitted facility. The wastes are divided according to process or facility activities that generate the wastes. Table V.C.1 provides an abbreviated form of this information as well as representative estimates of waste volumes. The parameters for which each hazardous waste will be routinely analyzed and the rationale for the selection of these parameters are presented in Table V.C.2. The parameters for waste verification analysis, including the rationale for selecting these parameters and the frequency of analysis, are given in Table V.C.3. Table V.C.4 lists the test methods that will be used to test for the parameters. Table V.C.5 lists the methods that will be used to obtain representative samples. Table V.C.6 defines the frequency and rationale for routine analysis. Additional information on hazardous waste generated at LANL is provided in Appendix D.

V.C.1.a. Hazardous Waste Management Facilities

A schematic diagram of Los Alamos hazardous waste management is presented in Fig. V.C.1. The waste management facilities at Los Alamos that will be permitted under RCRA consist of the following: (1) TA-50 batch treatment system, container storage area, and chemical waste incinerator; and (2) TA-54 waste transfer, packaging, and storage facilities, and treatment tanks. Facilities used for both the open burning and the detonation of high-explosive waste are located at the Laboratory. Although these facilities are included in the Part A submission, they are not included in the Part B Permit Application because 40 CFR regulations for facilities of this nature have not been promulgated. This Part B Application will be amended when such regulations are in place.

TA-50 Batch Treatment System, Container Storage Area, and Chemical Waste Incinerator. The lower level of building 1 at TA-50 houses hazardous waste storage and treatment facilities for treating nonradioactive RCRA-regulated wastes. The treatment facility includes a versatile batch, wet chemical processing system designed to neutralize or treat cyanides, acids and bases, and heavy metal-containing solutions. Hazardous wastes are currently received in drums; however, connections and necessary equipment are in place for off- and on-loading trucks by vacuum. Drums are kept closed and stored on a pallet in the curbed storage area until their contents are transferred to the treatment system. Fifty-five-gallon steel drums are being used to store wastes at the TA-50 container storage area. These drums meet the U.S. Department of Transportation Specification No. 17C and 17H. Corrosive wastes will be stored in DOT 17C or 17H drums with polyethylene liners, if necessary, to prevent corrosion of the metal drums. The drums will be handled and transported in the batch treatment and storage areas by hand trucks or forklifts.

The chemical waste incinerator, located in building 37 at TA-50, is an extensively modified controlled-air incinerator rated at a nominal waste-feed throughput of 45 kilograms per hour. It is currently permitted to burn radioactively contaminated PCB materials. The incinerator burned RCRA hazardous wastes before November 1980 on an experimental basis in the form of mixed waste (i.e., radioactive and RCRA waste). The incinerator currently has interim status to burn hazardous waste, and the Laboratory is proposing to permit the incinerator under RCRA to provide for future operating flexibility and minimization of land disposal. The incinerator and flue-gas treatment systems are capable of safely combusting (99.999 per cent) a variety of hazardous wastes, including low-level radioactive wastes and transuranic contaminated wastes. Wastes to be incinerated are stored at the Area L waste transfer, packaging, and storage facilities if storage for greater than 90 days is required. Wastes are transferred to building 37, TA-50, less than 90 days before they are scheduled for incineration. Because the incinerator is used for volume reduction of radioactive and hazardous waste, and the ash and scrub water effluent is considered to be potentially hazardous waste (40 CFR 261.3[c][2]) (NMHWMR 201.A.2.c[2]), the ash and scrub water effluent are checked for radioactive and hazardous waste contamination and handled appropriately.

TA-54 Waste Transfer, Packaging and Storage Facilities, and Treatment Tanks. The TA-54 waste transfer, packaging, and storage facilities are used to store and package or solidify hazardous chemical wastes. When ready, wastes are transported from the TA-54 facilities to onsite treatment facilities, or offsite for disposal or recycling at a licensed facility. Area L waste transfer, packaging, and storage facilities consist of a metal building and a roofed concrete pad.

These facilities are used to store 55-gallon drums of waste, including lab packs. Before the lab packs are put into the drums, the wastes are identified and appropriately segregated. This may involve placing small containers of waste in drums, pouring liquid waste into drums containing vermiculite, and transferring waste from one drum to another. All drums and containers are kept closed during storage and are opened only when chemicals are transferred from one container to another or when lab packs are prepared. A maximum of eight 55-gallon drums can be stored in the metal building.

A typical handling/storage load for the metal building consists of the following:

- four 55-gallon drums and
- twenty-five gallons of miscellaneous wastes in assorted small (5-gallon or less) containers.

A total of 304 55-gallon drums can be stored at the roofed concrete pad by using a forklift to stack drums on pallets in two layers. The 55-gallon drums meet the

DOT Specification No. 17C or 17H (small containers are also DOT approved). Corrosive wastes will be stored in DOT drums with polyethylene liners. Two 225-gallon polyethylene storage containers are also located on the pad. These containers are designed to be moved with a forklift truck and meet DOT Specification No. E9052. These polyethylene containers are compatible with any waste that will be stored in them, according to vendor chemical suitability data.

When a chemical waste is ready for treatment or disposal, personnel at the generating laboratory contact Group HSE-7. HSE-7 personnel then visit the generating site to package the waste for transport to the waste transfer, packaging, and storage facilities at Area L. The wastes are packaged and labeled in compliance with DOT and EPA requirements and are transported on a 3-ton flatbed truck.

Nine waste types at the waste transfer, packaging, and storage facilities can be stored at any one time--six on the concrete pad and three in the metal building.

Four 1,665-gallon 10-gauge carbon steel tanks are also located at TA-54, Area L. These tanks are used to neutralize, oxidize, and evaporate RCRA-regulated and non-RCRA-regulated wastes. The waste most commonly oxidized in these tanks is lithium hydride. Ammonium bifluoride (a "non-RCRA" waste) is the waste most commonly evaporated in the tanks. The specific gravity of any liquid placed in the tank may not exceed 1.5. Treatment chemicals and water are first added to a 210-gallon tank, mixed, and then pumped out into the treatment tank. Both liquid and solid wastes are then introduced to the treatment tanks through the open top. Grab samples are taken from tanks at least twice--before and after treatment of wastes--to confirm completeness of treatment before final removal.

V.C.1.b. Hazardous Waste Streams

V.C.1.b.1. Electrochemical Processing Wastes

Generation. The Electrochemistry Section of the Materials Technology Group (MST-6), located at TA-3-66, generates plating solutions containing chromates and cyanides that are listed as reactive and toxic wastes (codes F007 and F009 under RCRA). The Print Circuit Board Shop of the Electronics Technology Application

Group (E-5), located at TA-3-40, generates acid/base wastes that are heavily contaminated with copper. These wastes are considered to be hazardous because of their corrosivity (RCRA Code D002).

Handling and Disposal. All electrochemical wastes, including cyanide, chromate, or copper in an acid/base waste, must be neutralized before disposal. Waste from electrochemical processing is managed at the TA-50 batch treatment facility. If the wastes contain cyanide, alkaline chlorination is performed to destroy the cyanide. In either case, a heavy metal hydroxide sludge is formed during treatment, and the sludge is solidified with cement. This sludge was disposed of at Area L in TA-54 until November 8, 1985. At that time, interim status for land disposal of chemical wastes was lost because no groundwater monitoring system was physically in place, and a pending waiver that met RCRA regulations had not been approved. The Laboratory is working on an agreed-upon program with the EID for vadose zone monitoring. This program was developed in relation to the DOE application for a waiver from deep groundwater monitoring under a Compliance Order/Schedule issued by the EID in May of 1985. The sludges will be stored until a disposal method is determined. The liquid fraction from the treatment process that does not meet the definition of a hazardous waste is released directly to the environment through a permitted outfall or to the radioactive liquid waste treatment plant. The liquid that is still classified as hazardous waste is stored at Area L, TA-54, to await offsite disposal.

V.C.1.b.2. **Wastes from Isotope Separation**

Generation. The Isotope and Structural Chemistry Group (INC-4), located at TA-21, generates highly concentrated nitric and sulfuric acid wastes. Both are hazardous because of their highly corrosive characteristics (RCRA Code D002). Nitric acid is also considered hazardous because, depending on its concentration, it can be an oxidizer (RCRA Code D001). The Laboratory has made a decision, based on knowledge of the waste generation processes, that these wastes do not contain listed hazardous contaminants.

Handling and Disposal. The acid waste stream from this operation is generally 7N in concentration or higher. Neutralization is performed at TA-50 in the batch waste treatment facility. Neutralized wastes may be discharged to the effluent tanks of the radioactive liquid waste treatment plant for discharge to the canyon through a permitted outfall.

V.C.1.b.3. Shops (Mechanical Fabrication Division)

Generation. The Mechanical Fabrication Division, located in TA-3-39, houses most of the highly versatile machine shops at LANL. The machining operations routinely generate waste lithium metal and lithium hydride, both of which are hazardous because of their reactivity (RCRA Code D003). Waste materials from machining operations are segregated by metal as they are generated. The Mechanical Fabrication Division also generates waste nonhalogenated solvents, halogenated degreasers, beryllium, and solvents (RCRA Codes F003, F001, and F002, respectively).

Handling and Disposal. Before November 1985, RCRA toxic wastes were packaged in secure drums for disposal at Area L or Area G at TA-54. Now, drums of most toxic wastes other than beryllium that are destined for disposal are put into storage. Ultimate disposition has not yet been determined and will depend on whether Los Alamos constructs a new RCRA-permitted hazardous waste disposal facility. Reactive wastes such as the lithium hydride are packaged, manifested, and shipped to an offsite treatment and disposal company. Laboratory employees have visited this company and determined that it has the appropriate permits to dispose of Laboratory reactive waste. Solvents and degreasers that were disposed of at Area L are now being stored at Area L to await approved offsite disposal.

V.C.1.b.4. Wastes from Basic and Applied Chemistry R&D Programs

Generation. Primary Laboratory sites for basic and applied chemistry R&D include the Chemistry and Metallurgy Research Building (TA-3-29), Radiochemistry Laboratory (TA-48), Sigma Building (TA-3-66), and the Health Research Laboratory (TA-43-1). Typical nonradioactive chemical wastes consist primarily of large quantities of small containers of laboratory reagents, solvents, test samples, and other laboratory wastes. Relatively small quantities of up to several hundred different acids, bases, organics, inorganics, reactive metals, and other chemicals require disposal. These R&D wastes represent a large percentage of the waste species included in the Laboratory's RCRA Part A Permit Application.

__Handling and Disposal__. Waste generators place small volumes of waste chemicals into special storage cabinets at multi-laboratory sites. Periodically, HSE-7 personnel sort, package, and transport all such collected wastes to the chemical storage site. Generally the wastes in small bottles, jars, and cans are packaged with vermiculite in metal drums for disposal. Wastes are sorted to assure that incompatible chemicals are not packaged in the same disposal container. Liquids in quantities greater than 1 gallon are absorbed in vermiculite. All nonreactive chemicals were disposed of at Area L, TA-54, before Area L lost interim disposal status. Currently, Area L is only used for storage of such materials.

V.C.1.b.5. __Explosive Wastes__

__Generation__. High-explosive waste is generated by the Dynamics Testing (M) and Design Engineering (WX) Division groups in the course of processing and testing various high explosives materials. Processing includes pressing, machining, and casting high explosives. Waste occurs as discrete pieces of high explosives, machine cuttings, and powder. The chips, cuttings, and powder are usually in the form of waterborne suspensions, collected in specially designed accumulating/settling sump tanks. Wastes also consist of materials contaminated with high explosives; the materials may include paper, oil, solvents, wood, machine tools, fixtures, etc. Chemically, the wastes consist of HMX, RDX (cyclonite), TNT (2,4,6-trinitrotoluene), PETN (pentaerythritol tetranitrate) ammonium nitrate, barium nitrate, TATB (triaminotrinitrobenzene), nitrocellulose, tetryl, nitroguanidine, and various plastic binders. Nearly all the high explosives waste substances are ignitable or reactive (RCRA Codes D001 and D003, respectively). The barium nitrate is extraction procedure (EP) toxic (RCRA Code D005). Residues from high explosives waste are generated by flashing or burning the waste at TA-16. These residues are typically present in the uppermost layer of sand covering the burn pad. The sand from the two pads used to burn high explosives waste is considered hazardous because of its barium content (RCRA Code D005).

__Handling and Disposal__. Thermal treatment or detonation of high-explosive wastes occurs at eight facilities in five technical areas. The firing site just south of TA-14-23 is used to detonate small pieces of scrap high explosive. Just southeast of the firing pad is a small wire cage used to burn paper, tape, cotton swabs, and other trash items that have come into contact with high explosive and are suspected of being contaminated.

At the end of TA-15-184 is a regular firing pad used for hydrodynamics tests. Unneeded classified shapes and scrap high explosive have also been detonated at this location.

At TA-36, scrap detonations occur west-southwest of TA-36-8 at Minie Site. This site has also been used for disposal of leaking gas cylinders or small volumes of residual laboratory chemicals in small packages. Forty-six different RCRA-regulated materials have been treated in this manner. (A list is provided in Table 9-2 of the Laboratory's RCRA Part B application.) The practice of detonating waste chemicals has been stopped until it can be determined whether or not the practice complies with RCRA. RCRA allows scrap high explosive to be disposed of by detonation and hazardous chemicals by thermal treatment in controlled-air incinerators, but it does not address disposal of hazardous waste by detonation.

Firing points 6 and 57 at TA-39, normally used for test detonations, have been used for high-explosive waste detonations.

TA-16 has three types of high-explosives disposal facilities. One type is a sand and fire-brick burn pan, which is covered and elevated. Waste explosives or explosive-contaminated equipment is placed on the sand in these pans and ignited with an electric-match firing device. A second type of facility is a large, sand-filled metal pan on which four smaller pans lined with fire brick are located. Fluids contaminated with high explosive are poured into the smaller pans and are ignited with an electric match. About 55 gallons of fluids are treated in this manner each month. The third type of facility is used to treat sludges and consists of cone-shaped steel vessels 8 ft in diameter filled with sand and gravel. Sludge is fed into the top of the cone onto the sand and gravel. The cone is then covered, and hot air is forced into it. The air dries the sludge, and liquids migrate downward through the sand and gravel into a drain connected to a lagoon. Effluent from this lagoon is regulated by the Laboratory's NPDES permit. When the remaining material is dry, the lid is removed, and the residue is remotely ignited with an electric match. About 750 lbs of waste explosive sludge is treated in this manner each week.

In some cases the burn pad sand or surface is contaminated by barium (RCRA Code DOO5), which is a constituent of some high explosives. Burn pad sand containing barium levels in excess of EP toxicity test limits is drummed, stored, and treated as a hazardous waste. Equipment and other noncombustible materials (not RCRA wastes) still requiring administrative control are disposed of at Area J. Such material may include noncombustibles that have been flashed to remove high explosives contamination, but cannot be certified to be free of such contamination.

V.C.1.b.6. **Chemically Contaminated Equipment**

Generation. In addition to the wastes noted above, various laboratory items that contain chemical residues or are otherwise chemically contaminated may be considered hazardous waste. Empty drums, tanks, and gas cylinders are typical contaminated items. The Laboratory's facilities generate a wide variety of this type of hazardous waste.

Handling and Disposal. All equipment contaminated by hazardous wastes is either decontaminated or packaged and stabilized as necessary for disposal. Before November 8, 1985, such items were buried at either Area L or Area G. The Laboratory is now storing some of the wastes that, depending on level and type of contamination, are awaiting offsite disposal/treatment or resolution of the loss of interim status for Area L as a permitted burial ground. Reusable 55-gallon drums are retained for recycling.

V.C.2. RADIOACTIVE WASTE

V.C.2.a. Generation

Significant radioactive-waste-generating processes are concentrated in ten principal facilities in nine technical areas.

At TA-2, the Omega West Reactor operations generate small quantities of solid, liquid, and gaseous wastes contaminated with mixed fission and activation products. Gaseous effluents are monitored for radioactivity and vented to the atmosphere after an approximate 1-hr delay, which allows for decay of radionuclides with short half lives.

In TA-3, a number of operations are conducted at the Chemistry and Metallurgy Research Facility (TA-3-29). Examination of irradiated fuels generates varying quantities of gamma-active wastes that require special handling procedures. Examples are small volumes of solutions from hot cells such as plutonium etchant, uranium fission product solutions, and reacted sodium solutions. Laboratories that carry out basic research on depleted and enriched uranium compounds and alloys, and a facility for treating and testing plutonium-238 oxide fuel spheres and samples generate their own wastes. Analytical chemical services on materials from research, production, and recycling operations also generate waste.

In the Sigma Complex (TA-3-66), wastes are generated from the electropolishing and acid etching of uranium and thorium isotopes. Wastes are also generated from metal processing (such as rolling, swagging, and extruding) of uranium and thorium. Large pieces of scrap are generated in the uranium foundry.

At TA-21, tritium wastes (mostly low-level) are associated with the operation of the Tritium Systems Test Assembly Building (TA-21-152). At TA-21-257, residues are generated by processing liquid wastes from operations at TA-21.

At TA-35, tritium is used to fill targets for laser fusion experiments. Wastes from these operations consist of paper towels, used molecular sieves and other equipment.

At TA-46, work associated with the uranium laser isotope separation program generates small quantities of waste.

At TA-48, the Radiochemistry Site, wastes are generated by the diagnostic testing of samples from underground nuclear tests and by purifying medical isotopes generated in targets bombarded with protons from the LAMPF accelerator. Wastes from the nuclear test samples are contaminated primarily with fission-product mixtures and small amounts of heavy elements. Wastes from the isotope purification have spallation product nuclides with mass numbers up to about 200.

At TA-53 is the Los Alamos Meson Physics Facility with its high-current proton accelerator. Radioactive solids, liquids, and gases requiring disposal are generated by proton and neutron spallation and by activation within accelerator-related materials (shielding, structural and experimental equipment, targets, beam stops, and associated water cooling systems.) Beam loss in accelerator structures and target areas gives rise to radioactive gases formed by the interaction of secondary particles in air. Beta-gamma emitter wastes come from several radiochemistry laboratories onsite.

Processing liquid radioactive wastes at TA-50 generates sludges and other wastes.

The plutonium facility at TA-55 generates wastes from R&D, oxide production, metal preparation, and fabrication and recovery work with plutonium-238 and plutonium-239.

V.C.2.b. Treatment Facilities

Radioactive liquid waste treatment facilities include a 250 gal./min chemical-treatment and ion-exchange plant and a 25 gal./min pretreatment plant at TA-50-1, a 125 gal./min chemical treatment plant at TA-21-257, and a large number of storage, neutralization, and/or pumping stations.

In the liquid treatment plant in TA-50-1, a sludge is created that is dewatered to 25-40 per cent solids. If the sludge activity is >100 nCi/g, it is placed in plastic-lined metal drums, which are placed in temporary storage for eventual retrieval for disposal at the Waste Isolation Pilot Plant (WIPP). If the transuranic (TRU) activity is <100 nCi/g, the sludge is placed in fiberboard or metal drums for disposal as low-level waste at Area G. The liquids from the treatment processes have been sufficiently neutralized and cleaned of radioactivity that they can be discharged to Mortandad Canyon. The nonradioactive constituents in the discharge are controlled under the NPDES permit (serial number 051). Starting in April 1983, liquid process wastes from TA-55 have gone through the pretreatment plant before entering the main treatment streams. This pretreatment has resulted in the removal of >99 per cent of the plutonium and americium in the waste stream. TRU contents of the treatment plant's sludge have declined, so that most sludge from the main treatment plant is now treated as nonretrievable low-level waste.

Treatment activities in TA-21-257 are being reduced as cleanup operations and the processing of a sludge backlog are completed.

Three solid waste treatment facilities are in use. A compactor-baler located at Area G, TA-54, is used to compact low-level solid waste. The Size Reduction Facility (TA-50-69) is designed to repackage and reduce the volume of TRU-contaminated metallic waste items such as glove boxes, process equipment, and ductwork. A modified, controlled-air incinerator in the Treatment Development Facility (TA-50-37) was designed and constructed to reduce volume, stabilize chemical composition, and eliminate combustibility of defense TRU wastes.

Solid waste consisting of such trash materials as paper, plastic, rubber, and small items of glassware up to 1 gallon in size are fed into the Area G compactor, where a volume reduction of 5:1 is achieved. The plastic-wrapped bales from this operation are placed in a disposal pit at Area G.

Large metallic TRU waste items, such as glove boxes and ductware, are brought into TA-50-69, where the external packaging is removed and all combustible items are sorted and removed. In the cutting area, the material is cut into pieces by a plasma torch and the pieces are then packaged for retrievable TRU waste storage.

The controlled-air incinerator (CAI) in TA-50-37 was constructed to develop incineration methods to reduce volume, stabilize chemical composition, and eliminate combustibility of defense TRU wastes. The demonstration program for the controlled-air incinerator (CAI) was completed and the system has been subsequently modified to process other wastes, such as beta-gamma radioactive waste, ion exchange resins, carcinogens, and other hazardous chemical wastes, both liquid and solid. For TRU wastes, weight reduction factors of up to 40:1 have been achieved, together with volume reduction factors of 120:1. Current plans include incinerating a majority of both newly generated and stored combustible TRU waste. Work is under way to get an EID permit to burn waste organic chemicals. The CAI has been permitted by the EPA for burning radioactively contaminated PCBs.

V.C.2.c. **Storage and Disposal Facilities**

Currently, Area G at TA-54 is used to store and dispose of radioactive materials. The volumes and activities of low-level waste generated and disposed of are submitted annually as part of the DOE's Solid Waste Information Management System. Sometimes large variations in waste volumes and radioactive content occur because of program changes and facility decommissioning and decontamination (D&D) activities. Burial and storage facilities include pits, shafts, trenches, and pads, all of varying dimensions. No high-level waste has been disposed of at Los Alamos.

V.C.3. MIXED WASTE

V.C.3.a. Mixed Waste Management Facilities

A schematic diagram of Laboratory mixed waste management activities is presented in Fig. V.C.2. LANL has developed procedures for the identification and segregation of hazardous mixed wastes. Once a waste is identified as a hazardous mixed waste, it is directed to the appropriate treatment/disposal method based on its characteristics as determined by the Waste Analysis Plan. Presented below is a brief description of the types of hazardous mixed wastes generated, treated, stored, and disposed of at the Laboratory. Table V.C.7 provides an abbreviated form of this information.

The Laboratory Waste Analysis Plan was developed and implemented to permit proper storage, treatment and disposal of mixed wastes at Los Alamos. The methods used to characterize the waste depend on the type of waste considered. The Laboratory has determined the composition of individual containers of the three types of mixed wastes based on detailed knowledge of the processes and the properties of the materials. In the rare instances in which the composition of a container of waste is unknown, analyses are performed to determine the characteristics and/or composition of the waste material. For each general type of waste generated at Los Alamos, Table V.C.8 lists analysis parameters and selection rationale. Table V.C.9 presents the waste analysis parameters and the test methods used. Tables V.C.10 and V.C.11 list the methods used to sample hazardous mixed wastes and the frequency of waste analysis, including the rationale for that frequency, respectively.

V.C.3.b. Generation

Mixed waste (or hazardous mixed waste) has been defined in general terms as low-level radioactive waste having a component that meets the definition of hazardous waste under RCRA (40CFR261 and NMHWMR 210.A). However, there is no common agreement among various federal agencies on the exact definition of mixed waste. Laboratory activities generate four types of mixed wastes: (1) lithium hydride mixed wastes, (2) wastes generated in R&D laboratories, (3) scintillation cocktails, and (4) contaminated lead shielding. The lithium hydride waste has some surface contamination of depleted uranium. The contaminated lithium hydride is typically in 1-in.-

to 1-ft-diameter chunks, with a very limited volume of finer sized material. Lithium hydride wastes are hazardous because of their reactivity (RCRA Code D003).

Mixed waste is generated by basic and applied chemistry R&D operations dealing with radioactive material. It generally consists of small quantities of a large variety of laboratory reagents, solvents, test samples, and other wastes slightly contaminated with radioactive materials. In addition to the wastes noted above, various laboratory items that are chemically and radioactively contaminated, such as empty drums and tanks, may be considered hazardous mixed waste.

Scintillation cocktails are used to count various samples for radionuclide analysis. The most common cocktails are composed of mostly xylene and 1,2,4-methylbenzene and are mixed with samples in solution. The specific radionuclides and their concentration vary considerably; however, the most common radionuclides are tritium, carbon-14, phosphorus-32, and various plutonium isotopes. The waste cocktails with the radionuclides are generally contained in 1-fluid-oz plastic or glass vials. All scintillation cocktails are treated as mixed waste and are hazardous because of their ignitability (RCRA Code D001), even though they may not be contaminated by radionuclides.

Storage Facilities. Mixed wastes are being stored at Area L, pending resolution of issues surrounding their disposal. Issues include the exact definition of mixed waste and the lack of a RCRA permit to dispose of chemical waste at Los Alamos. Until May 1985, mixed wastes were disposed of at Area G as low-level radioactive waste.

V.C.4. OTHER WASTES

V.C.4.a. Asbestos Wastes

Generation. Asbestos is not a RCRA-regulated waste, but it has been proposed for listing as a hazardous constituent of waste in Appendix 8 of RCRA. It is a hazardous pollutant under the Clean Air Act. Pipe wrapping containing asbestos is treated as a hazardous material, as is friable asbestos, defined as "any material containing more than 1 percent asbestos by weight that hand pressure can crumble, pulverize, or reduce to powder when dry" (40 CFR 61.142). Asbestos wastes contaminated by chemicals or radioactivity are considered chemical or radioactive wastes.

Asbestos wastes have a wide variety of sources, including old pipe insulation, transite board, ceiling insulation, welding curtains, and welder's gloves. The Laboratory and Pan Am World Services intend to remove or encapsulate all exposed friable asbestos.

Handling and Disposal. Asbestos wastes are packaged in plastic bags or plastic-lined cardboard boxes for disposal at either Area L or Area G at TA-54. Friable asbestos is generally disposed of in Area G. Asbestos that is possibly contaminated with high explosives is sent to Area J. Asbestos possibly contaminated with chemicals was sent to Area L; however, it is no longer being disposed of, pending resolution of the issues associated with Area L. Asbestos is handled in accordance with NESHAPS regulations.

V.C.4.b. Waste Oil

Generation. Oil is used throughout the Laboratory in items ranging from thousand-gallon transformers to liter-sized pumps. Some of the oil is contaminated with polychlorinated biphenyls (PCBs). Of the oil disposed of in recent years (8,200 gal./yr), about 75 per cent was below concentrations regulated by TSCA (below 50 ppm PCBs), about 23 per cent was above 500 ppm PCBs, and the balance was between 50 and 500 ppm.

Handling and Disposal. Waste oils contaminated with PCBs are sent offsite for disposal/incineration. On May 21, 1984, the EPA approved operation of the controlled air incinerator at TA-50 to dispose of radioactive PCBs. On an EPA inspection in November 1984 these actions, with several minor exceptions, were determined to be in compliance with TSCA regulations. LANL received approval from EPA Region VI on June 5, 1980, to dispose of PCB-contaminated articles, oils, and materials in the chemical waste landfill located at TA-54, Area G.

V.C.4.c. Biocides

Generation. For fire, safety, and security reasons, vegetation must be controlled in a number of areas. For example, branches and weakened trees must be kept away from power lines, vision paths must be kept clear at road intersections, tree roots must be kept from damaging sewage lagoons, and areas around firing sites must be kept clear to avoid serious fires. In addition to removing vegetation by mechanical means, herbicides are used to help control vegetation growth. Use of herbicides calls for storage, correct application, and proper disposal of unused chemicals and contaminated containers and equipment.

Control of insects, rodents, and small animals such as snakes, skunks, and raccoons within or near Laboratory buildings is either necessary or desirable for health and safety reasons. These actions call for proper handling and disposal of unused pesticides and contaminated containers and equipment.

A Pest Control Oversight Committee is responsible for ensuring that biocides are used in accordance with proper regulations. The detailed policy of this committee was printed in June 1984.

Handling and Disposal. Wastes resulting from the use of herbicides and pesticides at the the Laboratory include unused and outdated chemicals, empty chemical containers, and chemically contaminated equipment. These were disposed of in Area L until November 1985, at which time the Laboratory started shipping materials off-site for disposal in accordance with FIFRA and New Mexico's pesticide regulations. An EPA FIFRA inspection in December 1984 identified no major discrepancies in regulations in the Laboratory's pesticide use procedures.

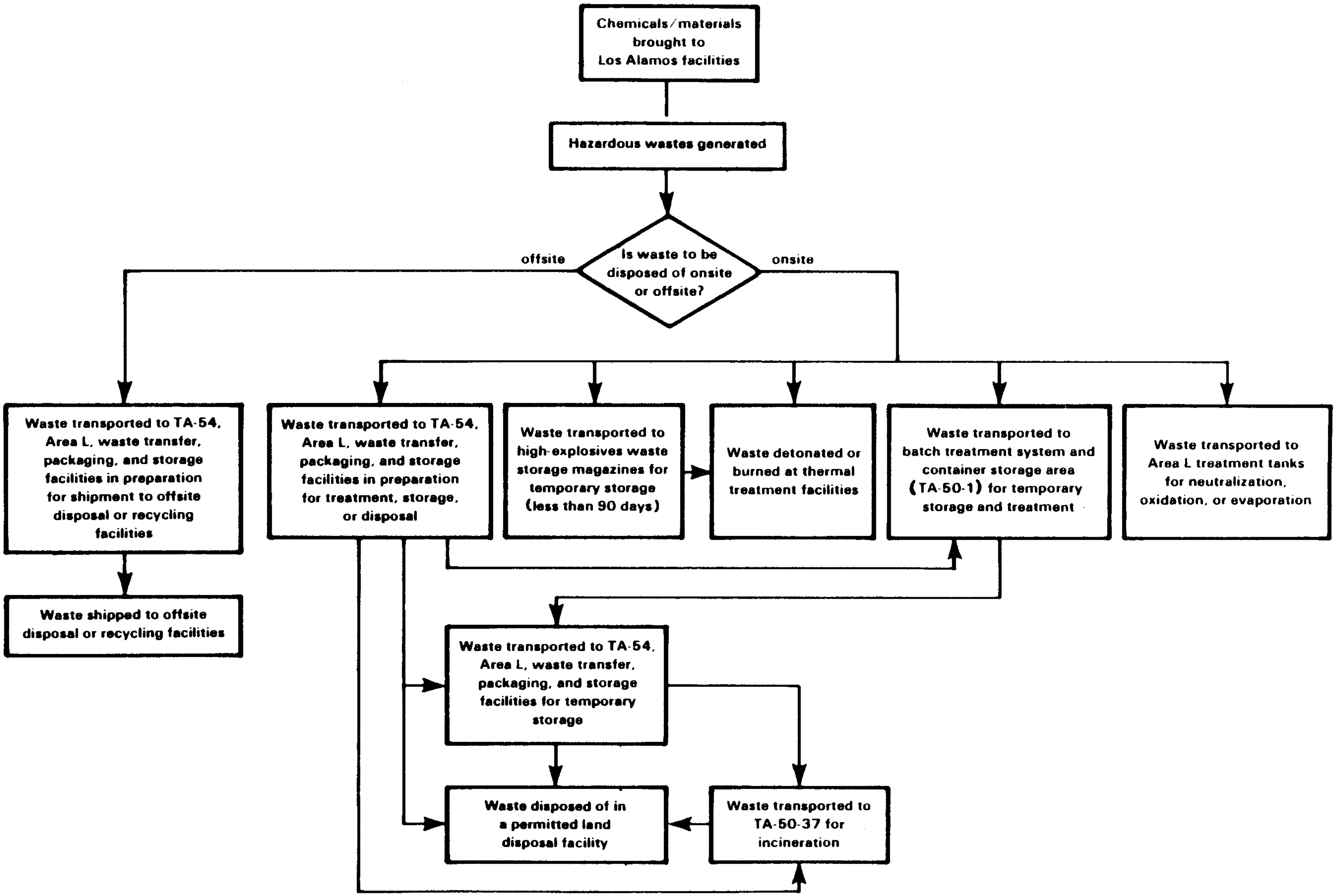


Figure V.C.1. Los Alamos hazardous waste management.

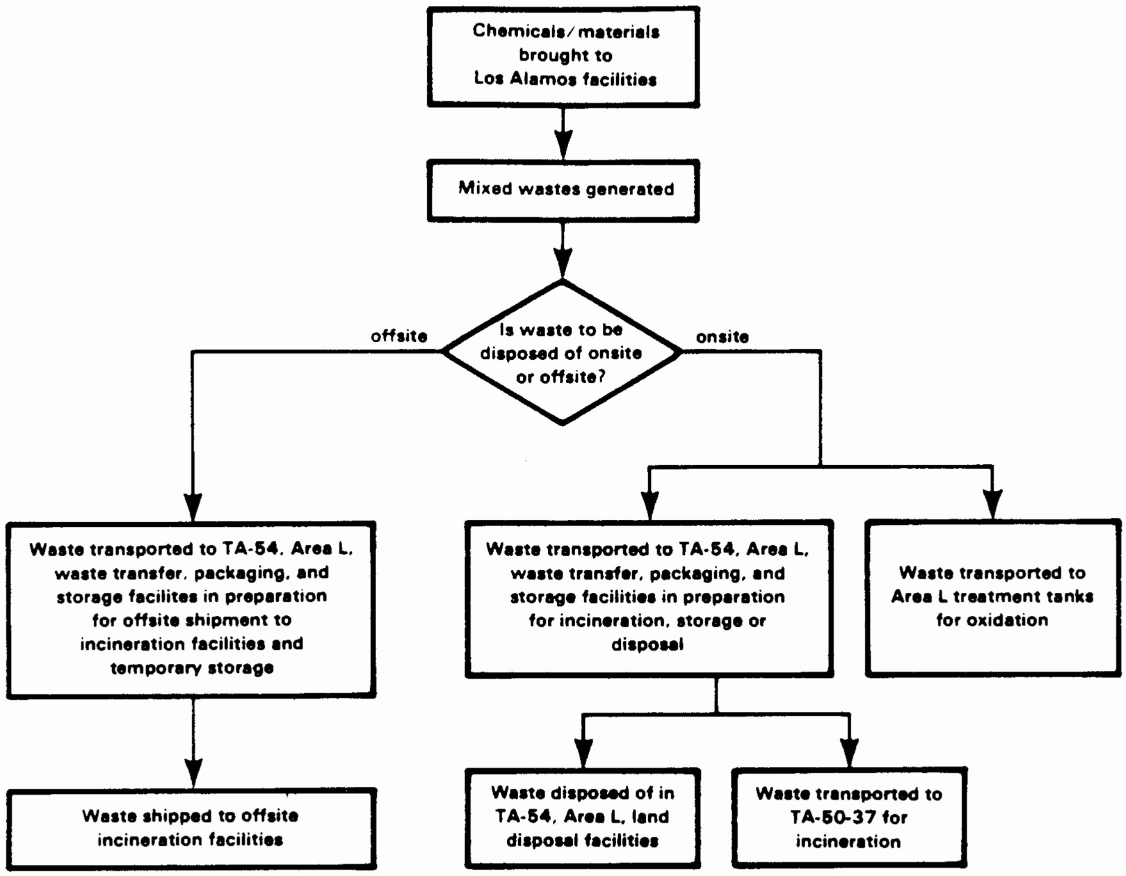


Figure V.C.2. Los Alamos mixed waste management.

Table V.C.1. Los Alamos Hazardous Wastes Identified by Generation Process and Waste Characterization

Process or Operation Generating Hazardous Wastes	Wastes Generated	Approx. Annual Volume (lb)	Hazard Code	EPA Hazardous Waste Number[a]
Basic and Applied Chemistry R&D Programs				
Chemistry and Metallurgy Research Building Radiochemistry Laboratory Health Research Laboratory	Numerous chemical wastes	Organic 50,000 Inorganic 40,000	Varies	Many--see Appendix D.
Electrochemistry Processing				
Materials Technology Group	Cyanide and chromate plating solutions	2,000	Toxic, reactive	F007, F009
Printed Circuit Board Shop	Acid/base copper etching/plating solutions	40,000	Corrosive	D002
Isotope Separation				
Isotope and Structural Chemistry Group	Concentrated nitric and sulfuric acid	80,000	Corrosive	D001, D002
Shops (Mechanical Fabrication Division)				
	Lithium hydride, lithium metal	3,500	Reactive	D003
	Halogenated solvents	<1,000	Toxic	F001, F002
	Nonhalogenated solvents	<1,000	Ignitable	F003

Table V.C.1. (continued)

Process or Operation Generating Hazardous Wastes	Wastes Generated	Approx. Annual Volume (lb)	Hazard Code	EPA Hazardous Waste Number[a]
Explosives				
Dynamics Testing and Design Engineering	High explosives, potential for barium	50,000	Ignitable, reactive	D001, D003, D005, and K044
	Contaminated burn pad sand	10,000	EP toxic	D005
Chemically Contaminated Equipment				
LANL facilities	Empty drums, tanks, cylinders, etc.	12,000	Varies	Many--see Appendix D

[a]40 CFR Part 261: identification and listing of hazardous wastes.

Table V.C.2. Hazardous Waste Analysis Parameters and Rationale for Their Selection

Process or Operation Generating Hazardous Wastes	Wastes Generated	Parameter(s)	Rationale
Basic and Applied Chemistry R&D Programs			
	Laboratory liquid wastes	Ignitability, reactivity, pH, EP toxicity, chemical composition	Analysis for selected parameters will be performed only for wastes that are unknown from laboratory process knowledge. The diverse nature of laboratory wastes precludes identification of all parameters for which each unknown waste will be analyzed; however, sufficient analysis will be performed on unknown wastes with volumes greater than 1 gal. to allow assignment of the appropriate EPA hazardous waste number.
		Heat value, organic chlorine, ash content, trichlorofluromethane, bromoform, dichlorodifluoromethane	Laboratory wastes are intended for incineration, if possible; thus, even if known from process knowledge, they will be analyzed for these incinerator parameters as part of the hazardous waste incinerator permit.
	Laboratory solid wastes	Ignitability, reactivity, EP toxicity, chemical composition	Analysis for selected parameters will be performed only for wastes that are unknown from laboratory process knowledge. The diverse nature of laboratory wastes precludes identification of all parameters for which each unknown waste will be analyzed;

Table V.C.2. (continued)

Process or Operation	Wastes Generated	Parameter(s)	Rationale
			however, sufficient analysis will be performed on unknown wastes with volumes greater than 1 gal. to allow assignment of the appropriate EPA hazardous waste number.
		Organic chlorine, trichlorofluoromethane, bromoform, dichlorodifluoromethane	Laboratory wastes are intended for incineration, if possible; thus, they will be analyzed for these incinerator parameters as part of the hazardous waste incinerator permit if process knowledge suggests the potential presence of organic chlorine and if a representative sample can be obtained.
<u>Electrochemistry Processing</u>			
Materials Technology Group	Cyanide and chromate plating solutions	Cyanide, chromate	Toxic contaminant concentration can vary widely, and proper treatment of waste is ensured by analysis.
Print Circuit Board Shop	Acid/base copper etching/plating solutions	pH	This waste is listed as hazardous (corrosive, D002) because of its pH, and proper treatment of waste is ensured by analysis.

Table V.C.2. (continued)

Process or Operation	Wastes Generated	Parameter(s)	Rationale
<u>Isotope Separation</u>			
Isotope and Structural Chemistry Group	Nitric and sulfuric acid	pH	This waste is listed as hazardous (corrosive, D002) because of its pH. The composition of these wastes does not change significantly, and tests are performed to ensure proper treatment. Additional analyses will be performed if a process change is instituted.
<u>Shops (Mechanical Fabrication Division)</u>			
	Lithium hydride, lithium metal	None	Material properties are well known and process knowledge allows identification of material without analysis.
	Solvents, halogenated and nonhalogenated	None	Material properties are well known and process knowledge allows identification of material without analysis.

Table V.C.2. (continued)

Process or Operation	Wastes Generated	Parameter(s)	Rationale
Explosives			
Dynamics Testing and Design Engineering Groups	High explosives	None	This waste is listed as hazardous because of its reactivity and ignitability (K044). This material will not be analyzed because of safety considerations; however, process knowledge allows identification of the material.
	Contaminated burn pad sand	EP toxicity for metals	Sand has been found to contain EP-toxic barium; other high-explosive chemicals are decomposed.
Chemically Contaminated Equipment			
LANL facilities	Empty drums, tanks, gas cylinders, etc.	None	Contaminants are known, and contaminated equipment is treated with the same precautions as if it were the actual material.

Table V.C.3. Parameters for Waste Verification Analysis

Process or Operation Generating Hazardous Wastes	Wastes Generated	Parameter(s)	Frequency	Rationale
Basic and Applied Chemistry R&D Programs				
	Laboratory liquid wastes	pH, total metals, volatile and semivolatile organics, reactivity, and ingnitability	1% of waste containers[a]	Analysis is conducted to determine contamination by chemicals at levels requiring changes in handling practices.
	Laboratory solid wastes	As for liquid laboratory wastes plus free liquids determination	1% of waste containers[a]	As for liquid laboratory wastes plus free liquids analysis to demonstrate suitability for landfill disposal.
Electrochemistry Processing				
Materials Technology Group	Cyanide and chromate plating solutions	pH, total metals, volatile and semivolatile organics, cyanide, and reactivity[b]	Annually, and if waste generation process changes	Analysis is performed to check for heavy metal and organic solvent contamination. Sulfide generation (reactivity) is determined to ensure safe treatment.
Printed Circuit Board Shop	Acid/base copper etching/plating solutions	As for cyanide and chromate plating solutions	Annually, and if waste generation process changes	As for cyanide and chromate plating solutions.

Table V.C.3. (continued)

Process or Operation Generating Hazardous Wastes	Wastes Generated	Parameter(s)	Frequency	Rationale
Isotope Separation				
Isotope and Structural Chemistry Group	Nitric and sulfuric Acid	pH, total metals, volatile and semivolatile organics, cyanide, reactivity[b]	Annually, and if waste generation process changes	Analysis is performed to check for heavy metal and solvent contamination.
Shops (Mechanical Fabrication Division)				
	Lithium hydride, lithium metal	Total metals, volatile and semivolatile organics	Annually, and if waste generation process changes	Analysis is performed to check for regulated metal and solvent contamination.
	Halogenated solvents	Total metals, volatile and semivolatile organics, ignitability	Annually, and if waste generation proces changes	Analysis is performed to check for contamination by metals and regulated organic constituents. Ignitability is determined to ensure that handling practices are safe.

Table V.C.3. (continued)

Process or Operation Generating Hazardous Wastes	Wastes Generated	Parameter(s)	Frequency	Rationale
Shops (cont)				
	Nonhalogenated solvents	As for halogenated solvents	Annually, and if waste generation process changes	As for halogenated solvents. The semivolatile and volatile organic analysis is adequate to determine the presence of halogenated solvents as well as most regulated organic constituents.
Explosives				
Dynamics Testing and Design Engineering Group	High explosives	None	None	This waste is listed as hazardous because of its reactivity and ignitability (K044)--due to safety considerations, it will not be analyzed. Process knowledge allows adequate identification for thermal treatment.

Table V.C.3. (continued)

Process or Operation Generating Hazardous Wastes	Wastes Generated	Parameter(s)	Frequency	Rationale
Explosives (cont)				
	Contaminated burn pad sand	Total metals, volatile and semivolatile organics, cyanides, free liquids	Annually, and if waste generation process changes	Analysis is performed to check for contamination by regulated metals; organic and cyanide analyses are performed to determine if regulated constituents are formed by thermal treatment; free liquids are checked to confirm the adequacy of landfilling sand wastes.
Chemically Contaminated Equipment				
LANL Facilities	Empty drums, tanks, gas cylinders, etc.	None	None	There are no protocols for sampling contaminated equipment.

[a]One per cent of laboratory waste containers excludes laboratory chemicals in their original bottles if the bottles have not been opened, as indicated by an unbroken cap seal. These chemicals are disposed of at the end of their shelf life.
[b]Reactivity for these wastes is determined as cyanide and sulfide gas generation potential per NMHWMR 201.B.4.a.5.

Table V.C.4. Test Methods for Waste Analysis Parameters

Parameter	Test Method	Physical State	Protocol Number	Reference[a]
Ignitability	Pensky-Martens closed-cup method	L	1010	SW-846
		L	D93-80	ASTM
Reactivity	Numerous methods and tests[b]	L,S	Section 2.1.3	SW-846
pH	Electrometric	L	9040	SW-846
EP toxicity (Extraction)	Extraction procedure toxicity test method and structural integrity test	L,S	1310	SW-846
EP toxicity (Analysis)	Graphite furnace atomic absorption spectrophotometry			
Arsenic		L	7060	SW-846
Barium		L	7081	SW-846
Cadmium		L	7131	SW-846
Chromium		L	7191	SW-846
Lead		L	7421	SW-846
Selenium		L	7740	SW-846
Silver		L	7761	SW-846
Mercury	Manual cold-vapor technique	L,S	7470	SW-846
Organochlorine pesticides	Gas chromatographic method	L	8080	SW-846
Chlorinated herbicides	Gas chromatographic method	L	8150	SW-846
Chemical composition	Any method listed in this table plus the following:			
	1) chemical analysis for volatile organic compounds using gas chromatography/mass spectrometry and	L	8240	SW-846

Table V.C.4. (continued)

Parameter	Test Method	Physical State	Protocol Number	Reference[a]
	2) chemical analysis for semivolatile organic compounds, using gas chromatography/mass spectrometry			
	- packed column	L	8250	SW-846
	- capillary column	L	8270	SW-846
Heat value	Bomb calorimeter	L	A006 D240	EPA-600/8-84-002 ASTM
Organic chlorine	Halide titration of combustion residue	L,S	A004 D2361	EPA-600/8-84-002 ASTM
Trichlorofluoromethane, bromoform, dichlorodifluoromethane	Chemical analysis for volatile organic compounds using gas chromatography/mass spectrometry	L	8240	SW-846
Ash content	Residue after combustion in muffle furnace	L	A001 D482	EPA-600/8-84-002 ASTM
		S	A001 D3174	EPA-600/8-84-002 ASTM
Cyanide	Distillation and titration	L	9010	SW-846
Chromium	Colorimetric method for hexavalent chromium	L	7196	SW-846
Total metals	Digestion and inductively coupled plasma method	L	3020	SW-846

Table V.C.4. (continued)

Parameter	Test Method	Physical State	Protocol Number	Reference[a]
Barium		L	6010	SW-846
Beryllium		L	6010	SW-846
Cadmium		L	6010	SW-846
Chromium		L	6010	SW-846
Lead		L	6010	SW-846
Silver		L	6010	SW-846
Thallium		L	6010	SW-846
Zinc		L	6060	SW-846
Mercury	Manual cold-vapor technique	L	7470	SW-846
		S	7471	SW-846
Free liquids	Paint filter liquids test	S	9095	SW-846

[a]A: Sampling and Analysis Methods for Hazardous Waste Combustion, EPA-600/8-84-002, February 1984.

ASTM: American Society for Testing and Materials.

SW: Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 2nd Edition, EPA, July 1982, Rev. 1984.

L: liquid waste.

S: solid waste.

[b]Methods for cyanide and sulfide generation are pending. SW-846 methods will be used when they become available. Methods recommended by the USEPA will be used in the interim.

[c]If EP toxicity and other analyses do not permit identification of an unknown chemical waste, digested metal samples (test method 3020, SW-846) will be analyzed for the metals noted.

Table V.C.5. Sampling Methods for Hazardous Wastes to be Analyzed

Process or Operation Generating Hazardous Wastes	Wastes Generated	Sampling Method[a]	Description of Sampling
Basic and Applied Chemistry R&D Program			
	Laboratory liquid wastes	Coliwasa or disposable glass tubing, glass bottle	Samples of unknown wastes in larger containers (e.g., 5-gal. cans) are taken with coliwasa; wastes in smaller containers may be sampled by pouring a small quantity of fluid into a glass bottle.
	Laboratory solid wastes	Thief, trier	Thief or trier used for unknown wastes depending on the physical consistency of the wastes; in some cases (e.g., contaminated equipment), obtaining a representative sample may be impracticable.
Electrochemistry Processing			
Materials Technology Group	Cyanide and chromate plating solutions	Coliwasa or disposable glass tubing	Samples are taken from drums before solutions are transferred to batch treatment systems; samples can also be taken from treatment system tank.
Print Circuit Board Shop	Acid/base copper etching/plating solutions	Coliwasa or disposable glass tubing	See above description.

Table V.C.5. (continued)

Process or Operation Generating Hazardous Wastes	Wastes Generated	Sampling Method[a]	Description of Sampling
Isotope Separation			
Isotope and Structural Chemistry Group	Nitric and sulfuric acid	Coliwasa or disposable glass tubing	See above description.
Explosives			
Dynamics Testing and Design Engineering Groups	Contaminated burn pad sand	Thief	Samples taken from approximate center of recent explosives burn.

[a]Sampling methods are adopted from Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 2nd Edition, EPA, July 1982, Rev. 1984.

Table V.C.6. Frequency of Analysis and Rationale

Process or Operation Generating Hazardous Wastes	Wastes Generated	Analysis	Frequency	Rationale
Basic and Applied Chemistry R&D Programs				
	Laboratory liquid wastes	Ignitability, reactivity, pH, EP toxicity, chemical analysis	Each time an unknown waste requires disposal	Analysis for selected parameters will be performed for wastes that are unknown from laboratory process knowledge.
		Heat value, organic chlorine, ash content, trichlorofluoromethane, bromoform, dichlorodifluoromethane	One incinerator feed-tank every three months	Analysis will be required by incinerator permit.
	Laboratory solid wastes	Ignitability, reactivity, pH, EP toxicity, chemical analysis	Each time an unknown waste requires disposal	Analysis for selected parameters will be performed for wastes that are unknown from laboratory process knowledge.
		Organic chlorine[a], trichlorofluoromethane, bromoform, dichlorodifluoromethane	One incinerator feed-tank every three months	Analysis will be required by incinerator permit.
Electrochemistry Processing				
Materials Technology Group	Cyanide and chromate plating solutions	Cyanide, chromium	Every batch	Toxic contaminants can vary widely, and proper treatment of waste is ensured by frequent analysis.

Table V.C.6. (continued)

Process or Operation Generating Hazardous Wastes	Wastes Generated	Analysis	Frequency	Rationale
Print Circuit Board Shop				
	Acid/base copper plating solutions	pH	Every batch	Same as cyanide and chromium analysis above.
<u>Isotope Separation</u>				
Isotope and Structural Chemistry Group	Nitric and sulfuric acid	pH	Every batch	The compositions of these wastes do not change significantly--testing is performed to confirm composition; additional analysis will be performed if a process change should affect the waste characteristics--any such analysis may be conducted at the discretion of the group manager or regulatory agencies.
<u>Shops (Mechanical Fabrication Division)</u>				
	Lithium hydride, lithium metal	None	None	Process knowledge allows identification of material without analysis.
	Halogenated solvents	None	None	Process knowledge allows identification of material without analysis.

Table V.C.6. (continued)

Process or Operation Generating Hazardous Wastes	Wastes Generated	Analysis	Frequency	Rationale
	Non-halogenated solvents	None	None	Process knowledge allows identification of material without analysis.
Explosives				
Dynamics Testing and Design Engineering Groups	High explosives	None	None	Process knowledge allows identification of material without performing highly dangerous analysis of high explosives.
	Contaminated burn pad sand	EP toxicity for metals	Annually and if formulation of explosives change	Sand is assumed to be contaminated with EP-toxic barium.
Chemically Contaminated Equipment				
LANL facilities	Empty drums, tanks, gas cylinders, etc.	None	None	Contaminants are known, and contaminated equipment is treated with the same precautions as if it were the actual material.

[a]The nature of the waste (contaminated rags, tissues, etc.) may preclude analysis, and process knowledge will have to provide necessary information.

Table V.C.7. Mixed Wastes Generated, Treated, Stored, and Disposed of at Los Alamos[a]

Process or Operation Generating Mixed Wastes	Wastes Generated	Hazard	EPA Hazardous Waste Number[b]
Basic and Applied Chemistry R&D Programs			
Chemistry and Metallurgy Research Building Radiochemistry Laboratory Health Research Laboratory Plutonium Facility	Numerous chemical wastes contaminated with various radionuclides	Varies	Many--see Appendix D.
Scintillation Cocktails			
Health Research Laboratory Environmental and Bioassay Laboratories Plutonium Facility	Solvents, typically benzene, toluene, and xylene	Ignitable	D001
Shops (Mechanical Fabrication Division)			
	Lithium hydride, lithium metal contaminated with depleted uranium and barium	Reactive	D003/D005

[a]Chemical- and radionuclide-contaminated equipment generated during various LANL operations exhibits the same characteristics as hazardous material contaminants.

[b]40 CFR Part 261: identification and listing of hazardous wastes.

Table V.C.8. Mixed Waste Analysis Parameters and Rationale for Their Selection

Process or Operation Generating Mixed Wastes	Wastes Generated	Parameter(s)	Rationale
Basic and Applied Chemistry R&D Programs			
	Laboratory liquid mixed wastes	Ignitability, reactivity, pH, EP toxicity, chemical analysis	Analysis for selected parameters will be performed, if necessary, for wastes that are unknown from laboratory process knowledge.
		Heat value, organic chlorine, ash content	These wastes are intended for incinera-ation, if possible, and thus will be analyzed for these incinerator parameters as part of the hazardous waste incin-erator permit.
	Laboratory solid mixed wastes	Ignitability, reactivity, EP toxicity, chemical analysis	Analysis for selected parameters will be performed, if necessary, for wastes that are unknown from laboratory process knowledge.
		Heat value, organic chlorine, ash content	These wastes are intended for incineration, if possible, and thus will be analyzed for these incinerator parameters as part of the hazardous waste incinerator permit.

Table V.C.8. (continued)

Process or Operation Generating Mixed Wastes	Wastes Generated	Parameter(s)	Rationale
Scintillation Cocktails			
	Solvents	Ignitability, reactivity, pH, EP toxicity, chemical analysis	Analysis for selected parameters will be performed, if necessary, for wastes that are unknown from laboratory process knowledge.
		Heat value, organic chlorine, ash content	These wastes are intended for incineration, if possible, and thus will be analyzed for these incinerator parameters as part of the hazardous waste incinerator permit.
Shops (Mechanical Fabrication Division)			
	Lithium hydride, lithium metal contaminated with depleted uranium	None	Material properties are well known, and process knowledge allows identification of material without analysis.
Chemical- and Radionuclide-Contaminated Equipment			
LANL facilities	Empty drums, tanks, gas cylinders, etc.	None	Contaminants are known, and contaminated equipment is treated with the same precautions as if it were the actual material.

Table V.C.9. Test Methods for Mixed Waste Analysis Parameters

Parameter	Test Method	Physical State	Protocol Number	Reference[a]
Ignitability	Pensky-Martens closed-cup method	L	1010	SW-846
		L	D93-80	ASTM
Reactivity	Numerous methods and tests[b]	L,S	Section 2.1.3	SW-846
pH	Electrometric	L	9040	SW-846
EP toxicity (Extraction)	Extraction procedure toxicity test method and structural integrity test	L,S	1310	SW-846
EP toxicity (Analysis)	Graphite furnace atomic absorption spectrophotometry			
Arsenic		L	7060	SW-846
Barium		L	7081	SW-846
Cadmium		L	7131	SW-846
Chromium		L	7191	SW-846
Lead		L	7421	SW-846
Selenium		L	7740	SW-846
Silver		L	7761	SW-846
Mercury	Manual cold-vapor technique	L,S	7470	SW-846
Organochlorine pesticides	Gas chromatographic method	L	8080	SW-846
Chlorinated herbicides	Gas chromatographic method	L	8150	SW-846
Heat value	Bomb calorimeter	L	A006	EPA-600/8-84-002
			D240	ASTM
		S	A006	EPA-600/8-84-002
			D2015	ASTM

Table V.C.9. (continued)

Parameter	Test Method	Physical State	Protocol Number	Reference[a]
Organic chlorine	Halide titration of combustion residue	L,S	A004	EPA-600/8-84-002
			D2361	ASTM
Ash content	Residue after combustion in muffle furnace	L	A001	EPA-600/8-84-002
			D482	ASTM
		S	A001	EPA-600/8-84-002
			D3174	ASTM
Cyanide	Distillation and titration	L	9010	SW-846
Chromium	Colorimetric method for hexavalent chromium	L	7196	SW-846

[a]A: Sampling and Analysis Methods for Hazardous Waste Combustion, EPA-600/8-84-002, February 1984.

ASTM: American Society for Testing and Materials.

SW: Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 2nd Edition, EPA, July 1982, Rev. 1984.

L: liquid waste.

S: solid waste.

[b]Methods for cyanide and sulfide generation are pending. SW-846 methods will be used when they become available. Methods recommended by the USEPA will be used in the interim.

[c]If EP toxicity and other analyses do not permit identification of an unknown chemical waste, digested metal samples (test method 3020, SW-846) will be analyzed for the metals noted.

Table V.C.10. Sampling Methods for Mixed Wastes

Process or Operation Generating Hazardous Wastes	Wastes Generated	Sampling Method[a]	Description of Sampling
Basic and Applied Chemistry R&D Programs			
	Laboratory liquid wastes	Coliwasa or disposable glass tubing, glass bottle	Samples of unknown wastes in larger containers (e.g., 5-gal. can) taken with coliwasa--wastes in smaller containers may be sampled by pouring a small quantity of fluid into a glass bottle.
	Laboratory solid wastes	Thief, trier	Thief or trier used for unknown wastes, depending on physical consistency of waste; in some cases (e.g., contaminated equipment) obtaining a representative sample may be impracticable.
Scintillation Cocktails			
	Solvents	Entire vial will be analyzed.	Scintillation vials have volumes of approximately 1 fluid oz.

[a]Sampling methods are adopted from Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 2nd Edition, EPA, July 1982, Rev. 1984.

Table V.C.11. Frequency of Analysis and Rationale

Process or Operation Generating Mixed Wastes	Wastes Generated	Analysis	Frequency	Rationale
Basic and Applied Chemistry R&D Program				
	Laboratory liquid wastes	Ignitability, reactivity, pH, EP toxicity, chemical analysis	As required	Analysis for selected parameters will be performed for wastes that are unknown from laboratory process knowledge.
		Heat value, organic chlorine, ash production trichlorofluoromethane, bromoform, dichlorodifluoromethane	One incinerator feed tank per month	Analysis will be required by incinerator permit.
	Laboratory solid wastes	Ignitability, reactivity, pH, EP toxicity, chemical analysis	As required	Analysis for selected parameters will be performed for wastes that are unknown from laboratory process knowledge.
		Heat value, organic chlorine[a]	One incinerator feed tank per month	Analysis will be required by incinerator permit.
Scintillation Cocktails				
	Solvents	Ignitability, reactivity, pH, EP toxicity, chemical analysis	As required	Analysis for selected parameters will be performed for wastes that are unknown from laboratory process knowledge.
		Heat value, organic chlorine, ash production	One incinerator feed tank per month	Analysis will be required by incinerator permit.

Table V.C.11. (continued)

Process or Operation Generating Mixed Wastes	Wastes Generated	Analysis	Frequency	Rationale
Shops (Mechanical Fabrication Division)				
Main Shops Department	Lithium hydride and lithium metal contaminated with depleted uranium	None	None	Process knowledge allows identification of material without analysis.
	Halogenated solvents			
	Nonhalogenated solvents			
Chemical- and Radionuclide-Contaminated Equipment				
LANL facilities	Empty drums, tanks, gas cylinders, etc.	None	None	Contaminants are known, and contaminated equipment is treated with the same precautions as if it were the actual material.

[a]The nature of the waste (e.g., contaminated rags, tissues, etc.) may preclude analysis, and process knowledge will have to provide necessary information.

V.D. REGULATORY COMPLIANCE

Environmental standards and regulations applicable to Los Alamos are presented in Section IV of this report. This section provides an overview of regulatory compliance issues identified during the Phase I review by CEARP staff. The Laboratory is developing an environmental appraisal program to follow up on these general issues.

V.D.1. FEDERAL COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA)

Current CERCLA regulations address inactive waste sites from the standpoint of hazardous and toxic substances. Potential CERCLA sites at LANL are identified in Sections V.A and V.B of this report, and appropriate action is indicated under CEARP.

CERCLA also requires that the accidental or routine release to the environment of hazardous substances in amounts that exceed their reportable quantities be reported to the National Response Center. The Laboratory has instituted a process for reporting the accidental release of these substances and is developing a program to ensure that routine releases are also reported as required under CERCLA.

V.D.2. FEDERAL RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)

DOE has submitted both Parts A and B of the RCRA application for LANL. The Laboratory is continuing to respond to requests for information on the Part B.

The status of LANL septic tanks and underground storage tanks (petroleum products, radioactive wastes, hazardous materials, and nonregulated substances) under RCRA is summarized in Tables V.D.1-V.D.5. Most underground storage tanks have been adequately addressed under RCRA. Some septic tank systems may receive hazardous waste and are being evaluated. Dry wells at LANL, which might receive hazardous waste, are also being evaluated as part of this process. Several outfalls should also be further evaluated, as indicated in Table V.D.6.

The status of container storage areas as identified in the DOE's RCRA Part A Permit application is addressed in Table V.D.7. However, there may be other satellite storage areas and less-than-90-day storage areas that require further evaluation. The status of LANL hazardous waste treatment facilities is addressed in Tables V.D.8 (Waste Treatment), V.D.9 (Thermal Treatment), and V.D.10 (Waste Disposal). The status of the Laboratory's firing sites is addressed in Table V.D.11. Each table identifies sites requiring further evaluation.

The DOE is currently discussing the definition of mixed waste with the EPA.

V.D.3. FEDERAL CLEAN AIR ACT (CAA) AND NEW MEXICO'S AIR QUALITY ACT

Currently, LANL has no major compliance problems concerning state and federal nonradioactive air pollutant regulations. Two air quality inspections conducted by the EID and EPA Region VI took place in FY 1985. No major compliance problems were found.

EID requires the permitting of all sources that emit on an uncontrolled basis any hazardous air pollutant regulated under the National Emission Standards for Hazardous Air Pollutants (NESHAPS). Nonradioactive NESHAPS pollutants include asbestos, benzene, beryllium, inorganic arsenic, mercury, and vinyl chloride. These sources had not been permitted in the past. DOE is in the process of permitting or registering existing and planned sources of hazardous air pollutants. The NESHAPS regulations for radionuclides specify dose limits, and the Laboratory operates within these limits.

The DOE has instituted appropriate procedures for notifying the EID and for properly managing friable asbestos during demolition or renovation.

The Laboratory is adjacent to Bandelier National Monument. The wilderness portion of Bandelier is a Class I Area. This situation has major implications for the permitting of Laboratory sources and their emission control requirements. The Prevention of Significant Deterioration (PSD) provisions of the CAA have very stringent permitting, siting, and emission control requirements for major stationary sources sited near Class I Areas.

V.D.4. FEDERAL CLEAN WATER ACT (CWA)

The DOE has the appropriate NPDES permits for the Laboratory (NM0028355 and NM0028576), has satisfactorily responded to an Administrative Order regarding NPDES permit NM0028355, and is in the process of implementing a Federal Facility Compliance Agreement.

The status of NPDES outfalls is summarized in Table V.D.6. Although most outfalls have been identified and appropriately reported, several outfalls are identified as requiring evaluation under NPDES by LANL. Outfalls possibly associated with septic tanks, which require evaluation by LANL, are identified in Table V.D.5. No major problems with compliance were identified during the March 10, 1986, NPDES compliance evaluation inspection conducted by the EPA. But minor noncompliance discharge incidents occur (see Tables IV.4 and IV.5). During 1985, the Laboratory began to consider a Sanitary Wastewater Systems Consolidation (SWSC) project. The objective of the SWSC is to provide an integrated, area-wide wastewater treatment system for LANL. When constructed, the new consolidated wastewater system will enhance NPDES permit compliance. The design portion of the SWSC line-item request (submitted late 1986) has been approved by DOE. The project should come on line during the 1990-1991 time period.

V.D.5. NEW MEXICO'S WATER QUALITY CONTROL ACT

The regulations of the Water Quality Control Commission require a groundwater discharge plan for surface discharges having the potential to contaminate any present or future underground source of drinking water. A groundwater discharge plan for the Fenton Hill Geothermal Site was submitted to the Oil Conservation Division of the New Mexico Energy and Minerals Department (as required by regulation) because the geothermal site is an energy producing facility. A groundwater discharge plan has not been submitted for the Los Alamos National Laboratory because facilities in existence at the time that the regulation was enacted were not required to submit such a plan until directed to do so by the state. No such directive has been given to the Laboratory. However, the Laboratory must file a notice of intent to discharge before construction of any lagoon, dry well, or discharge that could affect groundwater. The Laboratory fulfills notification requirements through NPDES-related correspondence. The Laboratory notifies the EID of all discharges added to or removed from the NPDES permit.

The Laboratory is also required to report any spill of oil or other water contaminant having the potential for significant environmental impact or injurious or detrimental effects on humans.

V.D.6. REGULATIONS FOR NEW MEXICO'S LIQUID WASTE DISPOSAL

These regulations are promulgated under the authority of the Environmental Improvement Act and are designed to prevent surface and groundwater contamination from small onsite liquid waste disposal practices. They are applicable to liquid waste systems that receive 2000 gal. or less of liquid waste per day (as designed) and are not subject to an NPDES permit or to a Groundwater Discharge Plan. The regulations apply to any septic tanks or other liquid waste disposal operations at the Laboratory that fall within the above criteria. Laboratory operations are being reviewed for compliance with these requirements.

V.D.7. FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)

FIFRA contains federal regulations governing the manufacture, use, application, and disposition of pesticides, herbicides, rodenticides, and other economic poisons. These regulations are pertinent to Los Alamos because of pesticide applications that occur on Laboratory property. The Laboratory's Pest Control Policy ensures that pesticide applications at the Laboratory conform to FIFRA regulations. Pan Am World Services, the support services subcontractor, maintains current certification of its applicators as required by FIFRA.

V.D.8. NEW MEXICO'S PESTICIDE CONTROL ACT

This act contains state regulations governing the manufacture, use, application, and disposition of pesticides. These regulations are consistent with the federal regulations found in FIFRA, and, like FIFRA, the state regulations are administered by the state's Department of Agriculture. The Laboratory's Pest Control Policy requires that pesticide use at the laboratory conform to state regulations. Pan Am World Services maintains current certification of its applicators as required by state regulations.

V.D.9. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

Administrative Requirement 9-2 of the Los Alamos National Laboratory's Health and Safety manual requires that Laboratory programs and activities comply with federal and state environmental protection regulations. This administrative requirement specifies the procedures and documents that are needed to comply with those regulations. The Laboratory initially prepares an Action Description Memorandum (ADM) as the first step in the NEPA process. The ADM addresses environmental impacts of proposed actions and allow determination of whether further environmental documentation is necessary.

Although the level of NEPA documentation appears to be adequate for Laboratory activities, there have been occasions on which action has been initiated on a project before completion of the NEPA process. Projects involving construction are routinely covered by the Laboratory process. However, a procedure for identifying new activities not involving construction at a sufficiently early stage to assure appropriate NEPA evaluation has not been established. The Laboratory is modifying its implementation of NEPA to ensure that projects are not begun until adequate NEPA-related documentation has been prepared.

V.D.10. SAFE DRINKING WATER ACT (SDWA)

The Laboratory monitors the quality of its drinking water supplies as required under SDWA and adheres to the Regulations Governing Water Supplies as established by the New Mexico EIB. The Laboratory collects and analyzes water from wells, one gallery, and locations in the distribution system to ensure that the municipal water supply is in compliance with chemical and radiochemical standards as required.

A Laboratory program ensures the separation of potable water supplies from the industrial water supply in situations where the potable water supply could possibly be exposed to contaminants. This program includes review of new construction/major modifications, minor modifications, and follow-up of complaints regarding the disagreeable taste, odor, or color of the potable water supply.

V.D.11. TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA-regulated polychlorinated biphenyls (PCBs) are used at LANL. Oils containing PCBs are found in many electrical transformers and capacitors, and these materials are handled and disposed of in accordance with TSCA regulations. The Laboratory instituted a major program during FY 1986 to remove excess capacitors and transformers. However, transformers and capacitors are still being improperly stored at the Laboratory.

LANL is currently sampling, inventorying, and marking articles with PCBs, such as transformers, capacitors, and hydraulic equipment. LANL marked and registered all (134) transformers with fire response personnel and building owners by December 1, 1985, as required by regulation. All proximal means of access to PCB transformers were also marked to aid fire response personnel, and a survey was made of combustible materials stored or located near PCB transformers. Visual inspections of PCB transformers are conducted at least quarterly, and inspection records maintained pursuant to the regulations.

LANL received approval from EPA Region VI on June 5, 1980, to dispose of PCB-contaminated articles, oils, and materials in the radioactive waste landfill located at TA-54, Area G. The approval requires semiannual reporting to EPA regarding the type and weight of the articles disposed of, and monitoring information regarding the chemical quality of storm water runoff and natural springs in the area.

A program is in place to comply with TSCA for containment upgrading or replacement of in-service transformers and other electrical equipment containing PCBs. Significant funding over several years will be required to complete this task.

Certain weapons components (test devices/prototypes) produced at LANL are fabricated from a diallyl phthalate resin that is reinforced with asbestos fiber. The resin is received at the Laboratory in granulated form and already contains the asbestos. Free asbestos is not used in the fabrication, although there is some dust associated with the granulated resin. The applicability of TSCA to this process is not clear.

Table V.D.1. Underground Storage Tanks - Petroleum Products

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Leak Test[a]	Applicable Regulation
TA-0	TA-0-195-1	Gasoline	2,000	3-25-85	Yes	21	--	RCRA
	TA-0-195-2	Gasoline	6,000	3-25-85	Yes	21	--	RCRA
	TA-0-195-3	Gasoline	4,000	3-25-85	Yes	13	--	RCRA
	TA-0-194-4	Gasoine	6,000	3-25-85	Yes	13	--	RCRA
	TA-0-195-5	Gasoline	300	3-25-85	Yes	14	--	RCRA
	TA-0-195-6	Fuel oil	4,000	3-25-85	No	29	--	RCRA
	TA-0-1051-1	Fuel oil	14,496	5-5-86	Yes	37	Passed	RCRA/CERCLA[b]
	TA-0-1051-2	Fuel oil	14,496	5-5-86	Yes	37	Passed	RCRA/CERCLA[b]
	TA-0-1051-3	Fuel oil	2,938	5-5-86	Yes	37	Failed	RCRA[b]/CERCLA[b]
TA-1	TA-1-240	Fuel	Unknown	NA	Unknown	Unknown	--	CERCLA[b]
	TA-1-442	Fuel	Unknown	NA	Unknown	Unknown	--	CERCLA[b]
	TA-1-443	Fuel	Unknown	NA	Unknown	Unknown	--	CERCLA[b]
	TA-1-444	Fuel	Unknown	NA	Unknown	Unknown	--	CERCLA[b]
TA-2	TA-2-1	Diesel	560	9-23-86	Yes	<1	--	RCRA

Table V.D.1. (continued)

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Leak Test[a]	Applicable Regulation
	TA-2-29	Fuel oil	1,000	NA	Removed 1959	NA	--	--
	TA-2-67	Unknown	Unknown	NA	Removed 1950	NA	--	--
TA-3	TA-3-36-1	Unleaded gasoline	10,152	5-5-86	Yes	6	Passed	RCRA
	TA-3-36-2	Unleaded gasoline	5,038	5-5-86	Yes	8	Passed	RCRA
	TA-3-36-3	Diesel	2,961	5-5-86	Yes	13	Failed	RCRA[b]/CERCLA[b]
	TA-3-93	Fuel oil	Unknown	NA	Removed 1966	NA	--	--
	TA-3-107	Dielectric oil	500	NA	Abandoned in place 1978	NA	--	CERCLA[b]
	TA-3-108	Dielectric oil	500	NA	Abandoned in place 1978	NA	--	CERCLA[b]
	TA-3-109	Dielectric	500	NA	Abandoned in place 1978	NA	--	CERCLA[b]
	TA-3-191	Unleaded gasoline	200	5-5-86	Yes	22	--	RCRA/CERCLA[b]

Table V.D.1. (continued)

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Leak Test[a]	Applicable Regulation
	TA-3-318	Diesel	4,000	5-5-86	Abandoned 1976	40	--	CERCLA[b]
	TA-3-1255	Diesel	4,030	5-5-86	Yes	6	Failed	RCRA[b]/CERCLA[b]
	TA-3-Tank Farm-1	Kerosene	10,152	5-5-86	Yes	4	--	RCRA
	TA-3-Tank Farm-2	Diesel	25,560	5-5-86	Yes	4	--	RCRA
	TA-3-Tank Farm-3	Unleaded gasoline	15,228	5-5-86	Yes	4	--	RCRA
	TA-3-Tank Farm-4	Unleaded gasoline	25,560	5-5-86	Yes	4	--	RCRA
	TA-3-Tank Farm-5	Unleaded gasoline	25,560	5-5-86	Yes	4	--	RCRA
	TA-3-Motor Pool-1	Unleaded gasoline	10,152	5-5-86	Yes	8	Passed	RCRA
	TA-3-Motor Pool-2	Diesel	10,152	5-5-86	Yes	8	Failed	RCRA[b]/CERCLA[b]
	TA-3-Motor Pool-3	Reclaimed oil	560	5-5-86	Yes	8	--	RCRA

Table V.D.1. (continued)

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Leak Test[a]	Applicable Regulation
	TA-3-Motor Pool-4	Reclaimed oil	560	5-5-86	Yes	8	--	RCRA
TA-6	TA-6-47	Fuel oil	Unknown	NA	Abandoned in place 1960	NA	--	CERCLA[b]
TA-8	TA-8-60	Diesel	Unknown	NA	Abandoned pre-1974	Unknown	--	CERCLA[b]
	TA-8-61	Fuel oil	Unknown	NA	Abandoned pre-1974	Unknown	--	CERCLA[b]
TA-15	TA-15-48	Fuel	Unknown	NA	Abandoned in place 1959	NA	--	CERCLA[b]
	TA-15-52	Fuel	Unknown	NA	Abandoned in place 1970	NA	--	CERCLA[b]
	TA-15-266	Fuel	Unknown	NA	Removed 1979		--	--
	TA-15-274	Gasoline	218	5-5-86	Yes	24	--	RCRA/CERCLA[b]
	TA-15-287	Dielectric oil	15,000	5-5-86	Yes	7	--	RCRA
TA-16	TA-16-16	Diesel	Unknown	TBD	NO	>35	--	RCRA/CERCLA
	TA-16-196	Gasoline	4,030	NA	No	Abandoned in place	--	CERCLA[b]

Table V.D.1. (continued)

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Leak Test[a]	Applicable Regulation
	TA-16-197	Unleaded gasoline	4,030	5-5-86	Yes	35	Passed	RCRA/CERCLA[b]
	TA-16-205	Diesel	560	5-5-86	Yes	2	Failed	RCRA[b]
	TA-16-543	Fuel oil	29,858	5-5-86	Yes	36	Passed	RCRA
	TA-16-544	Fuel oil	29,858	5-5-86	Yes	36	Passed	RCRA
	TA-16-545	Fuel oil	29,858	5-5-86	Yes	36	--	RCRA
	TA-16-546	Fuel oil	29,858	5-5-86	Yes	36	Passed	RCRA
	TA-16-1341	Gasoline	5,000	NA	Removed 1980	--	--	CERCLA[b]
	TA-16-1342	Gasoline	5,000	NA	Removed 1980	--	--	CERCLA[b]
TA-18	TA-18-PL-30	Diesel	560	9-23-86	Yes	<1	--	RCRA
	TA-18-PL-104	Fuel	Unknown	NA	Abandoned June 1966	NA	--	CERCLA[b]
TA-21	TA-21-3	Diesel	800	5-5-86	Abandoned 1985	20	--	RCRA[b]/CERCLA[b]
	TA-21-155	Diesel	3,008	5-5-86	Yes	7	Passed	RCRA
	TA-21-ATF-01	Fuel oil	21,000	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]

Table V.D.1. (continued)

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Leak Test[a]	Applicable Regulation
	TA-21-ATF-02	Fuel oil	21,500	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]
	TA-21-ATF-03	Fuel oil	26,000	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]
	TA-21-ATF-04	Fuel oil	22,000	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]
	TA-21-ATF-05	Kerosene	5,500	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]
	TA-21-ATF-06	Kerosene	3,000	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]
	TA-21-ATF-07	Kerosene	2,500	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]
	TA-21-ATF-08	Kerosene	5,500	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]
	TA-21-ATF-09	Fuel oil	25,000	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]
	TA-21-ATF-10	Fuel oil	25,000	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]
	TA-21-ATF-11	Diesel	38,000	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]

Table V.D.1. (continued)

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Leak Test[a]	Applicable Regulation
	TA-21-ATF-12	Fuel oil	38,000	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]
	TA-21-ATF-13	Gasoline	36,000	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]
	TA-21-ATF-14	Fuel oil	26,500	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]
	TA-21-ATF-17	Diesel	49,000	5-5-86	Abandoned 2/85	40	--	RCRA/CERCLA[b]
TA-22	TA-22-45	Fuel oil	6,000	NA	Removed 1984	NA	--	--
TA-35	TA-35-TSL-18	Diesel	Unknown	NA	Abandoned in place 1973	NA	--	CERCLA[b]
	TA-35-TSL-19	Fuel oil	Unknown	NA	Abandoned in place 1973	NA	--	CERCLA[b]
	TA-35-TSL-20	Fuel oil	Unknown	NA	Abandoned in place 1973	NA	--	CERCLA[b]
	TA-35-159	Dielectric oil	800	5-5-86	Yes	10	--	RCRA/CERCLA[b]
	TA-35-TSL-188-1	Dielectric oil	6,000	9-23-86	Yes	17	--	RCRA/CERCLA[b]

Table V.D.1. (continued)

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Leak Test[a]	Applicable Regulation
	TA-35-TSL-188-2	Dielectric oil	6,000	9-23-86	Yes	17	--	RCRA/CERCLA[b]
	TA-35-197	Dielectric oil	24,000	5-5-86	Yes	8	--	RCRA/CERCLA[b]
TA-41	TA-41-W2	Diesel	560	9-23-86	Yes	1	--	RCRA
TA-50	TA-50-37	Diesel	1,034	5-5-86	Yes	7	Passed	RCRA
TA-52	TA-52-12	Fuel	300	NA	Abandoned in place 1971-72	18	--	RCRA[b]/CERCLA[b]
TA-55	TA-55-15	Diesel	550	5-5-86	Yes	11	Passed	RCRA
	TA-55-16	Diesel	550	5-5-86	Yes	11	Failed	RCRA[b]/CERCLA[b]
	TA-55-17	Diesel	3,008	5-5-86	Yes	11	Passed	RCRA
	TA-55-M-4	Empty, planned for diesel	1,034	9-23-86	Yes	1	--	RCRA
	TA-55-PF-47	Diesel	100	9-23-86	Yes	2	Passed	RCRA

Table V.D.1. (continued)

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Leak Test[a]	Applicable Regulation
TA-59	TA-59-6	Diesel	3,008	5-5-86	Yes	20	Passed	RCRA

[a]Leak Test - evaluation of underground storage tanks containing petroleum products, RCRA Phase I; volumetric testing using the Heath Petro TITE or Fluid-Static testing methods.
[b]Potential regulatory compliance issue; potential CERCLA site identification under potential CERCLA/RCRA sites, Section V.A.
NA: Not applicable.
TBD: To be determined.

Table V.D.2. Underground Storage Tanks - Radioactive Wastes

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Applicable Regulation
TA-2	TA-2-54	Mixed waste	1,200	5-5-86	Yes	23	RCRA
	TA-2-55	Mixed waste	1,200	5-5-86	Yes	23	RCRA
	TA-2-56	Mixed waste	1,200	5-5-86	Yes	23	RCRA
TA-3	TA-3-29-W2A	Mixed waste	5,000	5-5-86	Yes	27	RCRA
	TA-3-29-W3A	Mixed waste	5,000	5-5-86	Yes	27	RCRA
	TA-3-29-W4A	Mixed waste	5,000	5-5-86	Yes	27	RCRA
	TA-3-29-W5A	Mixed waste	5,000	5-5-86	Yes	27	RCRA
	TA-3-29-W7A	Mixed waste	5,000	5-5-86	Yes	27	RCRA
	TA-3-29-W2B	Mixed waste	5,000	([a])	Yes	27	RCRA
	TA-3-29-W3B	Mixed waste	5,000	([a])	Yes	27	RCRA
	TA-3-29-W4B	Mixed waste	5,000	([a])	Yes	27	RCRA
	TA-3-29-W5B	Mixed waste	5,000	([a])	Yes	27	RCRA
	TA-3-29-W7B	Mixed waste	5,000	([a])	Yes	27	RCRA
TA-3	TA-3-154HL-1	Mixed waste	10,000	5-5-86	Yes	27	RCRA
	TA-3-154HL-2	Mixed waste	10,000	5-5-86	Yes	27	RCRA
	TA-3-154LL-1	Mixed waste	5,000	5-5-86	Yes	27	RCRA

Table V.D.2. (continued)

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Applicable Regulation
	TA-3-154LL-2	Mixed waste	5,000	5-5-86	Yes	27	RCRA
TA-21	TA-21-107	Acid mixed	Unknown	NA	Abandoned in place	NA	CERCLA[b]
	TA-21-108	Acid mixed	Unknown	NA	Abandoned in place	NA	CERCLA[b]
	TA-21-257-BS1	Mixed waste	412	5-5-86	Yes	20	RCRA
	TA-21-257-BS2	Mixed waste	412	5-5-86	Yes	20	RCRA
	TA-21-257-BS3	Mixed waste	1,740	5-5-86	Yes	20	RCRA
	TA-21-257-FL1	Mixed waste	3,980	5-5-86	Yes	20	RCRA
	TA-21-257-FM1	Mixed waste	123	5-5-86	Yes	20	RCRA
	TA-21-257-FS1	Mixed waste	5,900	5-5-86	Yes	20	RCRA
	TA-21-257-RWS1	Mixed waste	28,000	5-5-86	Yes	20	RCRA
	TA-21-257-RWS2	Mixed waste	28,000	5-5-86	Yes	20	RCRA
	TA-21-257-SS1	Mixed waste	4,200	5-5-86	Yes	20	RCRA
	TA-21-257-ST1	Mixed waste	18,000	5-5-86	Yes	20	RCRA
TA-35	TA-35-TSL-4	Acid mixed	600	NA	Yes	>30	CERCLA[b]
	TA-35-TSL-5	Acid mixed	600	NA	Yes	>30	CERCLA[b]

Table V.D.2. (continued)

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Applicable Regulation
	TA-35-TSL-6	Acid mixed	600	NA	Yes	>30	CERCLA[b]
	TA-35-TSL-158	Acid mixed	Unknown	NA	Removed 1985	NA	CERCLA[b]
TA-41	TA-41-45	Mixed waste	Unknown	TBD	Yes	Unknown	RCRA[b]/CERCLA[b]
TA-50	TA-50-1-1	Mixed waste	2,000	5-5-86	Yes	25	RCRA
	TA-50-1-2	Mixed waste	5,000	5-5-86	Yes	25	RCRA
	TA-50-1-3	Mixed waste	5,000	5-5-86	Yes	25	RCRA
	TA-50-2-1	Mixed waste	75,000	5-5-86	Yes	25	RCRA
	TA-50-2-2	Mixed waste	25,000	5-5-86	Yes	25	RCRA
	TA-50-2-3	Mixed waste	25,000	5-5-86	Yes	25	RCRA
	TA-50-2-4	Mixed waste	25,000	5-5-86	Yes	25	RCRA
	TA-50-2-5	Mixed waste	25,000	5-5-86	Yes	25	RCRA
	TA-50-3-1	Mixed waste	5,000	5-5-86	Temporarily out of serv.	25	RCRA
	TA-50-3-2	Mixed waste	2,000	5-5-86	Temporarily out of serv.	25	RCRA
	TA-50-3-3	Mixed waste	1,000	5-5-86	Temporarily out of serv.	25	RCRA

Table V.D.2. (continued)

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Applicable Regulation
TA-53	TA-53-1	Mixed waste	3,000	5-5-86	Yes	16	RCRA
	TA-53-68	Mixed waste	2,500	5-5-86	Yes	16	RCRA
	TA-53-69	Mixed waste	2,500	5-5-86	Yes	16	RCRA
	TA-53-144	Mixed waste	4,000	5-5-86	Yes	16	RCRA
	TA-53-145	Mixed waste	4,000	5-5-86	Yes	16	RCRA
	TA-53-?	Mixed waste	2,200	5-5-86	No	13	CERCLA[b]
TA-54	TA-54-17	Mixed waste	600	5-5-86	Yes	10	RCRA

[a]A and B Tanks (e.g. TA-3-29 W2A and W2B) originally notified on 5-5-86 as being single tanks.

[b]Potential regulatory compliance issue; potential CERCLA site identification under CERCLA/RCRA sites, Section V.A.

NA: Not applicable.

TBD: To be determined.

Table V.D.3. Underground Storage Tanks - Hazardous Materials

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Applicable Issue
TA-3	TA-3-40	Chromic acid, mixed substances	300	5-5-86	Yes	3	RCRA/CERCLA[a]
	TA-3-66A	Acids	4,500	5-5-86	Yes	27	RCRA/CERCLA[a]
	TA-3-66C	Caustic solutions	4,500	5-5-86	Yes	27	RCRA/CERCLA[a]
TA-16	TA-16-215	Mixed substances	Unknown	TBD	Unknown	Unknown	RCRA[a]/CERCLA[a]
TA-21	TA-21-325	Nitric acid	5,200	5-5-86	Yes	Unknown	CERCLA[a]

[a]Potential regulatory compliance issue; potential CERCLA site identification under CERCLA/RCRA sites, Section V.A.

TBD: to be determined.

Table V.D.4. Underground Storage Tanks - Nonregulated Substances

Technical Area	Tank ID No.	Substance Stored	Capacity (gal.)	State Notification	Currently in Service	Tank Age (yr)	Applicable Regulation
TA-0	TA-0-1051	Boiler blowdown	Unknown	TBD**	Yes	Unknown	RCRA[a]/NPDES[a]
TA-3	TA-3-75	Asphalt emulsion	20,000	5-5-85	Yes	35	CERCLA[a]
	TA-3-76	Asphalt	20,000	5-5-85	Yes	35	CERCLA[a]
	TA-3-178	Asphalt emulsion	8,000	5-5-85	Yes	35	CERCLA[a]
	TA-3-335	Asphalt emulsion	13,500	5-5-85	Yes	35	CERCLA[a]
TA-15	TA-15-291	Ethylene glycol	1,200	NA	Yes	Unknown	
TA-16	TA-16-16	Unknown	Unknown	TBD	Yes	Unknown	RCRA[a]/CERCLA[a]
	TA-16-456	Boiler blowdown	Unknown	TBD	Yes	Unknown	RCRA[a]/NPDES[a]

[a]Potential regulatory compliance issue; potential CERCLA site identified under potential CERCLA/RCRA sites, Section V.A.
TBD: to be determined.
NA: not applicable.

Table V.D.5. Septic Tanks

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
TA-0	TA-0-7	ULR-7	Abandoned 1955	--	--
	TA-0-14	ULR-14	Active	--	--
	TA-0-69	ULR-69	Active	--	--
	TA-0-154	ULR-154	Active	RCRA[a]CERCLA[a]	May be contaminated with chemicals and solvents, should be evaluated for regulatory compliance.
	TA-0-190	ULR-190	Active	--	--
	TA-0-276	ULR-276	Active	--	--
TA-1	TA-1-34	TA-1-34	Decommissioned	CERCLA[a]	--
	TA-1-135	TA-1-135	Decommissioned	CERCLA[a]	--
	TA-1-137	TA-1-137	Decommissioned	CERCLA[a]	--
	TA-1-138	TA-1-138	Decommissioned	CERCLA[a]	--
	TA-1-139	TA-1-139	Decommissioned	CERCLA[a]	--
	TA-1-140	TA-1-140	Decommissioned	CERCLA[a]	--
	TA-1-141	TA-1-141	Decommissioned	CERCLA[a]	--
	TA-1-142	TA-1-142	Abandoned 1953	CERCLA[a]	--
	TA-1-268	TA-1-268	Decommissioned	CERCLA[a]	--

Table V.D.5. (continued)

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
	TA-1-269	TA-1-269	Decommissioned	CERCLA[a]	--
	TA-1-275	TA-1-275	Decommissioned	CERCLA[a]	--
	TA-1-276	TA-1-276	Decommissioned	CERCLA[a]	--
TA-2	TA-2-43	TA-2-43	Decommissioned 1986	CERCLA[a]	Phase 1 cleanup efforts, 1986.
TA-3	TA-3-15	SM-15	Removed 1964	--	--
	TA-3-79	SM-79	Abandoned	--	--
	TA-3-272	SM-272	Abandoned	--	--
	TA-3-689	SM-689	Abandoned	--	--
	TA-3-1484	SM-1484	Active	RCRA[a]	Research and development (R&D) facility.
TA-5	TA-5-13	TA-5-13	Decommissioned	CERCLA[a]	Acid septic tank--chemical/toxic contamination.
TA-6	TA-6-40	TM-40	Active	--	--
	TA-6-41	TM-41	Decommissioned 1965	CERCLA[a]	Contaminated with high explosives--tank disposed of at Area P.
	TA-6-43	TM-43	Active	RCRA[a]	Shop building--potential solvent contamination.

Table V.D.5. (continued)

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
	TA-6	--	Active	--	Northeast corner of Anchor Ranch Road and Two-Mile Mesa.
TA-8	TA-8-59	AW-59	Abandoned 1967	CERCLA[a]	May contain significant amounts of toxic chemicals.
	TA-8-64	AW-64	Abandoned 1949	--	--
	TA-8-67	AW-67	Abandoned 1968	CERCLA[a]	May contain significant amounts of toxic chemicals.
TA-9	TA-9-48	AE-48	Uncertain	CERCLA[a]	Industrial waste effluents joined outflow from tank and were routed to an outfall to canyon.
	TA-9-81	AE-81	Abandoned 1970	--	--
	TA-9-105	AE-105	Active	--	--
	TA-9-106	AE-106	Active	--	--
	TA-9-107	AE-107	Active	RCRA[a]/CERCLA[a]	May be contaminated with toxic chemicals, should be evaluated for regulatory compliance.
	TA-9-108	AE-108	Active	RCRA[a]/CERCLA[a]	R&D--may contain chemicals and other materials, should be evaluated for regulatory compliance.
	TA-9-109	AE-109	Active	--	--

Table V.D.5. (continued)

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
	TA-9-110	AE-110	Active	--	--
	TA-9-203	AE-203	Abandoned 1965	CERCLA[a]	Contaminated with high explosives.
	TA-9-211	AE-211	Abandoned 1986	--	--
TA-10	TA-10-38	BAYO-38	Uncertain	CERCLA[a]	--
	TA-10-39	BAYO-39	Uncertain	CERCLA[a]	--
	TA-10-40	BAYO-40	Uncertain	CERCLA[a]	--
TA-11	TA-11-20	K-20	Active	RCRA[a]/CERCLA[a]	Potentially contaminated with high explosives, should be evaluated for regulatory compliance.
	TA-11-43	K-43	Active	RCRA[a]/CERCLA[a]	Potentially contaminated with high explosives, should be evaluated for regulatory compliance.
TA-13	TA-13-12	P-12	Removed 1951	--	--
TA-14	TA-14-19	Q-19	Active	RCRA[a]/CERCLA[a]	Potentially contaminated with chemicals, should be evaluated for regulatory compliance.
TA-15	TA-15-51	R-51	Active	RCRA[a]/CERCLA[a]	Potentially contaminated with chemicals, should be evaluated for regulatory compliance.
	TA-15-61	R-61	Active	--	--

Table V.D.5. (continued)

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
	TA-15-62	R-62	Active	CWA-NPDES[a]/RCRA[a]/CERCLA[a]	Affidavit of no discharge and discontinuance of NPDES Permit (1975)--possible chemical contamination, should be reevaluated for regulatory compliance.
	TA-15-63	R-63	Active	--	--
	TA-15-67	R-67	Renumbered TA-36-61	--	--
	TA-15-72	R-72	Inactive	CWA-NPDES[a]	Affidavit of no discharge and discontinuance of NPDES Permit (1975), should be reevaluated for regulatory compliance.
	TA-15-80	R-80	Abandoned 1980	--	--
	TA-15-147	R-147	Abandoned 1965	--	--
	TA-15-195	R-195	Active	RCRA[a]	Serves a laboratory--chemical contamination likely, should be evaluated for regulatory compliance.
	TA-15-205	R-205	Active	RCRA[a]	R&D discharge--potential chemical and solvent contaminants, should be evaluated for regulatory compliance.
	TA-15-282	R-282	Active	--	--

Table V.D.5. (continued)

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
	TA-15-284	R-284	Active	--	--
	TA-15-286	R-286	Active	RCRA[a]	Serves shop building--potential contamination with solvents, should be evaluated for regulatory compliance.
TA-16	TA-16-173	16-173	Abandoned 1971	--	--
	TA-16-174	16-174	Decommissioned	--	--
	TA-16-175	16-175	Active	CWA-NPDES[a]/RCRA[a]/CERCLA[a]	Affidavit of no discharge and discontinuance of NPDES permit (1975)--R&D--potential chemical contaminants, should be evaluated for regulatory compliance.
	TA-16-176	16-176	Removed	--	--
	TA-16-177	16-177	Decommissioned	--	--
	TA-16-178	16-178	Active	--	--
	TA-16-179	16-179	Decommissioned	--	--
	TA-16-371	16-371	Active	CWA-NPDES[a]/RCRA[a]/CERCLA[a]	Affidavit of no discharge and discontinuance of NPDES permit--R&D--potential chemical contaminants, should be evaluated for regulatory compliance.

Table V.D.5. (continued)

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
	TA-16-381	16-381	Active	CWA-NPDES[a]/RCRA[a]	R&D--potential chemical contaminants, should be evaluated for regulatory compliance.
	TA-16-385	16-385	Active	CWA-NPDES[a]	Affidavit of no discharge and discontinuance of NPDES permit (1975), should be reevaluated for regulatory compliance.
	TA-16-420	16-420	Abandoned 1962	--	--
	TA-16-486	16-486	Removed 1951	--	--
	TA-16-504	16-504	Removed 1960	--	--
	TA-16-527	16-527	Inactive, formerly V-12	--	--
	TA-16-1132	16-1132	Removed 1956	--	--
TA-18	TA-18-39	PL-39	Active	CWA-NPDES[a]/RCRA[a]/CERCLA[a]	Affidavit of no discharge and discontinuance of NPDES permit--potential radiological contaminants, should be evaluated for regulatory compliance.
	TA-18-40	PL-40	Decommissioned	--	--
	TA-18-41	PL-41	Decommissioned	--	--

Table V.D.5. (continued)

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
	TA-18-42	PL-42	Active	RCRA[a]	Potentially contaminated with radionuclides, should be evaluated for regulatory compliance.
	TA-18-43	PL-43	Removed	--	--
	TA-18-120	PL-120	Active	CWA-NPDES[a]/RCRA[a]/CERCLA[a]	Potentially contaminated with radionuclides and oil. Affidavit of no discharge and discontinuance of NPDES permit--should be evaluated for discontinuance regulatory compliance.
	TA-18-152	PL-152	Abandoned	--	--
TA-19	TA-19-6	EGL-6	Abandoned	CERCLA[a]	Potential for contamination exists.
TA-21	TA-21-53	DP-53	Abandoned 1966	CERCLA[a]	Included in LASL 1977b memo--listed 10 possibly contaminated septic tanks.
	TA-21-55	DP-55	Abandoned 1966	CERCLA[a]	Included in LASL 1977b memo.
	TA-21-56	DP-56	Abandoned 1966	CERCLA[a]	Included in LASL 1977b memo.
	TA-21-62	DP-62	Decommissioned 1965	--	--
	TA-21-106	DP-106	Abandoned 1966	CERCLA[a]	Included in LASL 1977b memo.

Table V.D.5. (continued)

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
	TA-21-124	DP-124	Abandoned 1955	CERCLA[a]	Included in LASL 1977b memo.
	TA-21-125	DP-125	Abandoned 1966	CERCLA[a]	Included in LASL 1977b memo.
	TA-21-142	DP-142	Decommissioned 1965	--	Included in LASL 1977b memo.
	TA-21-163	DP-163	Abandoned 1966	CERCLA[a]	Included in LASL 1977b memo.
	TA-21-181	DP-181	Abandoned 1965	CERCLA[a]	Included in LASL 1977b memo.
	TA-21-194	DP-194	Abandoned 1966	CERCLA[a]	Included in LASL 1977b memo.
	TA-21-219	DP-219	Abandoned 1966	CERCLA[a]	Included in LASL 1977b memo.
	TA-21-225	DP-225	Decommissioned 1966	--	--
TA-22	TA-22-42	TD-42	Abandoned 1952	CERCLA[a]	Potentially contaminated with radionuclides and high explosives.
	TA-22-50	TD-50	Active	NPDES[a]	Affidavit of no discharge and discontinuance of NPDES permit (1975), should be reevaluated for regulatory compliance.
	TA-22-51	TD-51	Active	NPDES[a]	Affidavit of no discharge and discontinuance of NPDES permit (1975), should be reevaluated for regulatory compliance.

Table V.D.5. (continued)

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
TA-25	TA-25-2	V-12	Abandoned	CERCLA[a]	Possible high explosive or chemical contamination.
TA-26	TA-26-5	D-5	Unknown	CERCLA[a]	Fate of tank needs to be determined.
TA-31	TA-31-7	31-7	Abandoned	CERCLA[a]	Possible oil or chemical spills may have drained into tank.
TA-32	TA-32-7	32-7	Abandoned	CERCLA[a]	Low levels of radionuclides.
	TA-32-8	32-8	Abandoned	CERCLA[a]	Low levels of radionuclides.
TA-33	TA-33-31	HP-31	Active	RCRA[a]/CERCLA[a]	Tank serves several laboratory buildings--possible chemical contamination, should be evaluated for regulatory compliance.
	TA-33-32	HP-32	Decommissioned 1975	--	--
	TA-33-33	HP-33	Active	NPDES[a]	Affidavit of no discharge and discontinuance of NPDES permit (1975), should be reevaluated for regulatory compliance.
	TA-33-93	HP-93	Active	CWA-NPDES[a]/RCRA[a]/CERCLA[a]	Affidavit of no discharge and discontinuance of NPDES permit (1975)--radionuclides suspected in tank and drainage field, should be evaluated for regulatory compliance.

Table V.D.5. (continued)

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
	TA-33-96	HP-96	Active	RCRA[a]/CERCLA[a]	Septic tank serves a laboratory--possible chemical contamination, should be evaluated for regulatory compliance.
	TA-33-121	HP-121	Active	--	--
	TA-33-161	HP-161	Active	--	--
TA-35	TA-35-14	TSL-14	Abandoned 1975	CERCLA[a]	Leach field potentially contaminated with oil.
	TA-35-44	TSL-44	Active	--	--
	TA-35-65	TSL-65	Active	RCRA[a]	Tank currently serves a laboratory building--potential chemical contamination, should be evaluated for regulatory compliance.
	TA-35-76	TSL-76	Abandoned 1975	CERCLA[a]	Contamination uncertain.
TA-36	TA-36-17	KAPPA-17	Active	RCRA[a]	Tank currently serves a laboratory building--potential chemical contamination, should be evaluated for regulatory compliance.
	TA-36-61	KAPPA-61	Active	RCRA[a]/CERCLA[a]	Potential radionuclide and high explosive contamination, should be evaluated for regulatory compliance.

Table V.D.5. (continued)

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
TA-37	TA-37-28	MAC-28	Active	--	--
TA-39	TA-39-12	AC-12	Abandoned 1986,	--	--
	TA-39-12	AC-12	New tank in-installed, same designation no. assigned.	--	--
TA-40	TA-40-22	DF-22	Abandoned	--	--
	TA-40-24	DF-24	Active	--	--
	TA-40-25	DF-25	Active	CWA-NPDES[a]/RCRA[a]/CERCLA[a]	Tank serves a research and development lab building--potential chemical contamination of septic system--1975 affidavit of no discharge and discontinuance of NPDES permit--system has history of daylighting, should be reevaluated for regulatory compliance.
TA-41	TA-41-11	W-11	Abandoned 1953	CERCLA[a]	Potential radionuclide contamination.
TA-42	TA-42-4	DS-4	Decommissioned 1978	CERCLA[a]	Potential radionuclide contamination.
TA-46	TA-46-8	WA-8	Abandoned 1973	CERCLA[a]	1972 memo indicates potential radio-
	TA-46-22	WA-22	Abandoned 1973	CERCLA[a]	active contamination of tanks WA-8,
	TA-46-49	WA-49	Abandoned 1973	CERCLA[a]	WA-22, WA-49, WA-53, and WA-46. All

Table V.D.5. (continued)

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
	TA-46-53	WA-53	Abandoned 1973	CERCLA[a]	possibly contaminated with organics,
	TA-46-66	WA-66	Abandoned 1973	CERCLA[a]	inorganics, and beryllium.
	TA-46-94	WA-94	Abandoned 1972	CERCLA[a]	--
	TA-46-?		Active	RCRA[a]	--
TA-48	TA-48-5	RC-5	Abandoned 1986	--	--
	TA-48-29	RC-29	Active	--	--
TA-49	TA-49-?	Not assigned	Active	--	--
	TA-49-?	Not assigned	Active	--	--
TA-50	TA-50-10	WM-10	Decommissioned 1983	Uncertain	--
TA-51	TA-51-4	REF-4	Active	--	--
	TA-51-9	REF-9	Active	--	--
	TA-51-30	REF-30	Active	--	--
TA-52	TA-52-3	RD-3	Active	CWA/RCRA[a]	Potentially contaminated with chemicals and solvent from R&D facility, should be evaluated for regulatory compliance.
	TA-52-2	--	Active	--	--
	TA-52-4	--	Active	--	--

Table V.D.5. (continued)

Technical Area	Structure No.	Tank Designation	Tank Status	Applicable Regulation (potential issue[a])	Comments
	TA-52-34A	RD-34A	Active	--	--
	TA-52-34B	RD-34B	Active	--	--
	TA-52-?	Unknown	Active	--	--
TA-54	TA-54-16	MD-16	Active	--	--
	TA-54-?	MD-?	Active	--	--
TA-59	TA-59-4	OH-4	Decommissioned 1979	CERCLA[a]	Potentially contaminated with photographic chemical wastes.

[a]Potential regulatory compliance issue; potential CERCLA site identified under potential CERCLA/RCRA sites, Section V.A.

Table V.D.6. Status of LANL Outfalls

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
TA-0	TA-0-1051	Industrial	Boiler blowdown chemicals	Inoperative	Yes	CWA-NPDES[a]	NPDES serial number 108, EPA ID number 02A.
	Pajarito Well #4	Industrial	Well backwash non-contact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 118, EPA ID number 04A.
	Pajarito Well #5	Industrial	Well backwash non-contact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 119, EPA ID number 04A.
TA-1							
TA1-4-CA-I-HW/RW	TA-1	Industrial	Chemical drain	Inactive	NA	CERCLA[a]	At TA-1, five buildings representing the major chemical facilities at the TA are connected to a chemical drain of the sewer line whose outfall led to a tributary of Pueblo Canyon. Liquid from sewer line was discharged untreated through a weir box.
TA1-5-ST-I-HW/RW	TA-1	Septic systems	Sanitary waste mixed with radionuclides	Inactive	NA	CERCLA[a]	Septic Tanks 2, 3, 4, and one unnumbered tank overflowed to Pueblo Canyon--suspected to have been contaminated with polonium and plutonium.
TA-2	Omega-44	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 019, EPA ID number 03A.
	Omega-45	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 020, EPA ID number 03A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
TA-2-3-0/CA-A/I		Industrial	Industrial waste including radio-nuclides and chemicals	Inactive	NA	CERCLA	Radioactive liquid effluent from deionizer and liquid waste discharged to creek bed.
TA-3	SM-22	Industrial	Power plant--spent demineralizer reagents, boiler blowdown, cooling tower blowdown, and diatomaceous earth filler backwash	Active	Yes	CWA-NPDES	NPDES serial number 002,003, and 005 have been combined with 001 and listed under EPA ID number 01A, as well as SM-25 and -28 NPDES serial number 004.
	SM-29	Industrial	Evaporative coolers--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 021, EPA ID number 03A.
TA3-1-CA-A/I-HW/RW	SM-31	Storm drain	Potential natural uranium	Inactive	NA	CERCLA[a]	Potential natural uranium contamination from washdown operations of the carboy wash platform--washdown discharged into nearby arroyo.
TA3-1-CA-A/I-HW/RW	SM-36	Storm drain	Spent coolants	Active	No	CWA-NPDES[a]	Spent coolants are emptied into storm drain. TA-3-36 also has sumps that connect to storm drain.
TA-3-6-CA/O-A/I-HW/RW	SM-38	Storm drain	Wash water from rack operations	Uncertain	No	CWA-NPDES[a]/RCRA/ CERCLA[a]	Wash water may contain small quantities of lead, chromiumm, zinc, tin, copper, and nickel.
	SM-73	Industrial	Asphalt plant discharge	Active	Yes	CWA-NPDES	Submitted to EPA 12/78, NPDES serial number 109, EPA ID number 04A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	SM-73	Industrial	Noncontact cooling water--cooling water for batch plant operations	Active	Yes	CWA-NPDES	Submitted to EPA 12/78, NPDES serial number 110, EPA ID number 04A.
	SM-102	Industrial	Noncontact cooling water discharge	Active	Yes	CWA-NPDES	NPDES serial number 009, EPA ID number 04A.
	SM-105	Industrial	Noncontact cooling water discharge--treated cooling water	Eliminated	NA	--	NPDES serial number 023, EPA ID number 03A.
	SM-105	Industrial	Noncontact cooling water	Eliminated	NA	--	NPDES serial number 010, EPA ID number 04A--combined with NPDES serial number 023.
	SM-127	Industrial	Cooling tower discharge--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 022, EPA ID number 03A.
	SM-156	Industrial	Cooling tower discharge--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 023, EPA ID number 03A.
	SM-170	Industrial	Noncontact cooling water discharge	Active	Yes	CWA-NPDES	NPDES serial number 094, EPA ID number 04A.
	SM-170	Industrial	Paint stripping discharge--surfactents, phosphorus	Inoperative 1981	Yes	CWA-NPDES	NPDES serial number 095, EPA ID number 095.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	SM-187	Industrial	Cooling tower discharge--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 024, EPA ID number 03A.
	SM-208	Industrial	Cooling tower discharge--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 025, EPA ID number 03A.
	SM-208	Industrial	Cooling tower discharge--treated cooling water	Combined	NA	--	Combined with serial number 025, former number 026.
	SM-285	Industrial	Cooling tower discharge--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 027, EPA ID number 03A.
	TA-3-STP	Sanitary waste treatment facility	Sanitary waste possibly including radionuclides, chemicals, and solvents	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 01S, EPA ID number SSS.
TA-4							
TA4-3-CA-I-HW/RW		Industrial	Photographic chemicals	Inactive	NA	CERCLA[a]	Fate of photographic chemicals and oxidizing agents uncertain, should be evaluated for potential environmental contaminants.
TA-5							
TA5-3-CA/O-I-HW/RW		Industrial	Photographic chemicals	Inactive	NA	CERCLA[a]	Fate of photographic chemicals and oxidizing agents uncertain, should be evaluated for potential environmental contaminants.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-5-8	Sanitary	Floor drain--radionuclides	Inactive	NA	CERCLA[a]	1985 Los Alamos site characterization program found storage building to be contaminated with uranium, and traces of uranium were found along the drainage pattern on the mesa sloping toward the canyon.
TA-6 TA6-3-S-I-HW	TA-6-10	Sanitary	Drainline--nitrates	Inactive	NA	CERCLA[a]	Laboratory building 10 was used for PETN recrystallization; a drain line ran 170 yds from the building through an underground sump and then 30 yds east to southeast, where it opened at ground level.
TA6-5-ST/CA-A/I-HW	TA-6-40	Septic Tank	High explosives and chemicals	Inactive	NA	CERCLA[a]	Potential high explosives and chemical contaminants.
TA-8	TA-8-21	Industrial	Photographic chemicals	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 075, EPA ID number 06A.
	TA-8-21	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 075, EPA ID number 06A.
	TA-8-22	Industrial	Photographic chemicals	Active	Yes	CWA-NPDES-RCRA[a]	NPDES serial number 074, EPA ID number 06A.
	TA-8-22	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 074, EPA ID number 06A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-8-70	Industrial	Noncontact cooling water	Combined	--	--	NPDES serial number 076 combined with NPDES serial number 115, EPA ID number 04A.
	TA-8-70	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 115, EPA ID number 04A.
	TA-8-9-211	Sanitary	Oxidation pond	Active	Yes	CWA-NPDES	NPDES serial number 11S, EPA ID number SSS.
TA-9	TA-9-A	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 066, EPA ID Number 05A.
	TA-9-A	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 066, EPA ID number 05A.
	TA-9-A	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 066, EPA ID number 05A.
	TA-9-B	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 067, EPA ID number 05A.
	TA-9-B	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 067, EPA ID number 05A.
	TA-9-48	Industrial	High explosives	Active	Yes	CWA-NPDES	NPDES serial number 068, EPA ID number 05A.
	TA-9-48	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 068, EPA ID number 05A.
	TA-9	Sanitary	Oxidation pond	Active	Yes	CWA-NPDES	NPDES serial number 02S, EPA ID number SSS.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
TA-10							
TA10-2-S/ST/CA/O-I-RW/HW	TA-10-1	Sanitary	Drain line--radioactive waste	Inactive	NA	CERCLA[a]	Sanitary sewage lines, septic tanks, the outfall line from TA-10-1, and the disposal pit northeast of TA-10-21 may have received some contaminated liquid waste.
	TA-10-41 & -42	Sanitary	Radionuclides	Inactive	NA	CERCLA[a]	In 1974, the area around the old sanitary outfall to the creek was sampled, and levels of gross beta 3 to 20 times background were detected.
TA-11							
	TA-11-50	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 069, EPA ID number 05A.
	TA-11-51	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 096, EPA ID number 05A.
	TA-11-52	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 097, EPA ID number 05A.
TA-15	TA-15-40-W	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 102, EPA ID number 04A.
	TA-15-40-W	Industrial	Photographic chemicals	Eliminated	NA	CWA-NPDES	NPDES serial number 102, EPA ID number 04A.
	TA-15-40-E	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 103, EPA ID number 03A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-15-R45	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 122, EPA ID number 04A.
	TA-15-62	Industrial	Septic system--possible chemical contaminants	Active	No	CWA-NPDES/RCRA[a]	Affidavit of no discharge and discontinuance of NPDES permit (1975).
	TA-15-63	Septic system	Sanitary waste	Inactive	No	CERCLA[a]	Overflow from septic tank appears to have gone to outfall as shown on ENG-R694, 1958.
	TA-15-138	Industrial	Noncontact cooling water	Eliminated	NA	CWA-NPDES	NPDES serial number 105, EPA ID number 04A.
	TA-15-R-183	Industrial	Photographic chemicals	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 123, EPA ID number 06A.
	TA-15-194	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 093, EPA ID number 04A.
	TA-15-202	Industrial	Cooling tower discharge--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 028, EPA ID number 03A.
	TA-15-263	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 121, EPA ID number 04A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
TA-16							
TA16-3-SI-A/I-HW		Industrial	High explosives	Inactive/ Active	NA	CWA-NPDES/ CERCLA[a]	Studies done on residual high explosives in drainage ditches adjacent to buildings housing high-explosive operations show typical concentrations of less than 5% high explosive by weight. Active lined pond receives liquid from the two filtration beds. When barrium nitrate levels have been reduced to less than 100 ppm, liquid is siphoned to canyon outfall.
TA16-5-S/O-A/I-HW/RW		Industrial	Photographic chemicals	Active	Yes	CWA-NPDES/RCRA[a] CERCLA[a]	Before 1980 silver was not stripped from developer, and fixer solutions drained into the open ditch from building 222; current NPDES serial number 073, EPA ID Number 06A.
		Industrial	Cooling tower blowdown and waste from high-explosive operations at the 300 complex	Active	Yes	CWA-NPDES/RCRA[a]	Quantities of residual hazardous substances that may remain in the environment at these locations are unknown. NPDES serial number 007, EPA ID number 02A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-16-175	Septic system	Potential chemical contaminants	Active	NA	CWA-NPDES*/RCRA[a]	Research and development facility is served by this septic system--potential for chemicals and solvents likely; affidavit of no discharge and discontinuance of NPDES permit filed for this discharge (1975).
	TA-16-178	Septic system	Potential chemical contaminants	Active	NA	CWA-NPDES[a]/RCRA	Research and development facility is served by this septic system--potential for chemicals and solvents likely. Affidavit of no discharge and discontinuance of NPDES permit filed for this discharge (1975).
	TA-16-202	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 083, EPA ID number 04A.
	TA-16-220	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 070, EPA ID number 04A.
	TA-16-222	Industrial	Photographic chemicals	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 073, EPA ID number 06A.
	TA-16-260	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 056, EPA ID number 05A.
	TA-16-265/267	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 057, EPA ID number 05A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-16-280	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 061, EPA ID number 05A.
	TA-16-280	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 061, EPA ID number 05A.
	TA-16-300-Line	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 058, EPA ID number 05A.
	TA-16-300-Line	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 058, EPA ID number 05A.
	TA-16-300-Line	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 058, EPA ID number 05A.
	TA-16-340	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 054, EPA ID number 05A.
	TA-16-340	Industrial	Evaporative cooler--treated cooling water	Combined	Yes	CWA-NPDES	NPDES serial number 029, EPA ID number 05A--combined with NPDES serial number 054.
	TA-16-340	Industrial	Treated cool-ing water	Active	Yes	CWA-NPDES	NPDES serial number 054, EPA ID number 05A.
	TA-16-340	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 054, EPA ID number 05A.
	TA-16-342	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 062, EPA ID number 05A.
	TA-16-370	Industrial	Treated cool-ing water	Active	Yes	CWA-NPDES	NPDES serial number 092, EPA ID number 03A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-16-370	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 092, EPA ID number 03A.
	TA-16-380	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 052, EPA ID number 05A.
	TA-16-400	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 063, EPA ID number 05A.
	TA-16-401/406	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 055, EPA ID number 05A.
	TA-16-410	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 053, EPA ID number 05A.
	TA-16-430	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 060, EPA ID number 03A.
	TA-16-430	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 071, EPA ID number 05A.
	TA-16-450	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 091, EPA ID number 04A.
	TA-16-460	Industrial	Noncontact cooling water	Combined	Yes	CWA-NPDES	NPDES serial number 059, EPA ID number 05A--combined with NPDES serial number 072.
	TA-16-460	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 072, EPA ID number 05A.
	TA-16-460	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 072, EPA ID number 05A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-16-540	Industrial	Boiler blow-down--water treatment chem-icals	Eliminated	--	--	Formerly NPDES serial number 083, EPA ID number 02A.
	TA-16-STP	Sanitary	Sanitary waste	Active	Yes	CWA/NPDES	NPDES serial number 03S, EPA ID number SSS.
TA-18							
	TA-18-30 & 31	Industrial	Photographic chemicals	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 104, EPA ID number 06A.
	TA-18-39	Septic tank	Domestic waste and potential radionuclides	Active	No	CWA-NPDES/RCRA[a]/ CERCLA*	Potential radionuclide contaminants from upstream users; affidavit of no discharge and discontinuance of NPDES permit (1975).
	TA-18-40 & 43	Septic tank	Sanitary waste	Eliminated		--	--
	TA-18	Sanitary oxidation pond	Sanitary waste	Active	Yes	CWA-NPDES	NPDES serial number 04S, EPA ID number SSS.
TA-21	TA-21-2	Industrial	Evaporative cooler--treated cooling water	Inoperative	Yes	CWA-NPDES	NPDES serial number 030, EPA ID number 03A.
	TA-21-143	Industrial	Cooling tower discharage--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 031, EPA ID number 03A.
	TA-21-150	Industrial	Cooling tower discharage--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 030, EPA ID number 03A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-21-152	Industrial	Evaporative cooler--treated cooling water	Eliminated	--	--	--
	TA-21-166	Industrial	Evaporative cooler--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 034, EPA ID number 03A.
	TA-21-210	Industrial	Evaporative cooler--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 035, EPA ID number 03A.
	TA-21-220	Industrial	Cooling tower discharge--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 036 EPA ID number 03A.
	TA-21-257	Industrial	Industrial waste	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 050, EPA ID number 050.
	TA-21-314	Industrial	Evaporative cooler--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 037, EPA ID number 03A.
	TA-21-357	Industrial	Boiler blow-down--water treat-ment chemicals	Eliminated	--	CERCLA[a]	Potential contamination from boiler blowdown con-taining chemicals.
TA21-3-CA/O-I-HW/RW	--	Industrial	Laundry facility	Inoperative	NA	CERCLA[a]	Seepage pits have become clogged, and effluent is collecting on the surface of the pits and draining into the canyon. Contaminants of concern are radionuclides.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-21-2	Acid sewer outlet	Industrial waste containing radionuclides	Inoperative	NA	CERCLA[a]	A 1956 engineering drawing (ENG-R1194) shows that a line came from the east side of building 2 and ran south across the road to a settling tank (TA-21-118). It extended over the canyon rim to the shelf below. This area received wastes containing radionuclides for years.
	TA-21-3 & 6	Storm drains	Uncertain	Inoperative	NA	CERCLA[a]	Engineering drawing ENG-R1194 shows that floor drains from buildings 3 and 6 went to the storm drains, which in turn drainedto the south rim of the canyon.
	--	Septic systems	Industrial and sanitary wastes	Inoperative	NA	CERCLA[a]	In early years, five septic tanks at DP Site drained their respective effluents to Los Alamos Canyon.
	--	Sewer drains	Effluent from various buildings potentially contaminated with radionuclides	Inoperative	NA	CERCLA[a]	Sewer drains from buildings 152 and 153 emptied into the canyon. Radionuclide contamination from the outfalls on the south rim was thought to be great enough to warrant fencing the area.
	TA-21-56	Septic system	Industrial and sanitary waste	--	--	--	--

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
TA-22							
TA22-2-CA/O-A/I-HW		Industrial	Plating operations	Inactive	NA	CERCLA	Chemicals reported to have been used include sodium hydroxide, perchloroethylene, sodium thiosulfate, gold, hydrogen peroxide, cyanide, chromic acid, and nickel.
	TA-22-1	Industrial	High explosives	Inactive	NA	CERCLA	TA-22-1 was in active use for handling PETN, RDX, Tetryl, and PBX.
	TA-22-5	Industrial	Noncontact cooling water	Inactive	NA	CERCLA[a]	Possible chemical treatment of cooling water.
	TA-22-34	Industrial	Photographic chemicals	Inactive	NA	CERCLA[a]	Building 34 housed a photo laboratory with no silver recovery unit in its darkroom; the drains in the room connected through a settling basin to an outfall to the canyon north of the building.
	TA-22-1	Industrial	High explosives	Inoperative	--	---	NPDES serial number 065, EPA ID number 05A.
	TA-22-5 (north)	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 011, EPA ID number 04A.
	TA-22-5 (south)	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 084, EPA ID number 04A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-22-6	Industrial	Boiler blow-down water treatment chemicals	Eliminated		CERCLA[a]	NPDES serial number 008, EPA ID number 02A.
	TA-22-6	Industrial	Noncontact cooling water	Eliminated	--	--	NPDES serial number 085, EPA ID number 04A.
	TA-22-34	Industrial	High explosives	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 064, EPA ID number 05A.
	TA-22-34	Industrial	Photographic chemicals	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 078, EPA ID number 06A.
	TA-22-52	Industrial	Printed circuit board chemicals	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 077, EPA ID number 077.
TA-24							
TA24-2-S/UST-1-HW/RW	Uncertain	Spent photo solutions	Inactive	NA		CERCLA[a]	Uncertain whether spent photographic chemical solutions, beryllium residue, and solvent solutions drained to an open ditch or to septic tank.
TA-26							
TA26-2-O-I-RW	--	--	Inactive	N/A		CERCLA[a]	Three outfalls identified and listed as inactive; potential contamination with uranium and tritium.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
TA-33 TA33-2-0/S-A/ I-HW/RW							
	Area 6	Unknown	Uncertain	Uncertain	Uncertain	CERCLA[a]	--
	TA-33-32	Septic system	Sanitary	Uncertain	Unknown	CWA-NPDES[a]/CERCLA[a]	--
	--	Hot change room	Industrial/sanitary runoff	Uncertain	Inactive	CERCLA[a]	The industrial waste line ran from the hot change room and the process room out to a tile field and collection system, which eventually daylighted a short distance from the canyon rim.
	TA-33-86	Industrial	Sanitary runoff	Uncertain	Uncertain	CERCLA[a]	At TA-33-86 extensive work with tritium was performed. Significant documented releases occurred during experimentation with this radioactive material in the 1970s. There is a high probability that other releases occurred. Drainage lines are assumed to be contaminated. To the east of this structure is an acid sewer line to an acid sump (TA-35-34), a contaminated sewer line to another acid sewer sump (TA-33-133), and a drain to daylight.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-33-39	Drains	Uncertain	Uncertain	Uncertain	CWA-NPDES/CERCLA[a]	Two dependent drains run a few feet to the east of building 39, the machine shop, to daylight. This building was used for uranium storage, and a lead furnace was housed here. It's possible that these drains contain uranium, lead and organics.
TA-35							
TA35-4-O/CA-I-HW/RW & TA35-5-O-A-HW	TA-35 waste treatment plant	Radionuclides	Inactive	NA		CERCLA[a]	Accurate figures on what the TA-35 waste treatment plant discharged into the canyon are difficult to obtain.
	TA-35-25	Industrial	Nonradioactive chemicals	Inactive	NA	CERCLA[a]	A sewer drain went from building 25, the sodium building, to the edge of the canyon, but no record has been found listing the types of liquids discharged.
	TA-35-36	Unknown	Unknown	Inactive	NA	CERCLA[a]	Unknown what was discharged.
	TA-35-29	Industrial	Noncontact cooling water	Eliminated	--	--	Formerly NPDES serial number 116, EPA ID number 04A.
	TA-35-33	Industrial	Treated cooling water	Eliminated	--	--	Formerly NPDES serial number 039, EPA ID number 03A.
	TA-35-34	Industrial	Noncontact cooling water	Eliminated	--	--	Formerly NPDES serial number 089, EPA ID number 04A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-35-46	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 087, EPA ID number 04A.
	TA-35-67	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 012, EPA ID number 04A.
	TA-35-67	Industrial	Noncontact cooling water	Combined	Yes	CWA-NPDES	Formerly NPDES serial number 088, EPA ID number 04A--combined with NPDES serial number 012.
	TA-35-85	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 090, EPA ID number 04A.
	TA-35-213	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 127, EPA ID number 04A.
	TA-35-STP	Sanitary	Oxidation lagoons	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 105, EPA ID number SSS--potential chemical and solvent contaminants; design data indicate that all sink, laboratory, and shower drains are connected to the sanitary sewer.
TA-36							
TA36-4-S/ST/O-A/I-HW/RW	Uncertain	Uncertain	Uncertain	Uncertain		CWA-NPDES/RCRA[a]/CERCLA[a]	Drains from building 1 are shown on engineering drawing R1363 as leading to outfalls to Pajarito Canyon. This facility has had a photo lab for a long time; in the early years, fixer was dumped into the drain system that discharges to the canyon.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-36-1	Uncertain	Uncertain	Uncertain	NA	CERCLA[a]	Potential waste solutions released to the drain included uranium-238. Whether they went to canyon outfalls or to septic tanks is not known.
	TA-36-1	Industrial	Photographic chemicals	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 106, EPA ID number 06A.
TA-40 TA40-6-CA/ ST/O-A-HW	--	Industrial	Noncontact cooling water	Active	Uncertain	CWA-NPDES[a]	During a field survey, laser cooling water was found to be discharging directly to the canyon.
	--	Industrial	Photographic chemicals and cooling water	Active	Uncertain	CWA-NPDES[a]/RCRA[a]	Engineering drawing 1474 indicates that buildings 15, 18, 9, 17, 4, and 16 have drains that discharge to canyon outfalls.
	TA-40-1	Industrial	Photographic chemicals	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 099, EPA ID number 06A.
	TA-40-4	Industrial	Photographic chemicals	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 079, EPA ID number 06A.
	TA-40-5	Industrial	Photographic chemicals	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 080, EPA ID number 06A.
	TA-40-8	Industrial	Photographic chemicals	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 081, EPA ID number 06A.
	TA-40-9	Industrial	Photographic chemicals	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 101, EPA ID number 06A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-40-12	Industrial	Photographic chemicals	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 082, EPA ID number 06A.
	TA-40-15	Industrial	Photographic chemicals	Eliminated	--	Uncertain	Formerly NPDES serial number 100, EPA ID number 06A.
TA-41 TA41-3-CA/O-A/I-HW/RW	--	Sanitary	Sanitary waste	Active	Yes	CWA-NPDES/CERCLA[a]	The sanitary waste drains from TA-41 are routed to a small sewage plant at TA-41. In 1955 samples were taken of sewage entering tank TA-41-7 and the effluent from the chlorine contact tank. Gross alpha counts ranged from 216 to 244 dis/min/l.
TA-43 TA43-3-CA/O-A/I-HW/RW	--	Sanitary	Industrial waste	Inactive	NA	CERCLA[a]	Before March 1963, when the TA-45 treatment plant was put into semiretirement, the industrial waste drains at TA-43 connected to the treatment plant, and the treated outfall went to Acid Canyon.
	TA-43-1	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 040, EPA ID number 041.
	TA-43-1	Industrial	Treated cooling water	Combined	--	--	Formerly NPDES serial number 041, EPA ID number 03A--combined with 040.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
TA-45							
TA45-1-O/CA-I-HW/RW	--	Industrial	Untreated industrial waste	Inactive	NA	CERCLA[a]	During and immediately after the war years, most of the liquid effluents from industrial drains at the main technical areas were collected into a central collection system and discharged untreated into an outfall in a tributary of Pueblo Canyon; there was some concern about the quantity of radionuclides in the discharge.
	TA-45	Waste treatment plant	Treated liquid waste	Inactive	NA	CERCLA[a]	From start-up until mid-1953, the TA-45 plant treated liquid wastes from only the original main technical area, TA-1; starting in June 1953, this facility began receiving wastes from TA-3. The wastes included primary fission products, as reflected in the higher gross beta and gamma content of the TA-45 effluents from 1960-1963.
TA-46							
TA46-1-CA/O-I-HW/RW	--	Storm	Various contaminants	Inactive	NA	CERCLA[a]	During the 1950s various activities resulted in some contaminants moving into the environment in outfalls to the canyon or in storm drains.
	TA-46-1	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 042, EPA ID number 03A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-46-24, 59-76	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 018, EPA ID number 04A.
	TA-46-30	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 013, EPA ID number 04A.
	TA-46-31	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 043, EPA ID number 03A.
	TA-46-41	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 117, EPA number 04A.
	TA-46-86	Industrial	Treated cooling water	Inoperative	Yes	CWA-NPDES	NPDES serial number 044, EPA ID number 03A.
	TA-46-88	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 014, EPA ID number 04A.
	TA-46-169	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 124, EPA ID number 03A.
	TA-46-	Sanitary	Oxidation pond sanitary waste	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 07S, EPA ID number SSS; chemicals and solvents have been noted as discharging to the sanitary waste system.
TA46-1-0-1-HW/RW	--	Storm drains	Cleaning solution of 50% hydrochloric acid and 50% nitric acid	Inactive	NA	CERCLA[a]	In 1958, a drain in building 24 serving a cleaning operation using 50% hydrochloric acid and 50% nitric acid drained to a storm sewer that went to a canyon.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	--	Ditch	Cooling water possibly contaminated with cesium	Inactive	NA	CERCLA[a]	Cells containing cesium metal were placed in a ditch near southwest corner of building 1, and a stream of water was run over the cells to remove the cesium.
	TA-46-81	Open concrete tank	Wash solutions	Inactive	NA	CERCLA[a]	A water-filled, open concrete tank, TA-46-81, was used to clean alkali metal containers and components in the area north of building 31. This tank was near the canyon wall--spent liquid may have discharged to the canyon.
TA-48							
TA48-3-O/SI-A-HW/RW	--	Industrial	Noncontact cooling water--cooling tower blowdown and other unknown liquid discharges	Active	Uncertain	CWA-NPDES/RCRA[a]	During a field survey, four liquid waste outfalls to Mortandad Canyon were noted. About 35 million gal. of water per year is thought to be discharged to the canyon from these outfalls.
	TA-48-1	Industrial	Noncontact cooling water	Combined	Yes	CWA-NPDES	NPDES serial number 015, EPA ID number 04A. Discharge combined with NPDES serial number 045.
	TA-48-1	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 016, EPA ID number 04A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-48-1	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 045, EPA ID number 03A.
	TA-48-1	Industrial	Cooling tower discharge--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 045, EPA ID number 03A.
	TA-48-1	Industrial	Cooling tower discharge--treated cooling water	Combined	Yes	CWA-NPDES	NPDES serial number 046, EPA ID number 03A. Discharge combined with NPDES serial number 045.
	TA-48-5	Sanitary	Septic tank and sand filter	Combined	Yes	CWA-NPDES	NPDES serial number 085, EPA ID number SSS. Discharge combined with NPDES serial number 10S.
	TA-48-8	Industrial	Noncontact cooling water	Active	Yes	CWA-NPDES	NPDES serial number 126, EPA ID number 04A.
TA-50							
	TA-50-1	Industrial	Industrial waste	Active	Yes	CWA-NPDES	NPDES serial number 051, EPA ID number 051.
TA-51							
TA51-4-CA/O-A-HW	--	Industrial	Small quantities of chemicals in liquid effluent	Active	No	CWA-NPDES[a]/RCRA[a]	On one occasion, the field survey observed small quantities of such chemicals as strontium, which may be in the water. This water is discharged to the canyon.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
TA-52							
TA52-4-O-1-RW	TA-52-11	Uncertain	Uncertain	Inactive	NA	Uncertain	Q-6 did some experiments in which it ran water over simulated fuel rods and then discharged the water to a ditch outside TA-52-11.
TA-53							
	TA-53-2	Industrial	Noncontact cooling water	Combined	Yes	CWA-NPDES	NPDES serial number 017, EPA ID 04A. Discharge combined with NPDES serial number 114.
	TA-53-2	Industrial	Cooling tower discharge--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 114, EPA ID number 03A.
	TA-53-28	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 1125, EPA ID number 03A.
	TA-53-60	Industrial	Cooling tower discharge--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 047, EPA ID number 03A.
	TA-53-62	Industrial	Cooling tower discharge--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 048, EPA ID number 03A.
	TA-53-64	Industrial	Cooling tower discharge--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 049, EPA ID number 03A.
	TA-53-293 and 294	Industrial	Treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 113, EPA ID number 03A.

Table V.D.6. (continued)

Technical Area/CEARP Site	Facility Designation	Type of Outfall	Effluent Characteristics	Outfall Status	NPDES Permitted	Applicable Regulation (potential issue[a])	Comments
	TA-53	Sanitary	Oxidation lagoons	Active	Yes	CWA-NPDES/RCRA[a]	NPDES serial number 09S, EPA ID number SSS. Spent solvents, chemicals and radionuclides discharged into this facility drain or directly into lagoon system.
TA53-3-0-A-HW/RW	TA-53-19	Industrial	Noncontact cooling water	Active	No	CWA-NPDES	During a field survey, it was found that once-through, noncontact cooling water from TA-53-19 was not listed on the NPDES permit. This outfall discharges across a parking lot and joins the discharges from -293 and -294.
TA-57							
TA57-3-0-A-HW		Geothermal	Geothermal discharge	Active	Yes	CWA-NPDES	NPDES serial number 107, EPA ID number 107. Assigned NPDES Permit number NM0028576.
TA-59							
TA59-3-0-A-HW	TA-59-10	Industrial	Cooling tower discharge--treated cooling water	Active	Yes	CWA-NPDES	NPDES serial number 098, EPA ID number 03A

[a]Potential regulatory compliance issue; potential CERCLA site identified under potential CERCLA/RCRA sites, Section V.A.
NA: Not applicable.

Table V.D.7. Hazardous Waste Management Facilities--Container Storage

Technical Area Designation	Operational Status	Closure Plans & Status	Applicable Regulation (potential issue[a])	Comments
TA-3-40	Active	NA	RCRA[a]	Spent chemical solution storage (listed as <90-day storage).
TA-3-102	Active	Closure plans written September 1985 and submitted to state during February 1986. State Environmental Improvement Division (EID) approval pending.	RCRA	Facility operated under RCRA Interim Status. Permit is not being sought. Facility will be closed under Interim Status and operated as a <90-day storage facility. Facility used for the containerized storage of lithium hydride waste.
TA-9-39	Active	NA	RCRA[a]	Scrap high explosive and contaminated waste materials (listed as <90-day storage).
TA-14-35	Active	NA	RCRA[a]	Satellite storage facility for high-explosive-contaminated wastes that will receive thermal treatment.
TA-15-41	Active	NA	RCRA[a]	Satellite storage facility for scrap high explosive. Potentially contaminated waste materials.
TA-15-184	Active	NA	RCRA[a]	Satellite storage facility for high-explosive-contaminated wastes that will receive thermal treatment.

Table V.D.7. (continued)

Technical Area Designation	Operational Status	Closure Plans & Status	Applicable Regulation (potential issue[a])	Comments
TA-15-242	Active	NA	RCRA[a]	Satellite storage facility for high-explosive-contaminated waste materials.
TA-22-24	Inactive	Closure plans written September 1985, amended December 1985, and submitted to state February 1986. State EID approval pending.	RCRA	Container storage area for scrap high explosive and contaminated wastes. Facility operated under the Laboratory's RCRA Interim Status. A RCRA Part B permit was not sought for this facility. TA-22-24 has not received any materials since 1985.
TA-22-96-3	Active	NA	RCRA[a]	Satellite storage facility for scrap high explosive and contaminated waste materials.
TA-36-4, -5, -7, & -11	Active	NA	RCRA[a]	Satellite storage facility, container storage of scrap high explosive and high-explosive-contaminated waste materials.
TA-39-4	Active	NA	RCRA[a]	Satellite storage facility for scrap high explosive and high-explosive-contaminated waste materials.

Table V.D.7. (continued)

Technical Area Designation	Operational Status	Closure Plans & Status	Applicable Regulation (potential issue[a])	Comments
TA-40-2	Inactive	Closure plans written September 1985, amended December 1985, and submitted to state February 1986. State EID approval pending.	RCRA	Container storage area for high explosives and high-explosive-contaminated wastes. Container storage area operated under RCRA Interim Status; a Part B permit is not being sought for this facility. This facility will be closed under Interim Status.
TA-40-3	Active	NA	RCRA[a]	Satellite storage facility for scrap high explosive and contaminated waste materials.
TA-40-14	Active	NA	RCRA[a]	Satellite storage facility for scrap high explosive and contaminated waste materials.
TA-40-41	Active	NA	RCRA[a]	Satellite storage facility for scrap high explosive and contaminated waste materials.
TA-46	Active	NA	RCRA[a]	Listed as <90-day storage. Tank storage of nitric and sulfuric acid solutions.
TA-50-1	Active	Closure plans submitted with RCRA Part B permit application; closure date is 2100.	RCRA[a]	Chemical-waste storage area located in same area housing the batch treatment system. Area is bermed and encompasses 16 square feet. Residence of wastes in drums at this area is generally only 30 to 60 days.

Table V.D.7. (continued)

Technical Area Designation	Operational Status	Closure Plans & Status	Applicable Regulation (potential issue[a])	Comments
TA-53	Active	NA	RCRA[a]	Listed as <90-day storage. Drum storage of solvents and acids.
TA-54, Area L	Active	Closure plans submitted to state January 1986 as part of Part B. State EID approval pending.	RCRA[a]	Wastes stored and treated under Interim Status. Laboratory wastes are sorted, packaged, and and prepared for transport to a RCRA-permitted facility for treatment or disposal.

[a]Potential regulatory compliance issues; potential CERCLA site identified under potential CERCLA/RCRA sites, Section V.A. Comprehensive programs (including recordkeeping) should be implemented to ensure compliance with RCRA <90-day and satellite storage requirements. RCRA permit not required for <90-day and satellite storage.

DEFINITIONS

Explosive Wastes: materials contaminated with high explosives; these materials may consist of paper, oil, solvents, wood, machine tools, fixtures, etc.

High Explosives: consist of HMX, RDC (cyclonite), TNT (2, 4, 6-trinitrotoluene), PETN (pentaerythritol tetranitrate), ammonium nitrate, barium nitrate, TATB (triaminotrinitrobenzene), nitrocellulose, tetryl, nitroguanidine, and various plastic binders.

Hazardous Wastes: as defined in 40 CFR Part 261.

Table V.D.8. Hazardous Waste Management Facilities--Waste Treatment

Technical Area Designation	Type of Hazardous Waste Treatment	Operational Status	Applicable Regulation	Regulatory Status	Comments
TA-50-1	Batch treatment system	Active	RCRA	Currently operating under RCRA Interim Status. Facility included in RCRA Part A/B submission.	Wastes treated at this facility include cyanide, chromate plating solutions, solutions of acids and bases, and heavy metals. Treatment consists of a versatile batch, wet chemical processing system designed to neutralize or treat listed wastes.
TA-50-37	Control-air incinerator	Active	RCRA	Facility permitted to burn radioactive and PCB-contaminated materials. Incinerator currently has Interim Status to burn hazardous wastes. At present, the Laboratory is seeking permitting under RCRA to provide flexibility and minimization of land disposal. Facility included in RCRA Part A/B submission.	Before November 1980, the incinerator burned RCRA hazardous wastes in the form of an ignitable mixed waste.

Table V.D.8. (continued)

Technical Area Designation	Type of Hazardous Waste Treatment	Operational Status	Applicable Regulation	Regulatory Status	Comments
TA-54 Area L	Tank treatment	Active	RCRA	Currently operating under RCRA Interim Status. Facility included in RCRA Part A/B submission.	Neutralization and solidification of hazardous chemical wastes. Four 1665-gal. ten-gauge carbon steel tanks are used to neutralize, oxidize, and evaporate RCRA-regulated and non-RCRA-regulated wastes.

Table V.D.9. Hazardous Waste Management Facilities--Thermal Treatment

Technical Area Designation	Operational Status	Closure Plans & Status[a]	Applicable Regulation (potential issue[b])	Comments
TA-14-23 TA14-3-IN-A-HW/RW[c]	Active	Closure plans submitted with RCRA Part B permit application; closure date is 2100.	RCRA/CERCLA[b]	Thermal treatment at this facility consists of detonating small pieces of scrap and high explosives, and incinerating burn paper, tape, cotton swabs, and other trash potentially contaminated with high explosives.
TA-15-184 TA15-13-I-A-HW	Active	Closure plans submitted with RCRA Part B permit application; closure date is 2100.	RCRA/CERCLA[b]	Hydrodynamic testing. Detonation of unneeded classified shapes and scrap high explosive.
TA-16-387, 388, 399 TA16-6-CA-A-HW	Active	Closure plans submitted with RCRA Part B permit application; closure date is 2100.	RCRA	High-explosive disposal facility; ignition of waste explosives or explosive-contaminated equipment.
TA-16-394 TA16-6-CA-A-HW	Active	Closure plans submitted with RCRA Part B application; closure date is 2100.	RCRA	Ignition of fluids contaminated with high explosives.
TA-16-401 & 406 TA16-6-CA-A-HW	Active	Closure plans submitted with RCRA Part B permit application; closure date is 2100.	RCRA/NPDES	High-explosive waste sludge--thermally treated. Liquids filtered and drained to a lagoon regulated by the Laboratory's NPDES permit.

Table V.D.9. (continued)

Technical Area Designation	Operational Status	Closure Plans & Status[a]	Applicable Regulation (potential issue[b])	Comments
TA-36-8 (Minie site) TA36-1-CA-A-HW/RW	Active/Inactive	Closure plans submitted with RCRA Part B permit application; closure date is 2100.	RCRA/CERCLA[b]	Detonation of scrap high explosive. Disposal of leaking gas cylinders or small volumes of residual chemicals from research and development in small packages. Forty-six different RCRA-regulated materials are treated in this manner at this facility (list provided in Table 9-2 of the Laboratory's RCRA Part B application). Detonation method of disposal at this facility has stopped, pending RCRA issue determination.
TA-39 (Firing Points 6, -7, -8) TA39-1-CA-A/I-HW/RW	Active/Inactive	Closure plans submitted with RCRA Part B permit application; closure date is 2100.	RCRA/CERCLA[b]	Facility normally used for test detonations. Facility has been used for high-explosive-waste detonations.
TA-39 (Firing point 57)	Active/Inactive	Closure plans submitted with RCRA Part B permit application; closure date is 2100.	RCRA/CERCLA[b]	Normally used for test detonations--this facility has been used for high-explosive-waste detonation.

Table V.D.9. (continued)

Technical Area Designation	Operational Status	Closure Plans & Status[a]	Applicable Regulation (potential issue[b])	Comments
TA-40 (Scrap detonation site)	Active	Closure plans submitted September 1985, amended December 1985, and submitted February 1986. State EID approval pending.	RCRA/CERCLA[b]	High-explosive wastes. Site active as detonation site--inactive as scrap detonation site.

[a]Post-closure activities not required for thermal treatment facilities.

[b]Potential regulatory compliance issue; potential CERCLA site identified under potential CERCLA/RCRA sites, Section V.A.

[c]Site entries have the following designations: technical area (TA); identifcation number of site within the TA; solid waste management unit: contaminated area (CA) or incinerator (IN); status: active (A) or inactive (I); type of contamination: hazardous waste (HW) or radioactive waste (RW).

DEFINITIONS

Explosive Wastes: materials contaminated with high explosives; these materials may consist of paper, oil, solvents, wood, machine tools, fixtures, etc.

High Explosives: consist of HMX, RDX (cyclonite), TNT (2, 4, 6-trinitrotoluene), PENT (pentaerythritol tetranitrate), ammonium nitrate, barium nitrate, TATB (triaminotrinitrobenzene), nitrocellulose, tetryl, nitroguanidine, and various plastic binders.

Hazaradous Wastes: as defined in 40 CFR Part 261.

Table V.D.10. Hazardous Waste Management Facilities--Waste Disposal Sites

Technical Area Designation	Type of Facility	Operational Status	Applicable Regulation	Regulatory Status	Comments
TA-16					
Area P	Landfill	Inactive	RCRA	Before November 1985, facility operated under RCRA Part A Interim Status. Closure/post-closure plans submitted to state November 25, 1985. State EID approval pending.	Since the 1950s, Area P has been used as an industrial landfill for disposal of sand and residue from burning scrap high explosive, high-explosive-contaminated equipment, and building demolition debris.
TA-54					
Area G	Landfill	Inactive	RCRA	Area G operated under RCRA Part A Interim Status. Closure/post-closure plans submitted to state November 25, 1985. State EID approval pending.	TA-54 is the primary radioactive solid waste burial/storage facility operating at the Laboratory. Certain radioactive mixed and non-radioactive hazardous chemical wastes have been buried. Burial facility includes pits and shafts, all of varying dimensions.
Area H	Landfill	Inactive	RCRA	All shafts except No. 9 were taken out of service and capped prior to November 1980, the effective date of RCRA.	Area H used as a depository for classified waste materials. This facility is kept locked and is restricted. Only appropriate security clearance will allow access.

Table V.D.10. (continued)

Technical Area Designation	Type of Facility	Operational Status	Applicable Regulation	Regulatory Status	Comments
				Shaft No. 9 is still open, shaft will be closed by capping with concrete.	Shaft No. 9 has received 10 1/2 tons of mostly metallic nonhazardous waste. The extent of hazardous waste disposal is not fully known; however, only 15 lb of lithium hydride is believed to have been disposed of in shaft No. 9.
				Closure and post-closure plans for Area H submitted to state EID in January 1986. Approval pending.	
Area J	Landfill	Inactive/ Active	RCRA	Facility should be evaluated for RCRA regulatory compliance.	Disposal of equipment and other noncombustible non-RCRA materials still requires administrative control. Such material may include noncombustibles that have been flashed to remove high-explosive contamination, but cannot be certified to be free of such contamination.

Table V.D.10. (continued)

Technical Area Designation	Type of Facility	Operational Status	Applicable Regulation	Regulatory Status	Comments
Area L	Landfill	Inactive	RCRA	Area L landfill operated under Interim Status. In November 1985 Interim Status was terminated. Facility closure/post-closure plans submitted to state EID January 1986. Currently awaiting approval of closure/post-closure plans or resolution to loss of Interim Status, pending resolution of groundwater monitoring issues.	Land disposal facilities at Area L include 34 shafts. All shafts have been capped and are no longer in use. Each shaft was used for the disposal of a single category of chemical waste to ensure incompatible chemicals would not mix and react.

Table V.D.11. Firing Sites

Technical Area Designation	Operational Status	Type of Operation	Applicable Regulation (potential issue[a])	Comments
TA-3				
TA3-7-CA-I-HW	Inactive	Explosive-forming facility (TA-3-159) and firing chamber (TA-3-160).	none	There is no indication of residual environmental contamination of concern
TA-3				
TA3-1-CA-A/I-HW/RW	Inactive	Explosive manufacturing, testing, and firing sites.	CERCLA[a]	Potential residuals associated with explosives manufacturing, testing, and firing. Extent of residual environmental contamination will be determined during supplemental Phase I.
TA-4				
TA4-1-CA-I-HW/RW and TA4-2-CA-I-HW/RW	Inactive	Firing pit and firing site.	CERCLA[a]	Potential environmental contaminants may consist of high explosives, natural and depleted uranium, beryllium, uranium, contaminated aluminum, or steel. Field surveys and interviews with past employees provided evidence that scrap from the firing pit at TA-4 was pushed north into Mortandad Canyon. Extent of residual environmental contamination will be determined during supplemental Phase I.

Table V.D.11. (continued)

Technical Area Designation	Operational Status	Type of Operation	Applicable Regulation (potential issue[a])	Comments
TA-5				
TA5-1-L-HW/RW and TA5-2-CA-I-HW/RW	Inactive	Firing site for medium- to large-size explosives.	CERCLA[a]	Potential exists for firing site residuals consisting of high explosives, uranium or depleted uranium, beryllium, uranium-contaminated aluminum, or steel. Extent of residual environmental contamination will be determined during supplemental Phase I.
TA-6				
TA6-1-CA-I-HW/RW	Inactive	Detonation site.	CERCLA[a]	Potential environmental contamination by high explosives and radioactivity. Extent of residual environmental contamination will be determined during supplemental Phase I.
TA-7				
TA7-1-CA-I-HW	Inactive	Two firing pits for small explosives involving radioactive materials that are believed to be short-lived.	CERCLA[a]	Potential environmental contamination by high explosives and radioactivity. Extent of residual environmental contamination will be determined during supplemental Phase I.
TA-8				
TA8-1-CA-I-HW/RW	Inactive	Gun-firing site at Anchor Site West.	none	There is no evidence of residual contamination of concern.

Table V.D.11. (continued)

Technical Area Designation	Operational Status	Type of Operation	Applicable Regulation (potential issue[a])	Comments
TA-9(AE) TA9(AE)-1-CA-I-HW/RW	Inactive	Field testing of explosives at firing sites AE-4 and AE-5.	CERCLA[a]	Potential environmental contamination by high-explosive residuals. Extent of residual environmental contamination will be determined during supplemental Phase I.
TA-10 TA10-1-CA-I-HW/RW	Inactive	Detonation site.	CERCLA[a]	Shots fired included natural and depleted uranium surrounded by high explosives, with radioactive lanthanum acting as a source in most shots. Cleanup operations at this facility were conducted in 1963, with surface cleanup undertaken at periodic intervals. Extent of residual environmental contamination will be determined during supplemental Phase I.
TA-11 TA11-1-CA-I-HW/RW	Inactive	Detonation site.	CERCLA[a]	Potential environmental contamination by high explosives, natural uranium, and aluminum. Extent of residual environmental contamination will be determined during supplemental Phase I.

Table V.D.11. (continued)

Technical Area Designation	Operational Status	Type of Operation	Applicable Regulation (potential issue[a])	Comments
TA11-4-CA-I-HW/RW	Inactive	Acceleration and impact tests of explosive systems contained in impact-resistant vehicles (gun firing).	CERCLA[a]	Potential contamination by high explosives and other explosive testing residuals. Extent of residual environmental contamination will be determined during supplemental Phase I.
TA11-5-CA-A-HW/RW	Active	Drop tower detonation.	RCRA[a]/CERCLA[a]	Contamination from high explosives (including barium residues) and any other materials used in explosive testing might extend from the firing pad outward into the surrounding soils. Extent of residual environmental contamination will be determined during supplemental Phase I.
TA-12				
TA12-1-CA-I-HW/RW	Inactive	Testing of explosive charges.	CERCLA[a]	Potential high-explosive contamination. Extent of residual contamination will be determined during supplemental Phase I.
TA-13				
TA13-1-CA-I-HW/RW	Inactive	X-ray work in connection with explosives experiments.	none	There is no evidence of residual environmental contamination of concern.

Table V.D.11. (continued)

Technical Area Designation	Operational Status	Type of Operation	Applicable Regulation (potential issue[a])	Comments
TA-14				
TA14-1-CA-A/I-HW/RW	Active/Inactive	Testing of explosives.	RCRA[a]/CERCLA[a]	Current operations include bullet firing and explosive testing to determine sensitivity and/or performance. Previous operations consisted of work on small explosive charges. Explosives used probably included pentolite, torpex, tamped tetryl, COMP-B, baronal, and TNT. Residuals from explosive testing may be present. Extent of residual environmental contamination from firing site activities will be determined during supplemental Phase I.
TA-15				
TA15-1-CA-I-HW/RW	Inactive	Firing points for explosive testing (A, B, C, D, E, F, G, H, I, J, R-44, and R-45).	CERCLA[a]	Materials used at the different firing points consist of steel, aluminum, lithium, hydride, uranium, mercury, lead, beryllium, boron, cadmium, gold, COMP B, HMX, RDX, TNT, PETN, cyclotol, and baratol. Extent of residual environmental contamination from firing site activities will be determined during supplemental Phase I.

Table V.D.11. (continued)

Technical Area Designation	Operational Status	Type of Operation	Applicable Regulation (potential issue[a])	Comments
TA15-2-CA-A-HW/RW	Active	Firing facilities (Phermex and Ector) used for radiographic studies of explosives and explosive-driven metal systems.	RCRA[a]/CERCLA[a]	Materials studied include aluminum, copper, nickel, mercury, lead, thorium, uranium, and beryllium. Extent of residual contamination from firing-site activities at both Phermex and Ector to be determined during supplemental Phase I.
TA-16				
TA16-5-CA-I-HW	Inactive	High-explosive testing at two locations, P Site and K Site.	CERCLA[a]	Because some of the shots did not detonate completely, residual high explosive was scattered into the environs. Extent of residual contamination from testing activities will be determined during supplemental Phase I.
TA-18				
TA18-1-CA-I-HW/RW	Inactive	Firing site drop tower and ballistic testing.	CERCLA[a]	Materials used in tests included high explosives, natural uranium, aluminum, copper, lead, and cadmium. Extent of residual contamination from testing activities associated with the firing operations will be determined during supplemental Phase I.

Table V.D.11. (continued)

Technical Area Designation	Operational Status	Type of Operation	Applicable Regulation (potential issue[a])	Comments
TA-20				
TA20-2-CA-I-HW/RW	Inactive	Testing of initiators; other misc. testing.	CERCLA[a]	The Initiation Group, G-10, actively used Sandia Canyon Site as a proving ground for gadget indicators. Potential environmental contaminants include beryllium, nickel, strontium, radioisotopic tungsten, high explosives, and uranium. Environmental contamination will be determined during supplemental Phase I.
TA-23				
TA23-1-CA-I-HW/RW	Inactive	Testing of high explosives.	CERCLA[a]	Potential environmental contaminants from activities associated with high-explosive testing. Residual environmental contamination will be determined during supplemental Phase I.
TA-27				
TA27-2-CA-I-HW/RW	Inactive	Firing pits testing of high-explosive assemblies.	CERCLA[a]	Shots fired contained uranium or thorium, a stand-in for plutonium, and beryllium. Composition B was used as the high explosive. Potential environmental contamination from materials associated with testing activities exists. A supplemental Phase I investigation will be conducted to determine extent of residual environmental contamination.

Table V.D.11. (continued)

Technical Area Designation	Operational Status	Type of Operation	Applicable Regulation (potential issue[a])	Comments
TA-33				
TA33-4-CA-I-HW/RW	Inactive	Chamber testing.	CERCLA[a]	Known hazardous materials that made up the shots included high explosives and plutonium.
TA33-4-CA-I-HW/RW	Inactive	Full-scale and half-scale pad shot facilities.	CERCLA[a]	Potential contaminants include high explosives, beryllium, uranium, and, in one instance, tritium. A CEARP supplemental Phase I study will be conducted to determine the presence or absence of hazardous substances.
TA33-6-CA-I-HW/RW	Inactive	Gun firing area (three testing areas).	CERCLA[a]	Documented releases of beryllium, beryllium oxide, tritium, cobalt, polonium, and uranium at this site are due to gun testing. Other environmental contaminants may include high explosives, nickel, tungsten, and deuterium. During supplemental Phase I, the area around the three gun-firing sites will be surveyed for uranium and beryllium contamination.

Table V.D.11. (continued)

Technical Area Designation	Operational Status	Type of Operation	Applicable Regulation (potential issue[a])	Comments
TA-36				
TA36-1-CA-I/A-HW/RW	Active	Research of explosive phenomena.	RCRA[a]/CERCLA[a]	Materials included in shots have been uranium, beryllium, lead, copper, iron, aluminum, steel, and various types of plastics. Other types of explosives are reported to have been mixtures of nitric acid, nitrobenzene, and water; and liquid cyanogen, nitro-methane, and tetranitro-methane. A supplemental Phase I study will be conducted to determine the extent of environmental residual contamination associated with activities at this site.
TA36-2-CA-I-HW/RW	Inactive	Drop tower.	None	There is no indication of residual environmental contamination of concern.

Table V.D.11. (continued)

Technical Area Designation	Operational Status	Type of Operation	Applicable Regulation (potential issue[a])	Comments
TA-39				
TA39-1-CA-A/I-HW/RW	Active/ Inactive	Firing chambers.	RCRA[a]/CERCLA[a]	Chambers 7 and 8 are inactive; 6, 57, and 88 are currently used as open-air detonation sites; and 56 is used for the enclosed light gas gun. Materials of concern that have been used or are being used now are beryllium, mercury, aluminum, copper, brass, iron, lead, steel, and stainless steel. Thallium, cadmium, chromium, and thorium have been included in shots. Supplemental Phase I study will be conducted to inventory and update listings of materials used and to determine the extent of residual environmental contamination.
TA-40				
TA40-2-CA-I-HW	Inactive	Firing pit.	CERCLA[a]	Disposal of scrap high explosive and detonators was accomplished by detonation. Samples were collected in 1985 on the hillside above the scrap pit and also on the pad. Test results indicated nondetectable levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. A Phase I reconnaissance investigation will be conducted for detonators and scrap high explosive.

Table V.D.11. (continued)

Technical Area Designation	Operational Status	Type of Operation	Applicable Regulation (potential issue[a])	Comments
TA40-3-CA-A-HW	Active	Experimental studies of the physics of detonation.	RCRA[a]/CERCLA[a]	Materials of potential environmental concern associated with testing activities at this site include thallium oxide, lead oxide, and diethanol amine. A supplemental Phase I study will be conducted to determine potential residual environmental contamination from testing activities associated with this site.
Pistol Range	Active		RCRA[a]/CERCLA[a]	Lead from spent ammunition--potential regulatory issue.
TA-0				
TA-0-1-CA-I-HW	Inactive	Firing range.	CERCLA[a]	1940s firing range that received extensive use before the new firing range was built in Sandia Canyon. Currently unknown if lead shots were ever removed. Supplemental Phase I study will be conducted to determine extent of residual contamination.

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APPENDIX A - PROFESSIONAL QUALIFICATIONS

INSTALLATION ASSESSMENT TEAM

AHLQUIST, A. John
- Health Physicist
- Safeguards Inspector
- Certified Health Physicist (ABHP)
- Los Alamos National Laboratory
- B.S. 1963, Physics and Mathematics, Concordia College
- M.S. 1965, Radiological Science, University of Washington
- Years of Professional Experience: 20
- CEARP Responsibilities: Investigator

BECKER, Naomi M.
- Hydrologist
- Registered Professional Engineer (New Mexico)
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- CEARP Responsibilities: Investigator

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APPENDIX B

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM SCORES FOR POTENTIAL CERCLA SITES AT LOS ALAMOS NATIONAL LABORATORY

B.1. BACKGROUND

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (P.L. 95-510) requires federal agencies to identify to the U.S. Environmental Protection Agency (EPA) inactive sites under their control that may be sources of environmental contaminants. Such sites could include inactive waste disposal sites, facilities, or other locations that were contaminated by hazardous waste in the past. As one means of establishing the relative importance of such sites, the EPA promulgated the Hazard Ranking System (HRS) as Appendix A of 40 CFR 300. The relative ranking of sites at various installations can serve to highlight particular problems or suggest priorities for further investigation.

The HRS was designed by the EPA to be used to "evaluate the relative potential of uncontrolled hazardous substance facilities to cause health or safety problems, or ecological or environmental damage" (Sec. 1.0, 40 CFR 300, App. A). The following excerpts from the regulation indicate some of the limitations of the system:

"The HRS is a means for applying uniform technical judgment regarding the potential hazards presented by a facility relative to other facilities. It does not address the feasibility, desirability or degree of clean up required."

"The HRS does not quantify the probability of harm from a facility or the magnitude of the harm that could result, although the factors have been selected in order to approximate both those elements of risk. It is a procedure for ranking facilities in terms of the potential threat they pose . . . ."

The HRS assigns three hazard mode scores to a site. These include: (1) a migration mode score that reflects the potential for harm to humans or the environment from migration of a hazardous substance by either groundwater, surface water, or air pathways; (2) a fire/explosion score that reflects the potential for harm from substances that can explode or cause fires; and (3) a direct contact mode score that reflects the potential for harm from direct contact with hazardous substances at the site. The score for each mode is obtained by evaluating a series of factors that characterize the potential of the facility to cause harm. Each factor receives a numerical value according to a predetermined scale; the factor values are weighted and combined to yield final scores according to set rules. The migration score was used by the EPA in establishing the National Priorities List of facilities in the private sector for initial attention under CERCLA. The fire and explosion and direct contact mode scores are intended by the EPA to identify facilities requiring emergency action.

The migration mode score is a composite of the separate scores for each of the three migration routes: groundwater, surface water, and air. Each migration route score is calculated by multiplying selected factors for route characteristics, containment, and potentially affected targets to arrive at a value on a normalized 0 to 100 scale. The overall migration mode score is a root mean square of the three route scores, which emphasizes the highest scoring route, and is also on a 0 to 100 scale. Higher scores are expected to indicate a greater potential for problems. However, as suggested by the acknowledged limitations, the migration mode scores are useful principally for ranking sites for priority of follow-up actions and do not quantify risk.

The EPA's HRS, however, does not discriminate among different radionuclides relative to their potential risk at potential CERCLA sites. Therefore, DOE developed the Modified HRS (MHRS), which is a conceptually minor modification/addition to the HRS. The MHRS permits a better assessment of existing radiological risks. Therefore, potentially radioactive sites requiring HRS evaluation are scored with DOE's MHRS and EPA's HRS (HRS/MHRS), and nonradioactive sites requiring HRS evaluation are scored with the EPA's HRS.

B.2. HRS/MHRS SCORING RESULTS

Due to the large number of sites requiring HRS evaluation at Los Alamos, sites are grouped geographically by technical areas (TAs). The TAs are scored as follows: (1) nonradioactive sites are scored with the HRS, and (2) radioactive sites are scored with the HRS/MHRS. The LANL material disposal areas are scored individually as well as with their TA or TAs.

Individual hazard ranking evaluations were performed for 51 units: 27 Technical Areas (TA) and 24 Material Disposal Areas (MDA). The individual score sheets are included in this appendix. Some of the technical areas were combined because of common migration pathways and receptors and/or common activities at the sites. The scores are summarized in Table B.1. Potential CERCLA sites at LANL do not meet the EPA HRS scoring criterion (28.5) for inclusion on the National Priorities List (NPL). The Direct Contact Mode Scores for a majority of the individual sites were not applicable (no incident and occurrence). This would indicate adequate waste cover and site exclusion. The Fire/Explosion Mode Scores for all individual sites was not applicable indicating no apparent fire or explosion threat.

TA-49 (Frijoles Mesa Site) and TA-54 (Waste Disposal Site) were evaluated using material disposal area (MDA) units (i.e., MDA AB [TA-49] and MDAs G, H, J, and L [TA-54]). Scoring of Material Disposal Areas S and X was not appropriate as these sites are negative for preliminary CERCLA findings. Scoring sheets for these areas are, therefore, not included within this appendix.

Table B.1 HRS/MHRS Summary

Site	Migration Mode Score		Direct Contact Score		Fire/Explosion Score	
	Chem	Rad	Chem	Rad	Chem	Rad
Technical Areas						
1	9.0	NE	NA	NA	NA	NA
2,41	8.3	NE	NA	NA	NA	NA
3,59	12.4	NE	NA	NA	NA	NA
6,7,22,40	2.7	NE	0.0	NE	NA	NA
8,9,23	2.7	NE	0.0	NE	NA	NA
10	9.0	NE	37.5	NE	NA	NA
11,13,16,24,25	3.0	NE	8.3	NE	NA	NA
12	6.7	NE	NA	NA	NA	NA
14	7.0	NE	0.0	NE	NA	NA
15	9.9	NE	4.2	0.3	NA	NA
18,27	14.3	NE	NA	NA	NA	NA
19	7.0	NE	NA	NA	NA	NA
21	20.2	NE	NA	NA	NA	NA
26	0.0	NE	NA	NA	NA	NA
31	5.4	NA	NA	NA	NA	NA
32	5.2	NE	NA	NA	NA	NA
33	15.7	NE	12.5	NE	NA	NA
35,42,48,50,55	16.8	NE	62.5	NE	NA	NA
36	10.1	NE	4.2	NE	NA	NA
39	12.8	NE	0.0	NE	NA	NA
43	8.3	NE	NA	NA	NA	NA
45	4.4	NE	NA	NA	NA	NA
46	12.6	NE	NA	NA	NA	NA
51	14.1	NE	NA	NA	NA	NA
52,4,5	11.3	NE	NA	NA	NA	NA
53,20	12.6	NE	NA	NA	NA	NA
57	14.6	NA	NA	NA	NA	NA
Material Disposal Areas						
A	13.8	2.2	NA	NA	NA	NA
B	14.8	NE	NA	NA	NA	NA
C	17.4	14.0	NA	NA	NA	NA
D	7.1	NE	NA	NA	NA	NA
E	6.9	1.4	NA	NA	NA	NA
F	1.6	0.6	NA	NA	NA	NA
G	20.4	NE	NA	NA	NA	NA
H	14.9	NE	NA	NA	NA	NA
J	8.5	NA	NA	NA	NA	NA
K	10.2	3.1	NA	NA	NA	NA
L	19.3	NA	NA	NA	NA	NA

Table B.1. (continued)

Site	Migration Mode Score		Direct Contact Score		Fire/Explosion Score	
	Chem	Rad	Chem	Rad	Chem	Rad
M	0.5	NE	8.3	NA	NA	NA
N	3.7	NA	NA	NA	NA	NA
P	1.6	NA	8.3	NA	NA	NA
Q	2.1	NA	NA	NA	NA	NA
R	2.1	NA	NA	NA	NA	NA
T	9.7	6.0	NA	NA	NA	NA
U	NA	1.1	NA	NA	NA	NA
V	0.0	2.6	NA	NA	NA	NA
X	7.7	0.6	NA	NA	NA	NA
Y	2.1	0.3	4.2	0.3	NA	NA
Z	2.1	0.1	4.2	0.3	NA	NA
AA	10.1	NE	4.2	NE	NA	NA
AB	6.7	5.3	NA	NA	NA	NA

NE: Not evaluated.
NA: Not applicable.

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA A

SITE NAME: Area A, TA-21

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: June 12, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area A was opened in late 1944 or early 1945. The area includes three disposal pits and two buried 50,000 gallon steel tanks. Usage of this site ended in mid-1978.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	13.84	2.19	13.84
Sgw =	21.87	3.45	21.87
Ssw =	9.74	1.54	9.74
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area A, TA-21

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1255 ft. (LA-9957-MS, fig. 4; ENG-R 5277/8)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liners.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	3	1	3	26		Plutonium, americium, iodine.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				3	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		Distance to nearest supply well less than one mile.
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	35	1	35	40		Population served greater than 10000. (LA-9957-MS, fig. 10; ENG-R 92)
TOTAL TARGETS SCORE				44	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		12540	57330		
		RADIOACTIVE		1980	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		21.87	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		3.45	100.00		
		MAXIMUM Sgw =		21.87	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area A, TA-21

RATING FACTOR	VALUE RANGE	SEL VAL	MULTIPLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Average terrain slope >8%. (ENG-R 5277/8)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	2	2	4	6		Distance to nearest surface water less than one mile. (ENG-R 92)
D. Physical State	0 1 2 3	3	1	3	3		Liquid-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No liners.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	3	1	3	26		Plutonium, americium, iodine.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				3	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	2	2	4	6		Peregrine Falcon habitat 1/4 to 1/2 mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				10	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				6270			
RADIOACTIVE				990			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				9.74	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				1.54	100.00		
MAXIMUM Ssw =				9.74	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA B

SITE NAME: Area B, TA-21

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: June 12, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area B is a 6 acre landfill located west of TA-21 along D.P. Road. It was used from 1946 to 1948 for radioactive and chemical wastes, gas cylinders and trash. It is unknown how many pits are in Area B, and where they are located. Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	14.79	0.00	14.79
Sgw =	21.87	0.00	21.87
Ssw =	13.29	0.00	13.29
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area B, TA-21

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release..
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1240 ft. (LA-9957-MS, fig.4; ENG-R 5277/8)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.2')
D. Physical State	0 1 2 3	3	1	3	3		Liquid-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liners.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Organics/solvents, perchlorates.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Plutonium, uranium, americium, curium, actinium. Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		Distance to nearest supply well less than one mile.
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	35	1	35	40		Population served greater than 10000. (LA-9957-MS, fig. 10; ENG-R 92)
TOTAL TARGETS SCORE				44	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				12540	57330		
RADIOACTIVE				0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				21.87	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.00	100.00		
MAXIMUM Sgw =				21.87	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area B, TA-21

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	45	1	45	45	4.1	Observed release. (LA-10721-ENV, pp.37,40,160)
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	NE	1	NE	3		
B. 1-yr. 24-hr. Rainfall	0 1 2 3	NE	1	NE	3		
C. Distance to Nearest Surface Water	0 1 2 3	NE	2	ERR	6		
D. Physical State	0 1 2 3	NE	1	NE	3		
TOTAL ROUTE CHARACTERISTICS SCORE				ERR	15		
3. CONTAINMENT	0 1 2 3	NE	1	NE	3	4.3	
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Organics/solvents, perchlorates.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Plutonium, uranium, americium, curium, actinium. Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	2	2	4	6		Peregrine Falcon habitat 1/4 to 1/2 mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				10	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				8550			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				13.29	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				13.29	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA C

SITE NAME: Area C, TA-0

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: June 12, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area C is an inactive landfill which operated from 1948 to 1969. It consists of six radioactive and/or mixed waste pits, one chemical pit, and 107 shafts.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	17.40	14.01	17.40
Sgw =	29.93	24.18	29.93
Ssw =	3.15	1.82	3.15
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area C, TA-0

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1260 ft. (LA-9957-MS, fig.4; ENG-R 5277/9)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid and gas-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liners.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Pyrophoric metals, nickel carbonyl, organics, hydrides.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	8	1	8	8		Quantity assumed to be greater than 10000 drums as pit volumes exceed 2500 cubic yards. (Rogers 1977)
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	21	1	21	26		Plutonium, americium, strontium, tritium, fission products.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				26	26		
RADIOACTIVE				21	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	35	1	35	40		Distance to nearest supply well less than one mile. Population served greater than 10000. (LA-9957-MS, figs.5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				44	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
			CHEMICAL	17160	57330		
			RADIOACTIVE	13860	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
			CHEMICAL Sgw =	29.93	100.00		NOTE: NE means Not Evaluated.
			RADIOACTIVE Sgw =	24.18	100.00		
			MAXIMUM Sgw =	29.93	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area C, TA-0

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope 5-8%; Average terrain slope >8%. (ENG-R 5277/8)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/8,9)
D. Physical State	0 1 2 3	3	1	3	3		Liquid and gas-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				13	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No liners.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Pyrophoric metals, nickel carbonyl, organics, hydrides.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	8	1	8	8		Quantity assumed to be greater than 10000 drums as pit volumes exceed 2500 cubic yards. (Rogers 1977)
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	15	1	15	26		Plutonium, strontium, americium, trtium, fission products.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				26	26		
RADIOACTIVE				15	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	1	2	2	6		Wetlands within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				2	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				2028			
RADIOACTIVE				1170			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				3.15	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				1.82	100.00		
MAXIMUM Ssw =				3.15	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA D

SITE NAME: Area D, TA-33

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 9, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area D consists of two underground chambers for weapons design testing. The chambers were last used in the early 1950s.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	7.07	0.00	7.07
Sgw =	3.58	0.00	3.58
Ssw =	11.69	0.00	11.69
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area D, TA-33

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 910 ft. (LA-9957-MS, fig. 4; ENG R-5277/18)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.2')
D. Physical State	0 1 2 3	2	1	2	3		Fine material assumed.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	Integrity of containment unknown.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49	.	
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		2052	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		3.58	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		3.58	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area D, TA-33

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope <3%, terrain average slope >8%. (ENG-R 5277/18)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Nearest surface water less than 1000 ft. (ENG-R 5277/18)
D. Physical State	0 1 2 3	2	1	2	3		Fine material assumed.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	Integrity of containment unknown
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational and irrigational use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No critical environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	6	1	6	40		Irrigation from Cochiti Reservoir serves 6000 acres being equivalent to 9000 people. (USGS Report NM-85-1, p. 151)
TOTAL TARGETS SCORE				12	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				7524			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				11.69	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				11.69	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA E

SITE NAME: Area E, TA-33

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 9, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area E consists of one underground chamber and six pits and contains mainly classified debris.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	6.93	1.39	6.93
Sgw =	2.68	1.55	2.68
Ssw =	11.69	1.85	11.69
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area E, TA-33

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 910 ft. (LA-9957-MS, fig. 4, ENG-R 5277/18)
B. Net Precipitation	0 1 2 3	0	1	0	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	1	1	1	3		Unconsolidated solid.
TOTAL ROUTE CHARACTERISTICS SCORE				3	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liners.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	11	1	11	26		Tritium, uranium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				11	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		1539	57330		
		RADIOACTIVE		891	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		2.68	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		1.55	100.00		
		MAXIMUM Sgw =		2.68	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area E, TA-33

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope <3%, terrain average slope >8%. (ENG-R 5527/18)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Nearest surface water less than 1000 ft. (ENG-R 5277/18)
D. Physical State	0 1 2 3	2	1	2	3		Unconsolidated solid.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No Liners.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	3	1	3	26		Tritium, uranium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				3	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational and irrigational use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No critical environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	6	1	6	40		Irrigation from Cochiti Reservoir serves 6000 acres being equivalent to 9000 people served. (USGS Report NM-85-1, p.151)
TOTAL TARGETS SCORE				12	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		7524			
		RADIOACTIVE		1188			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		11.69	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		1.85	100.00		
		MAXIMUM Ssw =		11.69	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA F

SITE NAME: Area F, TA-6

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 10, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area F consists of two fenced areas which may or may not represent burial areas. This site is no longer active.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	1.55	0.57	1.55
Sgw =	2.68	0.99	2.68
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area F, TA-6

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1400 ft. (LA-9957-MS, fig. 4, ENG-R 5277/4)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	1	1	1	3		Unconsolidated solid.
TOTAL ROUTE CHARACTERISTICS SCORE				3	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liners.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	7	1	7	26		Cesium, uranium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				7	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				1539	57330		
RADIOACTIVE				567	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				2.68	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.99	100.00		
MAXIMUM Sgw =				2.68	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area F, TA-6

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope 3-5%, terrain average slope 5-8%. (ENG-R 5277/4)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	2	2	4	6		Nearest surface water less than one mile. (ENG-R 5277/4)
D. Physical State	0 1 2 3	1	1	1	3		Unconsolidated solid.
TOTAL ROUTE CHARACTERISTICS SCORE				8	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No liners.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	1	1	1	26		Cesium, uranium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				1	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No critical environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA G

SITE NAME: Area G, TA-54

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: June 12, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area G has been the primary radioactive solid waste disposal and storage area at the Laboratory since 1975.

At one point Area G received chemical and mixed waste as well.

Computations are for buried wastes only and do not include stored TRU wastes awaiting shipment to WIPP.

Scoring for direct contact, and fire and explosion was not appropriate; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	20.40	0.00	20.40
Sgw =	10.61	0.00	10.61
Ssw =	21.82	0.00	21.82
Sa =	25.64	0.00	25.64
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area G, TA-54

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 880 ft. (LA-9957-MS, fig.4; ENG-R 5277/16)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	0	1	0	3		Material is solid and stabilized.
TOTAL ROUTE CHARACTERISTICS SCORE				2	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	Not all pits, shafts, or trenches are lined.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Asbestos, PCBs.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	8	1	8	8		Quantity assumed to be greater than 2500 cubic yards.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Plutonium, uranium, strontium, tritium. Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				26	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	30	1	30	40		Distance to nearest supply well greater than two miles. Population served greater than 10000. (LA-9957-MS, fig. 10; ENG-R 92)
TOTAL TARGETS SCORE				39	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		6084	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		10.61	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		10.61	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area G, TA-54

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	45	1	45	45	4.1	Observed plutonium in one runoff event. (LA-10721-ENV, p.51)
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	NE	1	NE	3		
B. 1-yr. 24-hr. Rainfall	0 1 2 3	NE	1	NE	3		
C. Distance to Nearest Surface Water	0 1 2 3	NE	2	ERR	6		
D. Physical State	0 1 2 3	NE	1	NE	3		
TOTAL ROUTE CHARACTERISTICS SCORE				ERR	15		
3. CONTAINMENT	0 1 2 3	NE	1	NE	3	4.3	
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Asbestos, PCBs.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	8	1	8	8		Quantity assumed to tb greater than 10000 drums or 2500 cubic yards.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Plutonium, uranium, strontium, tritium. Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				26	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	3	2	6	6		Wetlands less than 1/4 mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				12	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		14040			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		21.82	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		21.82	100.00		

AIR ROUTE WORK SHEET Site: Area G, TA-54

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	45	1	45	45	5.1	Observed releases of tritium, plutonium-238, (LA-10721-ENV, p.28). Sampling is performed using an air sampler (approx. 4cfm) which is changed on a month schedule.
Date and Location:							
Sampling Protocol:							
If Line 1 is 0, the Sa = 0. Enter on Line 5							
If Line 1 is 45, Then Proceed to Line 2.							
2. WASTE CHARACTERISTICS						5.2	
Chemical							
A. Reactivity and Incompatibility	0 1 2 3	0	1	0	3		No incompatible or reactive substances present.
B. Toxicity	0 1 2 3	0	3	0	9		
C. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	8	1	8	8		Quantity assumed to be greater than 10000 drums or 2500 cubic yards.
Radioactive	0 2 5 8 12 16 20	0	1	0	20		Plutonium, uranium, strontium, tritium. Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				8	20		
RADIOACTIVE				0	20		
3. TARGETS							
A. Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	18	1	18	30		Population less than 10000 within a four mile radius.
B. Distance to Sensitive Environment	0 1 2 3	3	2	6	6		Wetlands less than 1/4 mile.
C. Land Use	0 1 2 3	1	1	1	3		Distance to residental area less than two miles.
TOTAL TARGETS SCORE				25	39		
4. CALCULATION							
Multiply 1 x 2 x 3							
		CHEMICAL		9000	35100		
		RADIOACTIVE		0	35100		
5. NORMALIZATION							
Divide Line 4 by 35100 and Multiply by 100							
		CHEMICAL Sa =		25.64	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sa =		0.00	100.00		
		MAXIMUM Sa =		25.64	100.00		

SUMMARY CALCULATION OF TOTAL MIGRATION SCORE

		CHEMICAL	RADIOACTIVE	
Ground Water Route	(Sgw)	10.61	0.00	
Surface Water Route	(Ssw)	21.82	0.00	
Air Route	(Sa)	25.64	0.00	
Sum of Squares		1246.11	0.00	
Square Root of Sum		35.30	0.00	
TOTAL MIGRATION SCORE	(Sm)	20.40	0.00	Square Root of Sum Divided by 1.73

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA H

SITE NAME: Area H, TA-54

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager
U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 17, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area H consists of nine shafts used to dispose mainly of metal parts. Some radioactive contamination may be present. Material may also be contaminated by high explosives, beryllium, and lithium. Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:

	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	14.88	0.00	14.88
Sgw =	25.64	0.00	25.64
Ssw =	2.24	0.00	2.24
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area H, TA-54

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 940 ft. (LA-9957-MS, fig.4; ENG-R 5277/18)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Assume powder worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	Unknown.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Lithium hydride, beryllium, high explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	7	1	7	8		Maximum quantity approx. total volume of shafts-2261 cubic yards.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Tritium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				25	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	40	1	40	40		Distance to nearest supply well less than 2000 ft. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-MS, p.13; ENG-R 92)
TOTAL TARGETS SCORE				49	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		14700	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		25.64	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		25.64	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area H, TA-54

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Terrain average slope 5-8% (ENG-R 5277/9)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	2	2	4	6		Nearest surface water less than one mile. (ENG-R 5277/9)
D. Physical State	0 1 2 3	2	1	2	3		Assume powder as worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				10	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	Unknown.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Lithium hydride, beryllium, high explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	6	1	6	8		Maximum quantity approx. total volume of shafts-2261 cubic yards.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Tritium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				24	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	1	2	2	6		Wetlands area within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				2	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		1440			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		2.24	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		2.24	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA J

SITE NAME: Area J, TA-54

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 17, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area J consists of three pits and two shafts which contain equipment contaminated with high explosives.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:

	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	8.50	0.00	8.50
Sgw =	14.62	0.00	14.62
Ssw =	1.59	0.00	1.59
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area J, TA-54

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 930 ft (LA-9957-MS, fig. 4; ENG-R 5277/15)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.2')
D. Physical State	0 1 2 3	1	1	1	3		Assume powder form worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				3	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	Shafts and pits unlined.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	40	1	40	40		Distance to nearest supply well less than 2000 ft. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				49	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		8379	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		14.62	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		14.62	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area J, TA-54

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope 5-8%; Terrain average slope 5-8%. (ENG-R 5277/15)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	2	2	4	6		Nearest surface water less than one mile. (ENG-R 5277/15)
D. Physical State	0 1 2 3	2	1	2	3		Assume powder form worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				9	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	Assume no liners.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	1	2	2	6		Wetlands area within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				2	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		1026			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		1.59	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		1.59	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA K

SITE NAME: Area K, TA-33

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 10, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area K consists of an active drain line from TA-33-86, the tritium processing building, and two inactive sumps.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:

	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	10.17	3.08	10.17
Sgw =	3.06	3.53	3.53
Ssw =	17.33	4.00	17.33
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area K, TA-33

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 975 ft. (LA-9957-MS, fig. 4; ENG-R 5277/18)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	None.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	12	1	12	18		Trichloroethane.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	15	1	15	26		Tritium.
TOTAL WASTE CHARACTERISTICS SCORE CHEMICAL				13	26		
RADIOACTIVE				15	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		1755	57330		
		RADIOACTIVE		2025	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		3.06	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		3.53	100.00		
		MAXIMUM Sgw =		3.53	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area K, TA-33

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No direct evidence of contaminant release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Terrain average slope >8% (ENG-R-5277/18)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Nearest surface water less than one mile. (ENG-R 5277/18)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				13	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	None.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	12	1	12	18		Trichloroethane.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	3	1	3	26		Tritium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				13	26		
RADIOACTIVE				3	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational and irrigational use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No critical environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	16	1	16	40		Irrigation from Cochiti Reservoir serves 6000 acres being equivalent to 9000 people served. (USGS Report NM-85-1, p.151)
TOTAL TARGETS SCORE				22	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				11154			
RADIOACTIVE				2574			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				17.33	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				4.00	100.00		
MAXIMUM Ssw =				17.33	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA L

SITE NAME: Area L, TA-54

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 17, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

This site was the main chemical disposal area after Area C was closed. Area L was used for approximately twenty years.

It consists of three pits and several shafts. Wastes were seperated by types before shaft disposal.

Scoring for air route, direct contact, and fire and explosion is not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	19.33	0.00	19.33
Sgw =	33.33	0.00	33.33
Ssw =	2.67	0.00	2.67
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area L, TA-54

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 860 ft. (LA-9957-MS, fig. 4; ENG-R 5277/16)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.2')
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	Unknown.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Halogenated hydrocarbons worst case.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	8	1	8	8		Maximum quantity approx. total volume of pits and shafts greater than 2500 cubic yards.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				26	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	40	1	40	40		Distance to nearest supply well less than 2000 ft. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				49	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				19110	57330		
RADIOACTIVE				0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				33.33	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.00	100.00		
MAXIMUM Sgw =				33.33	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area L, TA-54

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Terrain average slope 5-8%. (ENG-R 5277/16)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	2	2	4	6		Nearest surface water less than one mile. (ENG-R 5277/16)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	Unknown.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Halogenated hydrocarbons worst case.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	8	1	8	8		Maximum quantity approx. total volume of pits and shafts greater than 2500 cubic yards.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				26	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	1	2	2	6		Wetlands area within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				2	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				1716			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				2.67	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				2.67	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA M

SITE NAME: Area M, TA-8

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager
U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 11, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area M is an open surface landfill that was used for construction debris disposal. However, inadvertent disposal has resulted in deposits of hazardous materials.

Scoring for air route, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	0.52	0.00	0.52
Sgw =	0.89	0.00	0.89
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	8.33	0.00	8.33

GROUND WATER ROUTE WORKSHEET Site: Area M, TA-8

RATING FACTOR	VALUE RANGE	SEL VAL	MULTIPLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1290 ft. (LA-9957-MS, fig.4; ENG-R 5277/2)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	1	1	1	3		Unconsolidated solid.
TOTAL ROUTE CHARACTERISTICS SCORE				3	15		
3. CONTAINMENT	0 1 2 3	1	1	1	3	3.3	Pile uncovered, waste unstabilized.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Asbestos.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		513	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		0.89	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		0.89	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area M, TA-8

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Terrain average slope >8%. (ENG-R 5277/2)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Nearest surface water less than 1000 ft. (ENG-R 5277/2)
D. Physical State	0 1 2 3	1	1	1	3		Unconsolidated solid.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	1	1	1	3	4.3	Pile uncovered, waste unstabilized.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Asbestos.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium contamination possible.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

DIRECT CONTACT WORKSHEET Site: Area M, TA-8

RATING FACTOR	-----VALUE----- -----RANGE-----		SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED INCIDENT	0	45	0	1	0	45	8.1	No observed incident.
If Observed Incident is Given a Score of 45, Proceed to Line 4								
If Observed Incident is Given a Score of 0, Proceed to Line 2								
2. ACCESSIBILITY	0 1 2 3		1	1	1	3	8.2	Facility boundary fence only. Guard controlled facility access.
3. CONTAINMENT	0	15	15	1	15	15	8.3	Uncovered pile.
4. WASTE CHARACTERISTICS								
Chemical Toxicity	0 1 2 3		3	5	15	15	8.4	Asbestos.
Radioactive	0 1 2 4 6 9 12 15		0	1	0	15		Uranium possible contaminant. Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
5. TARGETS								
A. Population Within a 1-Mile Radius	0 1 2 3 4 5		2	4	8	20	8.5	Less than 1000 people.
B. Distance to a Critical Habitat	0 1 2 3		0	4	0	12		No critical habitat within one mile.
TOTAL TARGETS SCORE					8	32		
6. CALCULATION								
If Line 1 is 45, Multiply 1 x 4 x 5								
If Line 1 is 0, Multiply 2 x 3 x 4 x 5								
			CHEMICAL		1800	21600		
			RADIOACTIVE		0	21600		
7. NORMALIZATION								
Divide Line 6 by 21600 and Multiply by 100								
			CHEMICAL Sdc =		8.33	100.00		NOTE: NE means Not Evaluated.
			RADIOACTIVE Sdc =		0.00	100.00		
			MAXIMUM Sdc =		8.33	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA N

SITE NAME: Area N, TA-15

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 11, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area N is a slit trench that may contain construction debris from TA-15.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	3.72	0.00	3.72
Sgw =	2.68	0.00	2.68
Ssw =	5.85	0.00	5.85
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area N, TA-15

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1300 ft. (LA-9957-MS, fig. 4; ENG-R 5277/5)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.2')
D. Physical State	0 1 2 3	1	1	1	3		Unconsolidated solid.
TOTAL ROUTE CHARACTERISTICS SCORE				3	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liner.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, chemicals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		1539	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		2.68	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		2.68	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area N, TA-15

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Terrain average slope >8%. (ENG-R 5277/5)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Nearest surface water less than 1000 ft. (ENG-R 5277/5)
D. Physical State	0 1 2 3	1	1	1	3		Unconsolidated solid.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No liner.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, chemicals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No critical environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				6	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				3762			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				5.85	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				5.85	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA P

SITE NAME: Area P, TA-16

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 11, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area P is a partially covered landfill on the side of a canyon. Contents of this landfill is mainly construction debris from TA-16, sand from the S Site burning pads, and discarded flashed equipment.

Scoring for air route, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	1.63	0.00	1.63
Sgw =	2.83	0.00	2.83
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	8.33	0.00	8.33

GROUND WATER ROUTE WORKSHEET Site: Area P, TA-16

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1150 ft. (LA-9957-MS, fig. 5; ENG-R 5277/2)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.2')
D. Physical State	0 1 2 3	1	1	1	3		Unconsolidated solid.
TOTAL ROUTE CHARACTERISTICS SCORE				3	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	Partially covered, unconsolidated waste, inadequate diversion.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Asbestos, high explosives, halogenated hydrocarbons, barium.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to be less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				1620	57330		
RADIOACTIVE				0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				2.83	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.00	100.00		
MAXIMUM Sgw =				2.83	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area P, TA-16

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Terrain average slope >8%. (ENG-R 5277/2)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Nearest surface water less than 1000 ft. (ENG-R 5277/2)
D. Physical State	0 1 2 3	1	1	1	3		Unconsolidated solid.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	Partially covered, unconsolidated waste, inadequate diversion.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Asbestos, high explosives, halogenated hydrocarbons, barium.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No critical environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		0			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		0.00	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		0.00	100.00		

DIRECT CONTACT WORKSHEET Site: Area P, TA-16

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED INCIDENT	0 45	0	1	0	45	8.1	No confirmed incidents.
If Observed Incident is Given a Score of 45, Proceed to Line 4							
If Observed Incident is Given a Score of 0, Proceed to Line 2							
2. ACCESSIBILITY	0 1 2 3	1	1	1	3	8.2	Facility boundary fence only. Guard controlled facility access.
3. CONTAINMENT	0 15	15	1	15	15	8.3	Site only partially covered.
4. WASTE CHARACTERISTICS							
Chemical Toxicity	0 1 2 3	3	5	15	15	8.4	Asbestos, high explosives, halogenated hydrocarbons, barium.
Radioactive	0 1 2 4 6 9 12 15	0	1	0	15		
5. TARGETS							
A. Population Within a 1-Mile Radius	0 1 2 3 4 5	2	4	8	20	8.5	Less than 1000 people.
B. Distance to a Critical Habitat	0 1 2 3	0	4	0	12		No critical environments within one mile.
TOTAL TARGETS SCORE				8	32		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		1800	21600		
		RADIOACTIVE		0	21600		
7. NORMALIZATION							
Divide Line 6 by 21600 and Multiply by 100							
		CHEMICAL Sdc =		8.33	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sdc =		0.00	100.00		
		MAXIMUM Sdc =		8.33	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA Q

SITE NAME: Area Q, TA-8

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 11, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area Q is a pit which may contain gun parts and old ammunition.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:

	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	2.07	0.00	2.07
Sgw =	3.58	0.00	3.58
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area Q, TA-8

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed releases.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1320 ft. (LA-9957-MS, fig. 5; ENG-R 5277/2)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Powder.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liner.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				2052	57330		
RADIOACTIVE				0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				3.58	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.00	100.00		
MAXIMUM Sgw =				3.58	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area Q, TA-8

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	0	1	0	3		Facility slope >8%; Terrain avrage slope <3%. (ENG-R 5277/2)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	2	2	4	6		Nearest surface water approx. 2400 ft. (ENG-R 5277/2)
D. Physical State	0 1 2 3	2	1	2	3		Powder.
TOTAL ROUTE CHARACTERISTICS SCORE				7	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No liner.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No critical environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		0			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		0.00	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA R

SITE NAME: Area R, TA-16

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 11, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Little is known about Area R with regards to its contents.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	2.07	0.00	2.07
Sgw =	3.58	0.00	3.58
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area R, TA-16

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1300 ft (LA-9957-MS, fig. 4; ENG-R 5277/2)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.2[illegible])
D. Physical State	0 1 2 3	2	1	2	3		Powder assumed worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liner assumed.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Worst case assumed-contents unknown.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		2052	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		3.58	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		3.58	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area R, TA-16

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed releases.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Terrain average slope >8%. (ENG-R 5277/2)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Nearest surface water less than 1000 ft. (ENG-R 5277/2)
D. Physical State	0 1 2 3	2	1	2	3		Powder assumed worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				12	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No liner assumed.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Worst case assumed-contents unknown.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No critical environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		0			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		0.00	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA T

SITE NAME: Area T, TA-21

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: June 12, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area T contains 4 absorption beds used between 1945 and 1952 for disposal of untreated liquid wastes from plutonium processing. Shafts at Area T once contained concrete mixed with plutonium and americium. These shafts were excavated in 1986 and are presently awaiting off-site shipment.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	9.68	5.98	9.68
Sgw =	9.21	6.91	9.21
Ssw =	13.99	7.69	13.99
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area T, TA-21

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1265 ft. (LA-9957-MS, fig.4; ENG-R 5277/8)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CRR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	0	1	0	3		Material is solid and stabilized.
TOTAL ROUTE CHARACTERISTICS SCORE				2	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liners
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	12	1	12	18		Possible disposal of tributylphosphate in kerosene.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	8	1	8	8		Quantity assumed to be greater than 10000 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		No observed release.
B. Maximum Potential	0 1 3 7 11 15 21 26	15	1	15	26		Plutonium, uranium, americium, strontium, cesium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				15	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	35	1	35	40		Distance to nearest supply well less than one mile. Population served greater than 10000. (LA-9957-MS, fig. 10; ENG-R 92)
TOTAL TARGETS SCORE				44	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		5280	57330		
		RADIOACTIVE		3960	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		9.21	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		6.91	100.00		
		MAXIMUM Sgw =		9.21	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area T, TA-21

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	45	1	45	45	4.1	Observed plutonium in surface water samples (LA-10721-ENV, p.160)
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	NE	1	NE	3		
B. 1-yr. 24-hr. Rainfall	0 1 2 3	NE	1	NE	3		
C. Distance to Nearest Surface Water	0 1 2 3	NE	2	ERR	6		
D. Physical State	0 1 2 3	NE	1	NE	3		
TOTAL ROUTE CHARACTERISTICS SCORE				ERR	15		
3. CONTAINMENT	0 1 2 3	NE	1	NE	3	4.3	
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	12	1	12	18		Possible disposal of tributylphosphate in kerosene.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	8	1	8	8		Quantity assumed to be greater than 10000 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	1	1	1	26		Plutonium.
B. Maximum Potential	0 1 3 7 11 15 21 26	11	1	11	26		Plutonium, uranium, americium, strontium, cesium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				11	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	2	2	4	6		Peregrine Falcon habitat 1/4 to 1/2 mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				10	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		9000			
		RADIOACTIVE		4950			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		13.99	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		7.69	100.00		
		MAXIMUM Ssw =		13.99	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA U

SITE NAME: Area U, TA-21

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: June 12, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area U is a 0.3 acre area containing two adsorption beds used for subsurface disposal of contaminated liquid wastes between 1945 and 1968.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	0.00	1.14	1.14
Sgw =	0.00	1.38	1.38
Ssw =	0.00	1.40	1.40
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area U, TA-21

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1250 ft. (LA-9957-MS, fig. 4; ENG-R 5277/8)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.2')
D. Physical State	0 1 2 3	0	1	0	3		Material is stabilized and consolidated.
TOTAL ROUTE CHARACTERISTICS SCORE				2	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liners.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	0	1	0	18		No known chemical disposal.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	0	1	0	8		
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	3	1	3	26		Actinium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				0	26		
RADIOACTIVE				3	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	35	1	35	40		Distance to nearest supply well less than one mile. Population served greater than 10000. (LA-9957-MS, fig.10; ENG-R 92)
TOTAL TARGETS SCORE				44	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		0	57330		
		RADIOACTIVE		792	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		0.00	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		1.38	100.00		
		MAXIMUM Sgw =		1.38	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area U, TA-21

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Average terrain slope >8%. (ENG-R 5277/8)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/8)
D. Physical State	0 1 2 3	0	1	0	3		Material is consolidated and solid.
TOTAL ROUTE CHARACTERISTICS SCORE				10	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No liners.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	0	1	0	18		No known chemical disposal.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	0	1	0	8		
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	3	1	3	26		Actinium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				0	26		
RADIOACTIVE				3	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	2	2	4	6		Peregrine Falcon habitat 1/4 to 1/2 mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				10	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				900			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				1.40	100.00		
MAXIMUM Ssw =				1.40	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA V

SITE NAME: Area V, TA-21

(AFTER KEYING IN SITE NAME, PRESS "ALT" & "A" KEYS SIMULTANEOUSLY)

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager
U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: June 12, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area V is a 0.35 acre site located on the rim of Los Alamos canyon. It consists of three adsorption beds designed to receive waste water from a laundry handling radioactively contaminated clothing. It operated between 1945 and 1961.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	0.00	1.45	1.45
Sgw =	0.00	1.38	1.38
Ssw =	0.00	2.10	2.10
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area V, TA-21

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1280 ft. (LA-9957-MS, fig. 4; ENG-R 5277/8)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	0	1	0	3		Material is solid and stabilized.
TOTAL ROUTE CHARACTERISTICS SCORE				2	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liners.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	0	1	0	18		No known chemical disposal.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	0	1	0	8		
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	3	1	3	26		Plutonium, strontium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				0	26		
RADIOACTIVE				3	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	35	1	35	40		Distance to nearest supply well less than one mile. Population served greater than 10000. (LA-9957-MS, fig. 10; ENG-R 92)
TOTAL TARGETS SCORE				44	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0	57330		
RADIOACTIVE				792	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				1.38	100.00		
MAXIMUM Sgw =				1.38	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area V, TA-21

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	45	1	45	45	4.1	Observed plutonium in surface water. (LA-10721-ENV, p. 160)
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	NE	1	NE	3		
B. 1-yr. 24-hr. Rainfall	0 1 2 3	NE	1	NE	3		
C. Distance to Nearest Surface Water	0 1 2 3	NE	2	ERR	6		
D. Physical State	0 1 2 3	NE	1	NE	3		
TOTAL ROUTE CHARACTERISTICS SCORE				ERR	15		
3. CONTAINMENT	0 1 2 3	NE	1	NE	3	4.3	
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	0	1	0	18		No known chemical disposal.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	0	1	0	8		
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		Plutonium.
B. Maximum Potential	0 1 3 7 11 15 21 26	3	1	3	26		Plutonium, strontium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				0	26		
RADIOACTIVE				3	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	2	2	4	6		Peregrine Falcon habitat 1/4 to 1/2 mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				10	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				1350			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				2.10	100.00		
MAXIMUM Ssw =				2.10	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA X

SITE NAME: Area X, TA-35

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 17, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area X consists of a buried reactor.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	7.72	0.59	7.72
Sgw =	13.27	1.02	13.27
Ssw =	1.58	0.12	1.58
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area X, TA-35

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1200 ft. (LA-9957-MS, fig. 4; ENG-R 5277/8)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Semi-solid/liquid form.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No lining outside reactor.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	12	1	12	18		Sodium potassium alloy (NaK).
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	1	1	1	26		Plutonium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				13	26		
RADIOACTIVE				1	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	30	1	30	40		Distance to nearest supply well less than two miles. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-MS, p.13; ENG-R 92)
TOTAL TARGETS SCORE				39	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		7605	57330		
		RADIOACTIVE		585	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		13.27	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		1.02	100.00		
		MAXIMUM Sgw =		13.27	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area X, TA-35

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Average terrain slope >8% (ENG-R 5277/8)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Nearest surface water less than 1000 ft. (ENG-R 5277/8)
D. Physical State	0 1 2 3	3	1	3	3		Semi-solid/liquid form.
TOTAL ROUTE CHARACTERISTICS SCORE				13	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No lining outside reactor.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	12	1	12	18		Sodium potassium alloy (NaK)
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	1	1	1	26		Plutonium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				13	26		
RADIOACTIVE				1	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	1	2	2	6		Wetlands area within 1/4 to 1 mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				2	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		1014			
		RADIOACTIVE		78			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		1.58	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.12	100.00		
		MAXIMUM Ssw =		1.58	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA Y

SITE NAME: Area Y, TA-39

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 17, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area Y consists of two slit trenches mainly containing shot debris from firing site activities.

Scoring for air route, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	2.07	0.33	2.07
Sgw =	3.58	0.57	3.58
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	4.17	0.28	4.17

GROUND WATER ROUTE WORKSHEET Site: Area Y, TA-39

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 540 ft. (LA-9957-MS, fig. 4; ENG-R 5277/17)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.2')
D. Physical State	0 1 2 3	2	1	2	3		Powder, fine material worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liner.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, lead, high explosives, mercury, barium.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	3	1	3	26		Uranium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				3	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				2052	57330		
RADIOACTIVE				324	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				3.58	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.57	100.00		
MAXIMUM Sgw =				3.58	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area Y, TA-39

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope <3%; Average terrain slope >8%. (ENG-R 5277/17)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Nearest surface water less than 1000 ft. (ENG-R 5277/17)
D. Physical State	0 1 2 3	2	1	2	3		Powder, fine material worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No liner.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, lead, high explosives, mercury, barium.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Uranium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No critical environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		0			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		0.00	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA Z

SITE NAME: Area Z, TA-15

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 17, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area Z is a surface landfill on a small canyon side. This landfill mostly contains shot debris from Phermex.

Scoring for air route, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	2.07	0.11	2.07
Sgw =	3.58	0.19	3.58
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	4.17	0.28	4.17

GROUND WATER ROUTE WORKSHEET Site: Area Z, TA-15

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1300 ft. (LA-9957-MS, fig. 4; ENG-R 5277/6)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Unstabilized solid.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	Partially covered, unstabilized, no run-on diversion.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, high explosives, lead, mercury.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	1	1	1	26		Uranium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				1	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		2052	57330		
		RADIOACTIVE		108	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		3.58	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.19	100.00		
		MAXIMUM Sgw =		3.58	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area Z, TA-15

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope 5-8%; Terrain average slope >8%. (ENG-R 5277/6)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Nearest surface water less than 1000 ft. (ENG-R 5277/6)
D. Physical State	0 1 2 3	2	1	2	3		Unstabilized solid.
TOTAL ROUTE CHARACTERISTICS SCORE				12	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	Partially covered, unstabilized, no run-on diversion.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, high explosives, lead, mercury.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	1	1	1	26		Uranium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				1	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No critical environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake for three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

DIRECT CONTACT WORKSHEET   Site: Area Z, TA-15

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED INCIDENT	0 45	0	1	0	45	8.1	No confirmed incident.
If Observed Incident is Given a Score of 45, Proceed to Line 4							
If Observed Incident is Given a Score of 0, Proceed to Line 2							
2. ACCESSIBILITY	0 1 2 3	1	1	1	3	8.2	Facility boundary fence only. Guard controlled facility access.
3. CONTAINMENT	0 15	15	1	15	15	8.3	Site only partially covered.
4. WASTE CHARACTERISTICS							
Chemical Toxicity	0 1 2 3	3	5	15	15	8.4	Beryllium, high explosives, lead, mercury.
Radioactive	0 1 2 4 6 9 12 15	1	1	1	15		Uranium.
5. TARGETS							
A. Population Within a 1-Mile Radius	0 1 2 3 4 5	1	4	4	20	8.5	Less than 100 people.
B. Distance to a Critical Habitat	0 1 2 3	0	4	0	12		No critical environment within one mile.
TOTAL TARGETS SCORE				4	32		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		900	21600		
		RADIOACTIVE		60	21600		
7. NORMALIZATION							
Divide Line 6 by 21600 and Multiply by 100							
		CHEMICAL Sdc =		4.17	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sdc =		0.28	100.00		
		MAXIMUM Sdc =		4.17	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA AA

SITE NAME: Area AA, TA-36

(AFTER KEYING IN SITE NAME, PRESS "ALT" & "A" KEYS SIMULTANEOUSLY)

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 17, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Area AA is a series of trenches used for disposal of test shot debris.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	10.11	0.00	10.11
Sgw =	17.50	0.00	17.50
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	4.17	0.00	4.17

GROUND WATER ROUTE WORKSHEET Site: Area AA, TA-36

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 760 ft. (LA-9957-MS, fig. 4; ENG-R 5277/16)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Assume powder worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liner.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	35	1	35	40		Distance to nearest supply well less than one mile. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				44	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		10032	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		17.50	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		17.50	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area AA, TA-36

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Both facility slope and terrain average slope >8% (ENG-R 5277/16)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	2	2	4	6		Nearest surface water less than one mile away. (ENG-R 5277/16)
D. Physical State	0 1 2 3	2	1	2	3		Powder worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				10	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No liner.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No critical environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

DIRECT CONTACT WORKSHEET Site: Area AA, TA-36

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED INCIDENT	0 45	0	1	0	45	8.1	No confirmed incidents.
If Observed Incident is Given a Score of 45, Proceed to Line 4							
If Observed Incident is Given a Score of 0, Proceed to Line 2							
2. ACCESSIBILITY	0 1 2 3	1	1	1	3	8.2	Facitiy boundary fence only. Guard controlled facility access.
3. CONTAINMENT	0 15	15	1	15	15	8.3	Open trench.
4. WASTE CHARACTERISTICS							
Chemical Toxicity	0 1 2 3	3	5	15	15	8.4	High explosives.
Radioactive	0 1 2 4 6 9 12 15	0	1	0	15		Uranium possible contaminant. Insufficient data for analysis.
5. TARGETS							
A. Population Within a 1-Mile Radius	0 1 2 3 4 5	1	4	4	20	8.5	Less than 100 people.
B. Distance to a Critical Habitat	0 1 2 3	0	4	0	12		No critical environments within one mile.
TOTAL TARGETS SCORE				4	32		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		900	21600		
		RADIOACTIVE		0	21600		
7. NORMALIZATION							
Divide Line 6 by 21600 and Multiply by 100							
		CHEMICAL Sdc =		4.17	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sdc =		0.00	100.00		
		MAXIMUM Sdc =		4.17	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

MATERIAL DISPOSAL AREA AB

SITE NAME: Area AB, TA-49

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: February 17, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

The main concern at this area is beryllium, lead, high explosives, and radioactive material in shafts.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	6.67	5.26	6.67
Sgw =	11.53	9.11	11.53
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: Area AB, TA-49

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1200 ft (LA-9957-MS, fig. 4; ENG-R 5277/6)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Powder.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liners.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, lead, high explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	15	1	15	26		Plutonium, uranium, americium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				15	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	20	1	20	40		Distance to nearest supply well less than three miles. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				29	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				6612	57330		
RADIOACTIVE				5220	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				11.53	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				9.11	100.00		
MAXIMUM Sgw =				11.53	100.00		

SURFACE WATER ROUTE WORKSHEET Site: Area AB, TA-49

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	45	1	45	45	4.1	Observed release. (WDP 1983)
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	NE	1	NE	3		
B. 1-yr. 24-hr. Rainfall	0 1 2 3	NE	1	NE	3		
C. Distance to Nearest Surface Water	0 1 2 3	NE	2	ERR	6		
D. Physical State	0 1 2 3	NE	1	NE	3		
TOTAL ROUTE CHARACTERISTICS SCORE				ERR	15		
3. CONTAINMENT	0 1 2 3	NE	1	NE	3	4.3	
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, lead, high explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Assume quantity less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	3	1	3	26		Plutonium, uranium, americium.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				3	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 1

SITE NAME: TA-1

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 9, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

TA-1 was the main technical area at the Laboratory from its inception until 1965.

A decontamination/decommissioning project for radioactive constituents was undertaken at the area

in 1975 and 1976.

Scoring for air route, direct contact, and fire and explosion not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	8.97	0.00	8.97
Sgw =	15.51	0.00	15.51
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-1

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1260 ft. (LA-9957-MS, fig.4; ENG-R 92)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Fine materials.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Metals, organics.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed since clean up project. Some material may still be present. Uranium, plutonium, strontium,
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		other possible contaminants in small, insignificant quantities. Insufficient data for analysis.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	30	1	30	40		Distance to nearest supply well one to two miles. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				39	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		8892	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
			CHEMICAL Sgw =	15.51	100.00		NOTE: NE means Not Evaluated.
			RADIOACTIVE Sgw =	0.00	100.00		
			MAXIMUM Sgw =	15.51	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-1

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope 5-8%; Terrain average slope >8%. (ENG-R 92)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig.8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 92)
D. Physical State	0 1 2 3	2	1	2	3		Fine materials.
TOTAL ROUTE CHARACTERISTICS SCORE				12	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Metals, organics.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed since clean up project. Some material may still be present. Uranium, plutonium, strontium,
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		other possible contaminants in small, insignificant amounts. Insufficient data for analysis.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environment within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		0			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		0.00	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREAS 2 AND 41

SITE NAME: TA-2, TA-41

FIELD OFFICE: Los Alamos National Laboratory

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 4, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Technical Areas 2 and 41 were scored collectively because they share a common drainage area within Los Alamos Canyon.

Main activities at these sites include nuclear reactor research and weapons subsystems design.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	8.33	0.00	8.33
Sgw =	14.42	0.00	14.42
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-2, 41

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 915 ft (LA-9957-MS, fig.4; ENG-R 5277/4,8)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.2')
D. Physical State	0 1 2 3	3	1	3	3		Liquid/slurry-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment-worst case.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Mercury, beryllium oxide, potassium dichromate, trichlor-s-triazine trione.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium, cesium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	20	1	20	40		Distance to nearest supply well less than three miles; Population served greater than 10000 (LA-9957-MS, figs. 5, 10; LA-10721-MS, p.13; ENG-R 92)
TOTAL TARGETS SCORE				29	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		8265	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		14.42	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		14.42	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-2, 41

RATING FACTOR	VALUE RANGE	SEL VAL	MULTIPLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	45	1	45	45	4.1	Observed release. (LA-10721-ENV, pp. 37, 40, 160)
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	NE	1	NE	3		
B. 1-yr. 24-hr. Rainfall	0 1 2 3	NE	1	NE	3		
C. Distance to Nearest Surface Water	0 1 2 3	NE	2	ERR	6		
D. Physical State	0 1 2 3	NE	1	NE	3		
TOTAL ROUTE CHARACTERISTICS SCORE				ERR	15		
3. CONTAINMENT	0 1 2 3	NE	1	NE	3	4.3	No containment.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Mercury, beryllium oxide, potassium dichromate, tichlor-s-triazine trione.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium, cesium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREAS 3 AND 59

SITE NAME: TA-3, 59

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 6, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

TA-3 (South Mesa Site) is now the main administrative area and one of the main technical areas at the Laboratory.

It replaced TA-1 as such in the 1960s. During the war years South Mesa Site was a detonator test site.

TA-59 is a small site mainly consisting of office and environmental laboratory space.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	12.42	0.00	12.42
Sgw =	20.41	0.00	20.41
Ssw =	6.71	0.00	6.71
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-3, 59

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1405 ft. (LA-9957-MS, fig. 4; ENG-R 5277/4)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment-worst case.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Halogenated hydrocarbons, metals, organics, asbestos.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to be less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Plutonium, uranium, tritium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	30	1	30	40		Distance to nearest supply well one to two miles. Population served greater than 10000. (LA-10721-ENV, p.13; LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				39	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		11700	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		20.41	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		20.41	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-3, 59

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope <3%; Terrain average slope >8%. (ENG-R 5277/4)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig.8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/4)
D. Physical State	0 1 2 3	3	1	3	3		Liquid-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				12	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment-worst case.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Halogenated hydrocarbons, metals, organics, asbestos.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to be less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Plutonium, uranium, tritium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	3	2	6	6		Wetlands within 100 ft.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				6	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		4320			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		6.71	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		6.71	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREAS 6, 7, 22, AND 40

SITE NAME: TA-6, 7, 22, 40

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 4, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Technical Areas 6, 7, 22, and 40 were combined for scoring because of their close proximity to one another and their common historical use. These sites were all utilized for detonator development and testing. TA-6 is now mainly used for storage and office space. TA-7 was abandoned after the war. TA-22 and TA-40 are still used for detonator research. Area F is the only material disposal area in this grouping. Scoring for air route, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	2.72	0.00	2.72
Sgw =	4.71	0.00	4.71
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	12.50	0.00	12.50

GROUND WATER ROUTE WORKSHEET Site: TA-6,7,22,40

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1230 ft. (LA-9957-MS, fig. 4; ENG-R 5277/1,2,4,5)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	None.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Cyanide, high explosives, chromates.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to be less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		2700	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		4.71	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		4.71	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-6,7,22,40

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI- PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	1	1	1	3		Facility slope 3-5%; Average terrain slope <3%. (ENG-R 5277/1,2,4,5)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in (40 CFR 300. App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Nearest surface water less than 1000 ft. (ENG-R 5277/1,2,4,5)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	None.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Cyanide, high explosives, chromates.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to be less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

DIRECT CONTACT WORKSHEET   Site: TA-6,7,22,40

RATING FACTOR	-----VALUE----- -----RANGE-----		SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED INCIDENT	0	45	0	1	0	45	8.1	No confirmed incident.
If Observed Incident is Given a Score of 45, Proceed to Line 4								
If Observed Incident is Given a Score of 0, Proceed to Line 2								
2. ACCESSIBILITY	0 1 2 3		1	1	1	3	8.2	Facility is fenced and guarded. Site is easily accessible.
3. CONTAINMENT	0	15	15	1	15	15	8.3	No containment.
4. WASTE CHARACTERISTICS								
Chemical Toxicity	0 1 2 3		3	5	15	15	8.4	Cyanide, high explosives, chromates.
Radioactive	0 1 2 4 6 9 12 15		0	1	0	15		Uranium possible contaminant.
5. TARGETS								
A. Population Within a 1-Mile Radius	0 1 2 3 4 5		3	4	12	20	8.5	Population less than 3000.
B. Distance to a Critical Habitat	0 1 2 3		0	4	0	12		No sensitive environments within one mile.
TOTAL TARGETS SCORE					12	32		

6. CALCULATION

If Line 1 is 45, Multiply 1 x 4 x 5

If Line 1 is 0, Multiply 2 x 3 x 4 x 5

	SCORE	MAX. SCORE
CHEMICAL	2700	21600
RADIOACTIVE	0	21600

7. NORMALIZATION

Divide Line 6 by 21600 and Multiply by 100

	SCORE	MAX. SCORE
CHEMICAL Sdc =	12.50	100.00
RADIOACTIVE Sdc =	0.00	100.00
MAXIMUM Sdc =	12.50	100.00

NOTE: NE means Not Evaluated.

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREAS 8, 9, AND 23

SITE NAME: TA-8, 9, 23

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 5, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

The original technical areas here consisted of Anchor Ranch Site (TA-8, East and West) and Nu Site (TA-23). Old Anchor East, part of old Anchor West, and Nu Site were decontaminated and decommissioned in the 1950s and 1960s. All sites were involved in high explosives development. Work presently performed at TA-8 and TA-9 still revolves around this work. Material Disposal Areas Q and M are located in this vicinity. Scoring for air route, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	2.72	0.00	2.72
Sgw =	4.71	0.00	4.71
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	8.33	0.00	8.33

GROUND WATER ROUTE WORKSHEET Site: TA-8,9,23

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1285 ft. (LA-9957-MS, fig. 4; ENG-R 5277/1,2)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment-worst case.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, silver, various chemicals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to be less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				2700	57330		
RADIOACTIVE				0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				4.71	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.00	100.00		
MAXIMUM Sgw =				4.71	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-8,9,23

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope 3-5%; Average terrain slope > 8%. (ENG-R 5277/1.2)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/1,2)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				12	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment-worst case.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, silver, various chemicals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to be less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

DIRECT CONTACT WORKSHEET   Site: TA-8,9,23

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED INCIDENT	0 45	0	1	0	45	8.1	No confirmed incident.
If Observed Incident is Given a Score of 45, Proceed to Line 4							
If Observed Incident is Given a Score of 0, Proceed to Line 2							
2. ACCESSIBILITY	0 1 2 3	1	1	1	3	8.2	Facility boundary fenced only. Access controlled. Site readily accessible.
3. CONTAINMENT	0 15	15	1	15	15	8.3	None.
4. WASTE CHARACTERISTICS							
Chemical Toxicity	0 1 2 3	3	5	15	15	8.4	Asbestos, silver.
Radioactive	0 1 2 4 6 9 12 15	0	1	0	15		Uranium possible contaminant. Insufficient data for analysis.
5. TARGETS							
A. Population Within a 1-Mile Radius	0 1 2 3 4 5	2	4	8	20	8.5	Population less than 1000.
B. Distance to a Critical Habitat	0 1 2 3	0	4	0	12		
TOTAL TARGETS SCORE				8	32		

6. CALCULATION

If Line 1 is 45, Multiply 1 x 4 x 5

If Line 1 is 0, Multiply 2 x 3 x 4 x 5

	SCORE	MAX. SCORE
CHEMICAL	1800	21600
RADIOACTIVE	0	21600

7. NORMALIZATION

Divide Line 6 by 21600 and Multiply by 100

	SCORE	MAX. SCORE
CHEMICAL Sdc =	8.33	100.00
RADIOACTIVE Sdc =	0.00	100.00
MAXIMUM Sdc =	8.33	100.00

NOTE: NE means Not Evaluated.

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 10

SITE NAME: TA-10

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 16, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Bayo Canyon Site was used mainly during the war years for firing site activities.

This site used decontaminated and decommissioned for radioactive constituents under FUSRAP in 1976.

Scoring for air route, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	9.04	0.00	9.04
Sgw =	15.51	0.00	15.51
Ssw =	1.95	0.00	1.95
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	37.50	0.00	37.50

GROUND WATER ROUTE WORKSHEET Site: TA-10

RATING FACTOR	VALUE RANGE	SEL VAL	MULTIPLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 880 ft. (LA-9957-MS, fig. 4; ENG-R 5277/13,14)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, lead, high explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed since clean up project. Some material may still be present. Uranium, lanthanum, strontium,
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		other possible contaminants in small, insignificant quantities. Insufficient data for analysis.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	30	1	30	40		Distance to nearest supply well one to two miles. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				39	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		8892	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		15.51	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		15.51	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-10

RATING FACTOR	VALUE RANGE	SEL VAL	MULTIPLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope 3%; Terrain average slope 5-8%. (ENG-R 5277/13,14)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/13,14)
D. Physical State	0 1 2 3	2	1	2	3		Fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, lead, high explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed since clean up project. Some material may still be present. Uranium, lanthanum, strontium,
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		other possible contaminants in small, insignificant quantities. Insufficient data for analysis.
TOTAL WASTE CHARACTERISTICS SCORE CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	1	2	2	6		Peregrine Falcon habitat within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				2	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				1254			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				1.95	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				1.95	100.00		

DIRECT CONTACT WORKSHEET Site: TA-10

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED INCIDENT	0 45	0	1	0	45	8.1	No confirmed incident.
If Observed Incident is Given a Score of 45, Proceed to Line 4							
If Observed Incident is Given a Score of 0, Proceed to Line 2							
2. ACCESSIBILITY	0 1 2 3	3	1	3	3	8.2	Site easily accessible.
3. CONTAINMENT	0 15	15	1	15	15	8.3	No containment.
4. WASTE CHARACTERISTICS							
Chemical Toxicity	0 1 2 3	3	5	15	15	8.4	Beryllium, lead, high explosives.
Radioactive	0 1 2 4 6 9 12 15	0	1	0	15		Uranium, lanthanum, strontium possible contaminants.
5. TARGETS							
A. Population Within a 1-Mile Radius	0 1 2 3 4 5	2	4	8	20	8.5	Population less than 1000.
B. Distance to a Critical Habitat	0 1 2 3	1	4	4	12		Peregrine Falcon habitat within one mile.
TOTAL TARGETS SCORE				12	32		

6. CALCULATION

If Line 1 is 45, Multiply 1 x 4 x 5

If Line 1 is 0, Multiply 2 x 3 x 4 x 5

	Score	Max. Score
CHEMICAL	8100	21600
RADIOACTIVE	0	21600

7. NORMALIZATION

Divide Line 6 by 21600 and Multiply by 100

	Score	Max. Score
CHEMICAL Sdc =	37.50	100.00
RADIOACTIVE Sdc =	0.00	100.00
MAXIMUM Sdc =	37.50	100.00

NOTE: NE means Not Evaluated.

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREAS 11 AND 16

SITE NAME: TA-11, TA-16 (INC.)

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 5, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

TA-11 and TA-16 (which incorporated TAs 13, 24, and 25 within it) were utilized for high explosives development, machining, and testing. Three sites, previously mentioned, were included as part of S-Site (TA-16) as it expanded. There are three Material Disposal Areas within these sites; two at TA-16 (P, R) and one at TA-11 (S). Scoring for air route, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	2.99	0.00	2.99
Sgw =	5.18	0.00	5.18
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	8.33	0.00	8.33

GROUND WATER ROUTE WORKSHEET Site: TA-11, 16

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1330 ft. (LA-9957-MS, fig. 4; ENG-R 5277/2,3,5)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid/slurry form-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment-worst case.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, various chemicals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	4	1	4	8		Quantity assumed to be less than 1000 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium, cobalt, radium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				22	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		2970	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		5.18	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		5.18	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-11, 16

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	1	1	1	3		Facility slope 3-5%; Average terrain slope 3-5%. (ENG-R 5277/2,3,5)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig.8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/2,3,5)
D. Physical State	0 1 2 3	3	1	3	3		Liquid/slurry form-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment-worst case.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, various chemicals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	3	1	3	8		Quantity assumed to be less than 1000 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium, cobalt, radium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				21	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 12

SITE NAME: TA-12

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager
U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 16, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Abandoned L Site (TA-12) was an experimental explosives test area during the war.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	6.67	0.00	6.67
Sgw =	11.53	0.00	11.53
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-12

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1270 ft. (LA-9957-MS, fig. 4; ENG-R 5277/5)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A. figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Strontium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insuficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	20	1	20	40		Distance to nearest supply well two to three miles. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				29	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				6612	57330		
RADIOACTIVE				0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				11.53	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.00	100.00		
MAXIMUM Sgw =				11.53	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-12

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Terrain average slope >8%. (ENG-R 5277/5)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/5)
D. Physical State	0 1 2 3	2	1	2	3		Fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				12	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Strontium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		0			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		0.00	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 14

SITE NAME: TA-14

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 6, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

This site has been a firing site since its creation in 1944.

Scoring for air route, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	7.02	0.00	7.02
Sgw =	12.14	0.00	12.14
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-14

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1400 ft. (LA-9957-MS, fig. 4; ENG-R 5277/5)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Fine material form.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, beryllium, lead.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to be less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	20	1	20	40		Distance to nearest supply well approx. three miles. Population served greater than 10000. (LA-10721-ENV, p.13; LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				29	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
			CHEMICAL	6960	57330		
			RADIOACTIVE	0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
			CHEMICAL Sgw =	12.14	100.00		NOTE: NE means Not Evaluated.
			RADIOACTIVE Sgw =	0.00	100.00		
			MAXIMUM Sgw =	12.14	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-14

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope 3-5%; Terrain average slope >8%. (ENG-R 5277/5)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/5)
D. Physical State	0 1 2 3	2	1	2	3		Fine material form.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, beryllium, lead.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to be less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environment within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 15

SITE NAME: TA-15

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager
U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 9, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

R Site has been a firing site throughout its history. Material Disposal Areas N and Z are located at the technical area.

Scoring for air route, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	9.91	0.00	9.91
Sgw =	17.14	0.00	17.14
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	4.17	0.28	4.17

GROUND WATER ROUTE WORKSHEET Site: TA-15

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1190 ft. (LA-9957-MS, fig. 4; ENG-R 5277/5,6,9,10)
B. Net Precipitation	0 1 2 3	0	1	0	3		Lessthan -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Powder or fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment-worst case.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, beryllium, lead.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	3	1	3	8		Quantity assumed to be less than 500 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE CHEMICAL				21	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	30	1	30	40		Distance to nearest supply well one to two miles. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				39	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		9828	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		17.14	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		17.14	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-15

RATING FACTOR	VALUE RANGE	SEL VAL	MULTIPLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope <3%; Terrain average slope >8%. (ENG-R 5277/5,6,9,10)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/5,6,9,10)
D. Physical State	0 1 2 3	2	1	2	3		Fine material-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment-worst case.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, beryllium, lead.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	3	1	3	8		Quantity assumed to be less than 500 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium contamination possible.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE CHEMICAL				21	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		0			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		0.00	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		0.00	100.00		

DIRECT CONTACT WORKSHEET   Site: TA-15

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED INCIDENT	0 45	0	1	0	45	8.1	No confirmed incident.
If Observed Incident is Given a Score of 45, Proceed to Line 4							
If Observed Incident is Given a Score of 0, Proceed to Line 2							
2. ACCESSIBILITY	0 1 2 3	1	1	1	3	8.2	Facility boundary fenced only. Site access is controlled.
3. CONTAINMENT	0 15	15	1	15	15	8.3	No containment.
4. WASTE CHARACTERISTICS							
Chemical Toxicity	0 1 2 3	3	5	15	15	8.4	High explosives, beryllium, lead.
Radioactive	0 1 2 4 6 9 12 15	1	1	1	15		Uranium.
5. TARGETS							
A. Population Within a 1-Mile Radius	0 1 2 3 4 5	1	4	4	20	8.5	Population less than 100.
B. Distance to a Critical Habitat	0 1 2 3	0	4	0	12		No sensitive environments within one mile.
TOTAL TARGETS SCORE				4	32		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		900	21600		
		RADIOACTIVE		60	21600		
7. NORMALIZATION							
Divide Line 6 by 21600 and Multiply by 100							
		CHEMICAL Sdc =		4.17	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sdc =		0.28	100.00		
		MAXIMUM Sdc =		4.17	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREAS 18 AND 27

SITE NAME: TA-18, TA-27

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager
U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 5, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Pajarito Laboratory Site (TA-18) was first used as a firing site. "Far Site" firing point of TA-18 later was separated from that TA and was designated TA-27 (Gamma Site). The mission at TA-18 changed radically during the war as its work moved towards nuclear criticality experiments. Gamma Site was abandoned during the war. Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	14.26	0.00	14.26
Sgw =	24.36	0.00	24.36
Ssw =	3.90	0.00	3.90
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-18, 27

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 880 ft. (LA-9957-MS, fig. 4; ENG-R 5277/15,16)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, fig. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment-worst case.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, metals, organics.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Plutonium, uranium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	40	1	40	40		Distance to nearest supply well less than 1000 ft. Population served greater than 10000. (LA-10721-MS, p.13; LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				49	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				13965	57330		
RADIOACTIVE				0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				24.36	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.00	100.00		
MAXIMUM Sgw =				24.36	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-18,27

RATING FACTOR	-----VALUE----- / -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	1	1	1	3		Facility slope 3-5%; Average terrain slope 3-5%. (ENG-R 5277/2,3,5)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/2,3,5)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment-worst case.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, metals, organics.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Plutonium, uranium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	2	2	4	6		Wetlands area 100 feet to 1/4 mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				4	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		2508			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		3.90	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		3.90	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 19

SITE NAME: TA-19

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 16, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

TA-19 was initially used for an electrical testing area. It was later utilized for animal irradiation experiments. The area was abandoned in the mid-1950s.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	6.97	0.00	6.97
Sgw =	11.97	0.00	11.97
Ssw =	1.45	0.00	1.45
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-19

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1150 ft. (LA-9957-MS, fig. 4; ENG-R 5277/14)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	12	1	12	18		Toluene.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium, cobalt possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				13	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	35	1	35	40		Distance to nearest supply well less than one mile. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				44	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
			CHEMICAL	6864	57330		
			RADIOACTIVE	0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
			CHEMICAL Sgw =	11.97	100.00		NOTE: NE means Not Evaluated.
			RADIOACTIVE Sgw =	0.00	100.00		
			MAXIMUM Sgw =	11.97	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-19

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Terrain average slope >8%. (ENG-R 5277/14)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CRR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/14)
D. Physical State	0 1 2 3	2	1	2	3		Fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				12	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	12	1	12	18		Toluene.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium, cobalt possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for anaylsis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				13	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	1	2	2	6		Peregrine Falcon habitat within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				2	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				936			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				1.45	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				1.45	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 21

SITE NAME: TA-21

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl   DATE: March 9, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

DP Site was initially used for plutonium chemistry and research. The site is now utilized by a variety of groups of varying functions. Some decontamination work has taken place at TA-21. There are five Material Disposal Areas (A,B,T,U,V) at this site.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	20.24	0.00	20.24
Sgw =	29.93	0.00	29.93
Ssw =	18.18	0.00	18.18
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-21

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1240 ft. (LA-9957-MS, fig. 4; ENG-R 5277/8)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment-worst case.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, ethylene glycol, fluorine, asbestos.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	8	1	8	8		Quantity assumed to be greater than 10000 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Plutonium, uranium, americium, strontium, actinium, tritium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				26	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	35	1	35	40		Distance to nearest supply well less than one mile. Population served greater than 10000. (LA-9957-MS, fig. 10; ENG-R 92)
TOTAL TARGETS SCORE				44	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		17160	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
			CHEMICAL Sgw =	29.93	100.00		NOTE: NE means Not Evaluated.
			RADIOACTIVE Sgw =	0.00	100.00		
			MAXIMUM Sgw =	29.93	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-21

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	45	1	45	45	4.1	Observed release. (LA-10721-ENV, pp.37,40,160)
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	NE	1	NE	3		
B. 1-yr. 24-hr. Rainfall	0 1 2 3	NE	1	NE	3		
C. Distance to Nearest Surface Water	0 1 2 3	NE	2	ERR	6		
D. Physical State	0 1 2 3	NE	1	NE	3		
TOTAL ROUTE CHARACTERISTICS SCORE				ERR	15		
3. CONTAINMENT	0 1 2 3	NE	1	NE	3	4.3	
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, ethylene glycol, fluorine, asbestos.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	8	1	8	8		Quantity assumed to be greater than 10000 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		Plutonium, uranium, americium, strontium, actinium, tritium possible contaminants. Insufficient data for analysis.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				26	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	2	2	4	6		Distance to nesting Peregrine Falcons 1/4 to 1/2 mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				10	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				11700			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				18.18	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				18.18	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 26

SITE NAME: TA-26

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 6, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

TA-26 (D Site) was primarily used for storage of special nuclear material. The site was abandoned and demolished in the 1960s. Some of the debris was pushed over the canyon edge to the south and covered with soil. Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:

	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	0.00	0.00	0.00
Sgw =	0.00	0.00	0.00
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-26

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1250 ft. (LA-9957-MS, fig. 4; ENG-R 5277/14)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	Piles partially covered, stability of waste unknown.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	0	1	0	18		
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	0	1	0	8		
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				0	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	30	1	30	40		Distance to nearest supply well one to two miles. Population served greater than 10000. (LA-10721-ENV, p.13; LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				39	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		0	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		0.00	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		0.00	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-26

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope [illegible]3%; Terrain average slope >8%. (ENG-R 5277/14)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/14)
D. Physical State	0 1 2 3	2	1	2	3		Fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				12	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	Piles partially covered, stability of waste unknown.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	0	1	0	18		
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	0	1	0	8		
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				0	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	2	2	4	6		Peregrine Falcon habitat within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				4	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 31

SITE NAME: TA-31

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 16, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

TA-31, East Receiving Yard, was removed in 1954.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	5.43	0.00	5.43
Sgw =	8.84	0.00	8.84
Ssw =	3.15	0.00	3.15
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-31

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1350 ft. (LA-9957-MS, fig. 4; ENG-R 92)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Sludge.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	2	1	2	3	3.3	Spills-no containment.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	12	1	12	18		Oil, chemicals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE CHEMICAL				13	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	30	1	30	40		Distance to nearest supply well one to two miles. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				39	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				5070	57330		
RADIOACTIVE				0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				8.84	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.00	100.00		
MAXIMUM Sgw =				8.84	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-31

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Terrain average slope >8%. (ENG-R 92)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, figs. 4,5)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 92)
D. Physical State	0 1 2 3	3	1	3	3		Sludge.
TOTAL ROUTE CHARACTERISTICS SCORE				13	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	Spils-no containment.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	12	1	12	18		Oil, chemicals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				13	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	2	2	4	6		Peregrine Falcon with 1/2 mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				4	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		2028			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
			CHEMICAL Ssw =	3.15	100.00		NOTE: NE means Not Evaluated.
			RADIOACTIVE Ssw =	0.00	100.00		
			MAXIMUM Ssw =	3.15	100.00		

TECHNICAL AREA 32

SITE NAME: TA-32

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 16, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

TA-32 was a medical research laboratory near the Main Technical Area. TA-32 was removed in 1954.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	5.19	0.00	5.19
Sgw =	8.84	0.00	8.84
Ssw =	1.54	0.00	1.54
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-32

RATING FACTOR	VALUE RANGE	SEL VAL	MULTIPLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1365 ft. (LA-9957-MS, fig. 4; ENG-R 92)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.2')
D. Physical State	0 1 2 3	3	1	3	3		Sludge.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	2	1	2	3	3.3	Piping-limited containment.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	12	1	12	18		Some chemical contamination possible.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				13	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	30	1	30	40		Distance to nearest supply well one to two miles. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				39	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		5070	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		8.84	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		8.84	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-32

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Terrain average slope >8%. (ENG-R 92)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 92)
D. Physical State	0 1 2 3	3	1	3	3		Sludge.
TOTAL ROUTE CHARACTERISTICS SCORE				13	15		
3. CONTAINMENT	0 1 2 3	2	1	2	3	4.3	Piping-limited containment.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Some chemical contamination possible.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	1	2	2	6		Peregrine Falcon habitat within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				2	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				988			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				1.54	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				1.54	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 33

SITE NAME: TA-33

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 9, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Initial use of this technical area involved classified weapons development. TA-33 is now utilized as as a support installation for Fenton Hill (TA-57) activities. Material Disposal Areas D, E, and K are located at TA-33. Scoring for air route, and fire and explosion are not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	15.65	0.00 /	15.65
Sgw =	4.71	0.00	4.71
Ssw =	26.67	0.00	26.67
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	12.50	0.00	12.50

GROUND WATER ROUTE WORKSHEET Site: TA-33

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aqifer approx. 860 ft. (LA-9957-MS, fig. 4; ENG-R 5277/18,25)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, beryllium, lead, mercury, organics.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to be less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium, tritium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		Distance to nearest supply well greater than three miles. (LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				9	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		2700	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		4.71	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		4.71	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-33

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope 5-8%; Terrain average slope >8%. (ENG-R 5277/18,25)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/18,25)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				13	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, beryllium, mercury, organics.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to be less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium, tritium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational and irrigational use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	16	1	16	40		Irrigation from Cochiti Reservoir serves 6000 acres being equivalent to 9000 people served. (USGS Report NM-85-1, p.151)
TOTAL TARGETS SCORE				22	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		17160			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		26.67	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		26.67	100.00		

DIRECT CONTACT WORKSHEET Site: TA-33

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED INCIDENT	0 45	0	1	0	45	8.1	No confirmed incident.
If Observed Incident is Given a Score of 45, Proceed to Line 4							
If Observed Incident is Given a Score of 0, Proceed to Line 2							
2. ACCESSIBILITY	0 1 2 3	3	1	3	3	8.2	Facility not completely fenced, not guarded. Site easily accessible.
3. CONTAINMENT	0 15	15	1	15	15	8.3	No containment.
4. WASTE CHARACTERISTICS							
Chemical Toxicity	0 1 2 3	3	5	15	15	8.4	Beryllium, trichloroethane.
Radioactive	0 1 2 4 6 9 12 15	0	1	0	15		Uranium, tritium possible contaminants.
5. TARGETS							
A. Population Within a 1-Mile Radius	0 1 2 3 4 5	1	4	4	20	8.5	Population less than 100.
B. Distance to a Critical Habitat	0 1 2 3	0	4	0	12		No sensitive environments within one mile.
TOTAL TARGETS SCORE				4	32		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		2700	21600		
		RADIOACTIVE		0	21600		
7. NORMALIZATION							
Divide Line 6 by 21600 and Multiply by 100							
		CHEMICAL Sdc =		12.50	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sdc =		0.00	100.00		
		MAXIMUM Sdc =		12.50	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREAS 35, 42, 48, 50, AND 55

SITE NAME: TA-35,42,48,50,55

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 6, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

These five Technical Areas were consolidated for scoring because of their close proximity to one another as well as the fact that they share common drainage areas. Work performed at these areas is diverse. TA-42 was an incinerator site that was decommissioned in 1978. Material Disposal Areas C, W, and X are located in these areas. Scoring for air route, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	16.75	0.00	16.75
Sgw =	27.63	0.00	27.63
Ssw =	8.73	0.00	8.73
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	62.50	0.00	62.50

GROUND WATER ROUTE WORKSHEET Site: TA-35,42,48,50,55

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1280 ft (LA-9957-MS, fig. 4; ENG-R 5277/4,8)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment-worst case.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Organics, metals, PCB contaminated oil.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	6	1	6	8		Quantity assumed to be less than 5000 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Plutonium, uranium, cesium, strontium, tritium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				24	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	35	1	35	40		Distance to nearest supply well less than one mile. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				44	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				15840	57330		
RADIOACTIVE				0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				27.63	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.00	100.00		
MAXIMUM Sgw =				27.63	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-35,42,48,50,55

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope 5-8%; Average terrain slope >8%. (ENG-R 5277/4,8)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/4,8)
D. Physical State	0 1 2 3	3	1	3	3		Liquid-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				13	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment-worst case.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Organics, metals, PCB contaminated oil.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	6	1	6	8		Quantity assumed to be less than 5000 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Plutonium, uranium, cesium, strontium, tritium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE CHEMICAL				24	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	3	2	6	6		Wetlands within 100 ft.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				6	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				5616			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				8.73	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				8.73	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 36

SITE NAME: TA-36

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 9, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Kappa Site has been a firing site since its beginning in 1950. Material Disposal Area AA is located at this technical area.

Scoring for air route, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	10.11	0.00	10.11
Sgw =	17.50	0.00	17.50
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	4.17	0.00	4.17

GROUND WATER ROUTE WORKSHEET Site: TA-36

RATING FACTOR	VALUE RANGE	SEL VAL	MULTIPLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 970 ft. (LA-9957-MS, fig. 4; ENG-R 5277/9,10,16)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Powder or fine material assumed.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment assumed.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, metals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	35	1	35	40		Distance to nearest supply well less than one mile. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				44	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		10032	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		17.50	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		17.50	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-36

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope >8%; Terrain average slope >8%. (ENG-R 5277/9,10,16)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/9,10,16)
D. Physical State	0 1 2 3	2	1	2	3		Powder or fine material form.
TOTAL ROUTE CHARACTERISTICS SCORE				12	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment assumed.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, metals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		0			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		0.00	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		0.00	100.00		

DIRECT CONTACT WORKSHEET Site: TA-36

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED INCIDENT	0 45	0	1	0	45	8.1	No confirmed incident.
If Observed Incident is Given a Score of 45, Proceed to Line 4							
If Observed Incident is Given a Score of 0, Proceed to Line 2							
2. ACCESSIBILITY	0 1 2 3	1	1	1	3	8.2	Facility boundary fenced only. Access is controlled.
3. CONTAINMENT	0 15	15	1	15	15	8.3	No containment.
4. WASTE CHARACTERISTICS							
Chemical Toxicity	0 1 2 3	3	5	15	15	8.4	Beryllium, lead, high explosives.
Radioactive	0 1 2 4 6 9 12 15	0	1	0	15		Uranium possible contaminant. Insufficient data for analysis.
5. TARGETS							
A. Population Within a 1-Mile Radius	0 1 2 3 4 5	1	4	4	20	8.5	Population less than 100.
B. Distance to a Critical Habitat	0 1 2 3	0	4	0	12		No sensitive environments within one mile.
TOTAL TARGETS SCORE				4	32		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		900	21600		
		RADIOACTIVE		0	21600		
7. NORMALIZATION							
Divide Line 6 by 21600 and Multiply by 100							
		CHEMICAL Sdc =		4.17	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sdc =		0.00	100.00		
		MAXIMUM Sdc =		4.17	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 39

SITE NAME: TA-39

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 9, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

TA-39 is a remote canyon firing site. This has been its function since its beginning. Material Disposal Area Y is located at this technical area.

Scoring for air route, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	12.77	0.00	12.77
Sgw =	12.14	0.00	12.14
Ssw =	18.46	0.00	18.46
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-39

RATING FACTOR	VALUE RANGE	SEL VAL	MULTIPLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 600 ft. (LA-9957-MS, fig. 4; ENG-R 5277/11,17,18)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment assumed.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, lead, mercury, high explosives, barium.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to be less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	20	1	20	40		Distance to nearest well two to three miles. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				29	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		6960	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
			CHEMICAL Sgw =	12.14	100.00		NOTE: NE means Not Evaluated.
			RADIOACTIVE Sgw =	0.00	100.00		
			MAXIMUM Sgw =	12.14	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-39

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	0	1	0	3		Facility slope <3%; Terrain average slope <3%. (ENG-R 5277/11,17,18)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water greater than 1000 ft. (ENG-R 5277/11,17,18)
D. Physical State	0 1 2 3	2	1	2	3		Fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				9	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment assumed.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, mercury, lead, high explosives, barium.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	2	1	2	8		Quantity assumed to be less than 250 drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				20	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environment within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	16	1	16	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				22	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		11880			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		18.46	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		18.46	100.00		

DIRECT CONTACT WORKSHEET Site: TA-39

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED INCIDENT	0 45	0	1	0	45	8.1	No confirmed incident.
If Observed Incident is Given a Score of 45, Proceed to Line 4							
If Observed Incident is Given a Score of 0, Proceed to Line 2							
2. ACCESSIBILITY	0 1 2 3	0	1	0	3	8.2	Facility boundary fenced only. Access is controlled.
3. CONTAINMENT	0 15	15	1	15	15	8.3	No containment.
4. WASTE CHARACTERISTICS							
Chemical Toxicity	0 1 2 3	3	5	15	15	8.4	Beryllium, lead, mercury, high explosives, barium.
Radioactive	0 1 2 4 6 9 12 15	0	1	0	15		Uranium.
5. TARGETS							
A. Population Within a 1-Mile Radius	0 1 2 3 4 5	1	4	4	20	8.5	Population less than 100.
B. Distance to a Critical Habitat	0 1 2 3	0	4	0	12		No sensitive environments within one mile.
TOTAL TARGETS SCORE				4	32		

6. CALCULATION

If Line 1 is 45, Multiply 1 x 4 x 5

If Line 1 is 0, Multiply 2 x 3 x 4 x 5

	Score	Max. Score
CHEMICAL	0	21600
RADIOACTIVE	0	21600

7. NORMALIZATION

Divide Line 6 by 21600 and Multiply by 100

	Score	Max. Score	
CHEMICAL Sdc =	0.00	100.00	NOTE: NE means Not Evaluated.
RADIOACTIVE Sdc =	0.00	100.00	
MAXIMUM Sdc =	0.00	100.00	

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 43

SITE NAME: TA-43

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 9, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Work at this Technical Area mainly consists of medical research projects.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	8.33	0.00	8.33
Sgw =	14.42	0.00	14.42
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-43

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1320 ft. (LA-9957-MS, fig. 4; ENG-R 5277/4)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid assumed.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	Containment unknown.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, organics.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Plutonium, strontium, thorium, radium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	20	1	20	40		Distance to nearest supply well two to three miles. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				29	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		8265	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		14.42	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		14.42	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-43

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope 3-5%; Terrain average slope 5-8%. (ENG-R 5277/4)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/4)
D. Physical State	0 1 2 3	3	1	3	3		Liquid assumed.
TOTAL ROUTE CHARACTERISTICS SCORE				12	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	Containment unknown.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Beryllium, organics.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Plutonium, strontium, thorium, radium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 45

SITE NAME: TA-45

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 16, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

TA-45 was the industrial waste treatment plant for TA-1, the CMR building at TA-3, the HRL building at TA-43, and TA-48. This area was decontaminated and decommissioned for radioactive constituents in 1976. Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	4.44	0.00	4.44
Sgw =	7.69	0.00	7.69
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-45

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1190 ft. (LA-9957-MS, fig.4; ENG-R 92)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	2	1	2	3		Fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	2	1	2	3	3.3	Limited containment.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Metals, organics.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed since clean up project. Some material may still be present. Plutonium, uranium, strontium,
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		tritium, other possible contaminants in small, insignificant quantities. Insufficient data for analysis.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	20	1	20	40		Distance to nearest supply well two to three miles. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				29	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				4408	57330		
RADIOACTIVE				0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				7.69	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.00	100.00		
MAXIMUM Sgw =				7.69	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-45

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	45	1	45	45	4.1	Observed release. (LA-10721-ENV, pp.40, 152)
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	NE	1	NE	3		
B. 1-yr. 24-hr. Rainfall	0 1 2 3	NE	1	NE	3		
C. Distance to Nearest Surface Water	0 1 2 3	NE	2	ERR	6		
D. Physical State	0 1 2 3	NE	1	NE	3		
TOTAL ROUTE CHARACTERISTICS SCORE				ERR	15		
3. CONTAINMENT	0 1 2 3	NE	1	NE	3	4.3	
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Metals, organics.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		Slight cesium, uranium, plutonium, uranium, tritium contamination in surface water.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water intake within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 46

SITE NAME: TA-46

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 9, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

This site was originally used for Rover Program work. It is now a laser research facility.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	12.64	0.00	12.64
Sgw =	21.87	0.00	21.87
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-46

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1160 ft. (LA-9957-MS, fig. 4; ENG-R 5277/9)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	Containment unknown.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Lithium hydride, organics, metals, oil.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Plutonium, uranium, cesium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	35	1	35	40		Distance to nearest supply well 2000 ft to one mile. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				44	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		12540	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		21.87	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		21.87	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-46

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope 3-5%; Terrain average slope >8%. (ENG-R 5277/9)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/9)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				12	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	Containment unknown.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Lithium hydride, organcs, metals, oil.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Plutonium, uranium, cesium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environment within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		0			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
			CHEMICAL Ssw =	0.00	100.00		NOTE: NE means Not Evaluated.
			RADIOACTIVE Ssw =	0.00	100.00		
			MAXIMUM Ssw =	0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 51

SITE NAME: TA-51

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 9, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

This facility was originally used for animal irradiation experiments. It is now an engineering test facility. Demolished magazines from original TA-18 activities are present here.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	14.08	0.00	14.08
Sgw =	24.36	0.00	24.36
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-51

RATING FACTOR	-----VALUE----- / -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1075 ft. (LA-9957-MS, fig. 4; ENG-R 5277/9)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment-worst case.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, various chemicals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Cobalt possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	40	1	40	40		Distance to nearest supply well approximately 2000 ft. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				49	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		13965	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		24.36	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		24.36	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-51

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	3	1	3	3		Facility slope 5-8%; Terrain average slope >8%. (ENG-R 5277/9)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/9)
D. Physical State	0 1 2 3	3	1	3	3		Liquid.
TOTAL ROUTE CHARACTERISTICS SCORE				13	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment-worst case.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, various chemicals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Cobalt possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		0			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		0.00	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREAS 52, 4, AND 5

SITE NAME: TA-52, 4, 5

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 6, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

TA-52 consists of the UHTREX (Ultra High Temperature Reactor Experiment) Reactor which was used on an experimental basis for one year in 1968. Decontamination and decommissioning of the reactor and its support facilities is schedules for FY89. TA-4 and TA-5 are abandoned firing sites used for implosion studies during the war. Some clean up work was performed at these two sites in FY85. TA-52 sits on part of TA-4. Scoring for air route, direct contact, and fire and explosion was not applicable; therefore, score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	11.26	0.00	11.26
Sgw =	19.49	0.00	19.49
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-52,4,5

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 1320 ft. (LA-9975-MS, fig. 4; ENG-R 5277/9)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS p.21)
D. Physical State	0 1 2 3	2	1	2	3		Fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				4	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment-worst case.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, photoprocessing chemicals, lead.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	40	1	40	40		Distance to nearest supply well less than 2000 ft. Population served greater than 10000. (LA-10721-ENV, p.13; LA-9957-MS, figs. 5, 10; ENG-R 92)
TOTAL TARGETS SCORE				49	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		11172	57330		
		RADIOACTIVE		0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
		CHEMICAL Sgw =		19.49	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Sgw =		0.00	100.00		
		MAXIMUM Sgw =		19.49	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-52,4,5

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope <35; Terrain average slope >8%. (ENG-R 5277/9)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (ENG-R 5277/9)
D. Physical State	0 1 2 3	2	1	2	3		Fine material.
TOTAL ROUTE CHARACTERISTICS SCORE				11	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment-worst case.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, photoprocessing chemicals, lead.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium possible contaminant.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was enetered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				0			
RADIOACTIVE				0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
CHEMICAL Ssw =				0.00	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Ssw =				0.00	100.00		
MAXIMUM Ssw =				0.00	100.00		

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREAS 53 AND 20

SITE NAME: TA-53, 20

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 9, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Work at TA-53, Los Alamos Meson Physics Facility (LAMPF), revolves around the proton accelerator housed there.

TA-20, Sandia Canyon Site, is an abandoned implosion testing area used during the war years.

Scoring for air route, direct contact, and fire and explosion was not applicable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	12.64	0.00	12.64
Sgw =	21.87	0.00	21.87
Ssw =	0.00	0.00	0.00
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-53, 20

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 820 ft. (LA-9957-MS, fig. 4; ENG-R 5277/8,14)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No containment or liners-worst case.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, beryllium, various chemicals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium, cesium, tritium, sodium, beryllium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	35	1	35	40		Distance to nearest supply well less than one mile. Population served greater than 10000. (LA-9957-MS, figs. 5, 10; LA-10721-ENV, p.13; ENG-R 92)
TOTAL TARGETS SCORE				44	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				12540	57330		
RADIOACTIVE				0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				21.87	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.00	100.00		
MAXIMUM Sgw =				21.87	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-53, 20

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope <3%; Average terrain slope >8%. (ENG-R 5277/8,14)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 feet. (ENG-R 5277/8,14)
D. Physical State	0 1 2 3	3	1	3	3		Liquid-worst case.
TOTAL ROUTE CHARACTERISTICS SCORE				12	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No containment or liners-worst case.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		High explosives, beryllium, various chemicals.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		None observed. Uranium, cesium, tritium, sodium, beryllium possible contaminants.
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		Insufficient data for analysis. Score of 0 was entered to prevent error code in computer program.
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	0	3	0	9		No surface water use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environments within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				0	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		0			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		0.00	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		0.00	100.00		

DIRECT CONTACT WORKSHEET Site: TA-53, 20

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED INCIDENT	0 45	0	1	0	45	8.1	No confirmed incident.
If Observed Incident is Given a Score of 45, Proceed to Line 4							
If Observed Incident is Given a Score of 0, Proceed to Line 2							
2. ACCESSIBILITY	0 1 2 3	3	1	3	3	8.2	No fence around LAMPF lagoons. Access not controlled by guards. Incomplete fencing around facility.
3. CONTAINMENT	0 15	15	1	15	15	8.3	Very accessible to direct contact.
4. WASTE CHARACTERISTICS							
Chemical Toxicity	0 1 2 3	0	5	0	15	8.4	
Radioactive	0 1 2 4 6 9 12 15	0	1	0	15		Insufficient data for analysis.
5. TARGETS							
A. Population Within a 1-Mile Radius	0 1 2 3 4 5	2	4	8	20	8.5	Population estimate of less than 1000.
B. Distance to a Critical Habitat	0 1 2 3	3	4	12	12		No sensitive environment within one mile.
TOTAL TARGETS SCORE				20	32		

6. CALCULATION

If Line 1 is 45, Multiply 1 x 4 x 5

If Line 1 is 0, Multiply 2 x 3 x 4 x 5

	Score	Max. Score
CHEMICAL	0	21600
RADIOACTIVE	0	21600

7. NORMALIZATION

Divide Line 6 by 21600 and Multiply by 100

	Score	Max. Score
CHEMICAL Sdc =	0.00	100.00
RADIOACTIVE Sdc =	0.00	100.00
MAXIMUM Sdc =	0.00	100.00

NOTE: NE means Not Evaluated.

HAZARD RANKING SYSTEM/MODIFIED HAZARD RANKING SYSTEM (HRS/mHRS)

TECHNICAL AREA 57

SITE NAME: TA-57

FIELD OFFICE: Los Alamos Area Office

EPA REGION: Region VI-Dallas

PERSON(S) IN CHARGE OF SITE: Harold Valencia, Area Manager

U.S. Department of Energy

NAME OF REVIEWER: J. Lynn Scholl DATE: March 16, 1987

GENERAL DESCRIPTION OF THE FACILITY:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Fenton Hill Site (TA-57) is a remote experimental geothermal facility.

Scoring for air route, direct contact, and fire and explosion was not appliable; therefore,

score sheets are not included.

SCORES:	CHEMICAL	RADIOACTIVE	MAXIMUM
Sm =	14.55	0.00	14.55
Sgw =	24.36	0.00	24.36
Ssw =	6.38	0.00	6.38
Sa =	0.00	0.00	0.00
Sfe =	0.00	0.00	0.00
Sdc =	0.00	0.00	0.00

GROUND WATER ROUTE WORKSHEET Site: TA-57

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	3.1	No observed release.
If Observed Release is Given a Score of 45, Proceed to Line 4							
If Observed Release is Given a Score of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						3.2	
A. Depth to Aquifer of Concern	0 1 2 3	0	2	0	6		Depth to top of aquifer approx. 816 ft. (LA-5780-MS, fig. 2; USGS 15 minute Jemez Springs topo map, 1952)
B. Net Precipitation	0 1 2 3	0	1	0	3		Less than -10 in. (40 CFR 300, App.A, figs. 4,5)
C. Permeability of the Unsaturated Zone	0 1 2 3	2	1	2	3		Measurements range from 2E-5 to 5E-4 (LA-8962-MS, p.21)
D. Physical State	0 1 2 3	3	1	3	3		Liquid/slurry form.
TOTAL ROUTE CHARACTERISTICS SCORE				5	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	3.3	No liner.
4. WASTE CHARACTERISTICS						3.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Arsenic, cadmium, lithium, fluorine.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						3.5	
A. Ground Water Use	0 1 2 3	3	3	9	9		
B. Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	40	1	40	40		Distance to nearest supply well less than 2000 ft. Population served greater than 10000. (LA-10892-PR, fig. 1; LA-10721-ENV, p.13)
TOTAL TARGETS SCORE				49	49		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5							
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
CHEMICAL				13965	57330		
RADIOACTIVE				0	57330		
7. NORMALIZATION							
Divide Line 6 by 57330 and Multiply by 100							
CHEMICAL Sgw =				24.36	100.00		NOTE: NE means Not Evaluated.
RADIOACTIVE Sgw =				0.00	100.00		
MAXIMUM Sgw =				24.36	100.00		

SURFACE WATER ROUTE WORKSHEET Site: TA-57

RATING FACTOR	-----VALUE----- -----RANGE-----	SEL VAL	MULTI-PLIER	SCORE	MAX. SCORE	REF. SEC.	REFERENCES FOR EACH ASSIGNED SCORE
1. OBSERVED RELEASE	0 45	0	1	0	45	4.1	No observed release.
If Observed Release is Given a Value of 45, Proceed to Line 4							
If Observed Release is Given a Value of 0, Proceed to Line 2							
2. ROUTE CHARACTERISTICS						4.2	
A. Facility Slope and Intervening Terrain	0 1 2 3	2	1	2	3		Facility slope <3%; Terrain average slope >8%. (USGS Jemez Springs 15 minute quadrangle topo, 1952)
B. 1-yr. 24-hr. Rainfall	0 1 2 3	1	1	1	3		1.0 to 2.0 in. (40 CFR 300, App.A, fig. 8)
C. Distance to Nearest Surface Water	0 1 2 3	3	2	6	6		Distance to nearest surface water less than 1000 ft. (USGS Jemez Springs 15 minute quadrangle topo, 1952)
D. Physical State	0 1 2 3	3	1	3	3		Liquid/slurry form.
TOTAL ROUTE CHARACTERISTICS SCORE				12	15		
3. CONTAINMENT	0 1 2 3	3	1	3	3	4.3	No liners.
4. WASTE CHARACTERISTICS						4.4	
Chemical							
A. Toxicity/Persistence	0 3 6 9 12 15 18	18	1	18	18		Arsenic, cadmium, lithium, fluorine.
B. Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	1	8		Quantity assumed to be less than forty drums.
Radioactive							
A. Maximum Observed	0 1 3 7 11 15 21 26	0	1	0	26		
B. Maximum Potential	0 1 3 7 11 15 21 26	0	1	0	26		
TOTAL WASTE CHARACTERISTICS SCORE							
CHEMICAL				19	26		
RADIOACTIVE				0	26		
5. TARGETS						4.5	
A. Surface Water Use	0 1 2 3	2	3	6	9		Recreational use within three miles.
B. Distance to Sensitive Environment	0 1 2 3	0	2	0	6		No sensitive environment within one mile.
C. Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	0	1	0	40		No surface water intake within three miles.
TOTAL TARGETS SCORE				6	55		
6. CALCULATION							
If Line 1 is 45, Multiply 1 x 4 x 5					64350		
If Line 1 is 0, Multiply 2 x 3 x 4 x 5							
		CHEMICAL		4104			
		RADIOACTIVE		0			
7. NORMALIZATION							
Divide Line 6 by 64350 and Multiply by 100							
		CHEMICAL Ssw =		6.38	100.00		NOTE: NE means Not Evaluated.
		RADIOACTIVE Ssw =		0.00	100.00		
		MAXIMUM Ssw =		6.38	100.00		

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APPENDIX C

SUMMARY OF ENVIRONMENTAL MONITORING DATA 1980-1984

LOS ALAMOS NATIONAL LABORATORY

LOS ALAMOS, NEW MEXICO

prepared by

Lars F. Soholt & Thomas E. Buhl
Environmental Surveillance Group
Division of Health, Safety, and Environment

prepared for

U.S. General Accounting Office
Albuquerque, New Mexico

December 1985

INTRODUCTION

Los Alamos National Laboratory is a government-owned and contractor-operated research facility. The Laboratory is operated by the University of California under a contract administered by the Albuquerque Operations Office of the U.S. Department of Energy (DOE). Since its inception, the Laboratory's prime mission has been research and development of nuclear weapons. Programs at the Laboratory include weapons development, magnetic and inertial fusion, nuclear fission, nuclear safeguards and security, and laser isotope separation. There is also basic research into areas of physics, chemistry, and engineering that support these programs. Research on peaceful applications of nuclear energy has included space applications, power reactor programs, radiobiology, and medicine. Other programs include applied photochemistry, astrophysics, earth sciences, energy resources, nuclear fuel safeguards, lasers, computer sciences, solar energy, geothermal energy, biomedical and environmental sciences, and nuclear waste management.

The Laboratory site encompasses about 43 mi^2 on the Pajarito Plateau of Northcentral New Mexico. The site is located about 25 mi northwest of Santa Fe and about 60 mi north-by-northeast of Albuquerque. The communities of Los Alamos and White Rock are situated adjacent to Laboratory boundaries. Approximately 168,000 people reside within a radius of 50 mi of the Laboratory.

ENVIRONMENTAL MONITORING

The Laboratory carries out routine monitoring for radiation, radioactive materials, and chemical substances on the Laboratory site as well as in adjacent and regional environments. The monitoring program aids in fulfilling the Laboratory's policy of protection of the public, employees, and environment from impact caused by Laboratory operations. The monitoring program has been established to document compliance with applicable standards and permit requirements, identify undesirable trends, provide information to the public, and contribute to general environmental knowledge. The results of monitoring are used to determine the need for and the nature of remedial actions necessary to ensure continued protection. The results are reported annually in publicly available reports (Refs. 1-5).

ENVIRONMENTAL REGULATIONS

In 1985, DOE developed new Radiation Protection Standards, and the agency is revising its Concentration Guidelines in accordance with the new standards. Herein, the monitoring results for the five-year period of review (1980-1984) are compared to the the Standards and Guide in effect during that period. These Standards and Guide are discussed below.

Radiation Protection Standard. The DOE regulates radiation exposure to the public from its operations by limiting the radiation dose that a member of the public can receive (Ref. 6). For 1980-1984, the DOE's Radiation Protection Standard limited the annual dose to any member of the public to 500 mrem to whole body, bone marrow, and gonads, and 1500 mrem to any other organ. These doses are in addition to what the individual would normally receive from background radiation and from medical exposures. The average dose to a suitable sample of the exposed population is limited to one third of the dose standard for the maximum exposed individual.

These Standards are based on the recommendations of the International Commission on Radiological Protection and the National Council on Radiation Protection and Measurements.

Concentration Guide. The DOE also has secondary guidelines for radionuclide concentrations in air and water (Ref. 6). These guidelines are the concentrations that would result in a person receiving a dose equal to the Radiation Protection Standard if he were to breath air or drink water having that radionuclide concentration for an entire year. The Concentration Guide is very conservative because it assumes 100% intake of contaminated air or water during the year. This almost never occurs, since most individuals would spend some time at other locations with different air concentrations and mix their water intake with other liquids. The Concentration Guide is secondary to the Radiation Protection Standard, which refers to the actual dose that an individual receives, taking into account not only the concentration in the air or water but how much is actually consumed by the public. The Concentration Guide is compared with radionuclide concentrations in air and water at the site boundary.

In this report, air and water concentrations are compared with the DOE Concentration Guides to provide a perspective on the potential hazards involved. The concentrations for all radionuclides in both air and water in offsite areas are less than 1% of the Concentration

Guide. Actual radiation doses -- which are more basic than the air and water concentrations because they are compared with the Radiation Protection Standard -- are much lower than even these concentrations would imply, because of the limited exposure of the public to air or water with these concentrations.

Maximum Concentration Limits. Under the Safe Drinking Water Act, the Environmental Protection Agency (EPA) has promulgated Maximum Concentration Limits for a large number of parameters in drinking water. Six of the parameters are radioactive -- gross alpha, gross beta, radium-226, radium-228, tritium, and strontium-90. The EPA Maximum Concentration Limits are not effluent limits used to regulate discharges, but are applied at the point of consumption to community drinking water supplies used by a large number of individuals. In contrast to other limits and guides discussed here, the Maximum Concentration Limits do include background concentrations of naturally occurring parameters.

In this report, radionuclide levels measured in the water supply of communities near the Laboratory are compared to the Maximum Concentration Limits. The levels measured in these water supplies were found to be typical of those for most communities in New Mexico, and do not show any effect from Laboratory operations.

Soil Guidelines. There are no concentration guides for radionuclides in soil in the DOE Orders. Several programs have developed guidelines that relate a soil concentration of a particular radionuclide to the DOE Radiation Protection Standard. These analyses are unofficial and carry no regulatory weight, but they do provide useful points of comparison to assess the potential impact of measured radionuclide concentrations in soil.

Herein, soil concentrations are compared to limits recommended for DOE's Formerly Utilized Sites Remedial Action Program (FUSRAP) (Ref. 8). These limits define levels below which the land would be suitable for unrestricted release. The comparison with the soil guidelines must be qualified by remembering the very conservative assumptions that underlie their derivation. These assumptions include a person living on the soil for 70 years, and growing a significant amount of his food in the soil.

Comparing measured soil concentrations with the soil guidelines is conservative and tends to overestimate any potential risk. The basic regulation is comparison of the actual doses with the Radiation Protection Standard, and the actual doses would probably be much smaller since the maximum exposure conditions are seldom realized in practice.

ENVIRONMENTAL DATA SUMMARY

This report has been compiled to summarize the environmental monitoring data collected over the last 5 years at the Laboratory. The data summarized herein are derived from over 84,000 analyses carried out from 1980 to 1984.

Data are presented here as the averages of a number of samples. These estimates have an associated variability or uncertainty which is not presented here for the purpose of clarity. More details on the variability of the data may be found in the Environmental Surveillance Reports (Refs. 1 to 5). Where estimated means fall below zero, the estimates have been assigned a value of zero in the tables that follow. The tables are also annotated to indicate the appropriate standards or guidelines for comparison as well as to identify minimum limits of detection for the analyses.

DOSE ASSESSMENTS

Some incremental radiation doses are received by local residents as a result of Laboratory operations. The maximum annual dose received by a resident during 1980-1984 has been estimated to be about 34 mrem above doses received from natural background, worldwide fallout, and medical procedures. This estimated dose is less than 7% of DOE's Radiation Protection Standard (RPS). The primary source of this dose is airborne and scattered radiation from the linear particle accelerator at the Los Alamos Meson Physics Facility (LAMPF). Estimated doses to the maximally exposed individual are based upon measurements of external penetrating radiation. These measurements have been routinely carried out with a network of 32 to 40 dosimetry stations located principally in Los Alamos County. Other minor exposure pathways exist but contribute only a few millirem per year to doses received by the public.

Total cumulative whole-body dose received by the population within 50 miles of the Laboratory did not exceed 10 person-rem during the five year period. This represents about 0.1% of the doses received annually by the same population from natural and medical diagnostic sources. The average added annual risk of cancer mortality for a resident in Los Alamos County is less than 1 chance in 7,000,000 as a result of Laboratory operations. This compares to a risk of about 1 in 26,000 as a result of exposure to natural background radiation.

SUMMARY OF ESTIMATED ANNUAL DOSES DUE TO LABORATORY OPERATIONS

YEAR	MAXIMUM INDIVIDUAL DOSE (mrem)	%RPS	AVERAGE DOSE NEARBY RESIDENTS (mrem)	%RPS
1980	3	0.6%	1.4	0.28%
1981	5	1.0%	0.7	0.14%
1982	8	1.6%	0.2	0.04%
1983	34	6.8%	0.4	0.08%
1984	31	6.2%	0.5	0.10%

Radiation Protection Standard (RPS)= 500 mrem/year

NOTES:

- Maximum individual dose is calculated as the 50-year commitment due to Laboratory operations to an individual resident nearest the site of maximum exposure potential.

- Estimated cumulative population doses within 50 mi of the Laboratory have ranged from 3 to 10 person-rem from 1980-1984.

EFFLUENT MONITORING DATA

Airborne radioactive emissions were monitored as released from 86 points at the Laboratory. The major source of emissions was the Los Alamos Meson Physics Facility (LAMPF). Increasing operations at LAMPF have resulted in an increasing amount of release of mixed activation products. These products are mostly short-lived (half-lives of 2 to 20 minutes). DOE does not directly regulate the amount of each radionuclide released, but it does regulate the offsite and onsite concentrations through the Concentration Guides. The appropriate Guides are based upon resultant concentrations of radionuclides in the air. The Laboratory's air monitoring program has revealed no concentrations of longer-lived radionuclides exceeding 1% of the Concentration Guides; concentrations of short-lived radionuclides have not exceeded 7% of the Guides. Non-radioactive emissions at the Laboratory have complied with all relevant federal and state air quality regulations.

Liquid effluents containing low levels of radioactivity are routinely released from two waste treatment plants and one sanitary sewage lagoon system. Effluent quality of all discharges has been less than 5% of DOE's Concentration Guide for controlled areas. A single National Pollutant Discharge Elimination System (NPDES) Permit authorizes discharge of non-radioactive effluent from 99 industrial outfalls and 11 sanitary sewage treatment plants. The Laboratory has been in compliance with the requirements of this permit for over 90% of the analyses done on samples collected for compliance monitoring.

ANNUAL RADIOACTIVE AIR EMISSIONS

YEAR	PLUTONIUM (uCi)	URANIUM (uCi)	FISSION PRODUCTS (uCi)	ARGON (Ci)	TRITIUM (Ci)	GASEOUS MIXED ACTIVATION PRODUCTS (Ci)	PARTICLE/VAPOR ACTIVATION PRODUCTS (Ci)
1980	746	790	2191	951	7521	145600	--
1981	57	1273	1544	1360	7225	352340	--
1982	112	1373	1184	342	15856	251000	182
1983	113	888	843	418	7891	461111	2640
1984	140	1205	1617	335	14869	734118	2500

AIR MONITORING DATA

Worldwide background atmospheric radioactivity is composed of fallout from atmospheric nuclear weapons tests, natural radioactive constituents in dust, and radioactive materials resulting from interactions with cosmic radiation. Air is routinely sampled at 26 locations on the Laboratory site, along the Laboratory perimeter, and in distant areas. These samples are used to determine the existence and composition of any contributions to airborne radionuclide levels due to Laboratory operations. Atmospheric concentrations of americium, tritium, plutonium and uranium are routinely measured. Levels of americium and plutonium-238 have regularly been below minimum limits of detection. The highest measured and average concentrations of radionuclides have been much less than 1% of DOE's concentration guides for uncontrolled, offsite areas.

ATMOSPHERIC CONCENTRATIONS OF TRITIATED WATER VAPOR (pCi/m^3)

YEAR	ONSITE	PERIMETER	REGIONAL
1980	17	10	8
1981	9	8	18
1982	34	21	11
1983	17	13	11
1984	19	9	10

Minimum Limit of Detection= 1 pCi/m^3

Concentration Guide= 200,000 pCi/m^3

During the past 5 years, average percentages of the Guide have been less than:

Onsite--0.017% Perimeter--0.011%
Regional--0.009%

NOTES:

- Air sampling networks consist of the following stations sampled quarterly: onsite,11; perimeter, 11; and regional, 3. In 1983, a twelfth station was added to the onsite network.

ATMOSPHERIC CONCENTRATIONS OF PLUTONIUM-239,240 (aCi/m^3)

YEAR	ONSITE	PERIMETER	REGIONAL
1980	7	8	1
1981	8	13	8
1982	3	2	2
1983	2	1	1
1984	3	1	0

Minimum Limit of Detection= 3 aCi/m^3

Concentration Guide= 60,000 aCi/m^3 .

During the past 5 years average percentages of the Guide measured have been less than:

Onsite--0.014% Perimeter--0.022% Regional--0.014%.

NOTES:

- Air sampling networks consist of the following stations sampled quarterly: onsite, 11; perimeter, 11; and regional, 3. In 1983, a twelfth station was added to the onsite network.

ATMOSPHERIC CONCENTRATIONS OF URANIUM (aCi/m^3)

YEAR	ONSITE	PERIMETER	REGIONAL
1980	16	16	20
1981	12	16	9
1982	17	15	20
1983	9	12	13
1984	10	9	13

Minimum Level of Detection= 0.3 aCi/m^3

Concentration Guide= 2,000,000 aCi/m^3

During the past 5 years, average percentages of the Guide measured have been less than 0.001%.

NOTES:

- Air sampling networks consist of the following stations sampled quarterly: onsite,11; perimeter 11; and regional, 3. In 1983, a twelfth station was added to the onsite network.

WATER MONITORING DATA

Surface and ground waters are sampled to monitor dispersion of radionuclides and chemicals from Laboratory operations. The data over the five year period indicate no observable effects of discharge of treated effluent. Water in onsite effluent release areas contains trace amounts of radionuclides in concentrations below DOE's concentration guides for controlled areas. Radiochemical and chemical concentrations vary from year to year but exhibit no trends attributable to Laboratory operations. Although the radiochemical and chemical quality of surface and shallow ground waters in effluent release areas reflects some impact form Laboratory operations, these waters are confined to the Laboratory site and are not a source of municipal, industrial, or agricultural supply. Radionuclide concentrations in the Rio Grande have averaged less than 0.2% of the DOE Concentration Guides.

Municipal and industrial supply for the Laboratory and surrounding communities is drawn from 16 wells and 1 gallery. The radiochemical and chemical quality of these waters are well below the Environmental Protection Agency's National Interim Primary Drinking Water Standards (Ref. 7). The radionuclide concentrations in the local area exhibit ranges similar to other waters of New Mexico. There has been no evidence that Laboratory operations have affected the local municipal water supply.

SURFACE WATER SAMPLING FOR THE RIO GRANDE UPSTREAM AND DOWNSTREAM OF LABORATORY OPERATIONS (pCi/l)

YEAR	PU-239,240	PU-238	URANIUM	TRITIUM	CS-137
1980					
UPSTREAM (6)	0.01	0.000	0.7	300	32
DOWNSTREAM (4)	0.00	0.000	0.9	800	23
1981					
UPSTREAM (6)	0.01	0.007	1.1 (3)	900	20
DOWNSTREAM (4)	0.00	0.002	1.3 (2)	500	17
1982					
UPSTREAM (5)	0.00	0.004	0.9	320	0
DOWNSTREAM (4)	0.00	0.004	1.0	350	10
1983					
UPSTREAM (6)	0.01 (5)	0.000 (5)	1.0	2770	24
DOWNSTREAM (4)	0.01	0.004	1.0	3380	12
1984					
UPSTREAM (6)	0.05	0.023	0.9	700	8
DOWNSTREAM (4)	0.02	0.021	1.3	1700	19
Minimum Limit of Detection	0.03	0.009	0.3	700	4
Concentration Guide	5000	5000	600	3,000,000	20,000

From 1980-1984 concentrations in Rio Grande were less than 0.2% of the Concentration Guides.

NOTES:

- Numbers in parentheses denote the number of samples used to estimate means.
- Sampling arrays consisted of three stations upstream and two stations downstream each sampled semi-annually.

RADIONUCLIDE CONCENTRATIONS IN THE LOS ALAMOS MUNICIPAL WATER SUPPLY SYSTEM (pCi/l)

YEAR	PU-239,240	PU-238	URANIUM	TRITIUM	CESIUM-137
1980 (16)	0.01	0.000	0.8	200	7
1981	0.00 (25)	0.003 (25)	0.7 (14)	1100 (27)	25 (27)
1982 (16)	0.00	0.003	0.7	1300 (15)	0
1983 (16)	0.00	0.000	0.4	400	0
1984 (31)	0.03	0.006	0.9	400	20

NOTES:

- Numbers in parentheses denote number of samples used to estimate means.
- Sampling array consists of 16 stations sampled once in 1980, 1982, and 1983 and once or twice in 1981 and 1984.
- EPA's Maximum Concentration Limits explicitly address only tritium and is set at 20,000 pCi/l. Tritium has reached a maximum of 6.5% of this limit. The other radionuclides are not explicitly covered and uranium is explicitly exempted from the EPA limits for safe drinking water.

SOILS MONITORING DATA

Soil and sediment samples were collected and analyzed for radioactivity to evaluate the effect of Laboratory operations on the local environment. Concentrations of cesium and plutonium have been generally below or near background levels. Concentrations of uranium found at some stations have been attributable to natural occurrence of uranium in the parent-rock from which the soil derived. Concentrations of tritium in offsite soils results from atmospheric washout of worldwide fallout, while higher concentrations of tritium in onsite soils are the result of the Laboratory's airborne emissions. Sediment stations in onsite effluent areas contain radioactivity levels above background. The concentrations are highest near the discharge points and decrease with distance downstream.

CONCENTRATIONS OF TRITIUM IN SOIL WATER (pCi/ml)

YEAR	ONSITE	PERIMETER	REGIONAL
1980	22 (19)	3.4 (8)	1.6 (6)
1981	5.6 (13)	2.1 (6)	2.5 (6)
1982	16 (10)	7.9 (6)	3.3 (7)
1983	4.9 (10)	1.7 (6)	1.9 (6)
1984	11 (10)	3.5 (6)	4.8 (7)

Minimum Limit of Detection= 0.7 pCi/ml

Concentration Guide= 3,000 pCi/ml

During the 5 year period, average percentages of the Guide measured have been less than:

Onsite--0.75% Perimeter--0.26% Regional--0.16%

NOTES:

- Numbers in parentheses represent the number of stations sampled annually to estimate mean concentrations.

CONCENTRATIONS OF CESIUM-137 IN SOILS (pCi/g)

YEAR	ONSITE	PERIMETER	REGIONAL
1980	1.00 (19)	0.98 (8)	0.60 (6)
1981	1.00 (13)	0.95 (6)	0.44 (6)
1982	0.66 (10)	1.25 (6)	0.75 (7)
1983	0.50 (10)	0.62 (6)	0.27 (6)
1984	0.75 (10)	0.80 (6)	0.30 (7)

Minimum Limit of Detection= 0.1 pCi/g

Recommended Soil Guide for Unrestricted Use= 80 pCi/g

During the 5 year period average percentages of the limit have been less than:

Onsite--1.25% Perimeter--1.56%
Regional--0.75%

NOTES:

- Numbers in parentheses represent the number of stations sampled annually to estimate mean concentrations.

CONCENTRATION OF URANIUM IN SOILS (pCi/g)

YEAR	ONSITE	PERIMETER	REGIONAL
1980	1.480 (19)	1.320 (8)	0.790 (6)
1981	--	--	--
1982	1.390 (9)	1.520 (6)	0.924 (7)
1983	1.420 (10)	1.290 (6)	0.891 (6)
1984	1.320 (10)	1.320 (6)	0.858 (7)

Minimum Limit of Detection= 0.009 pCi/g

Recommended Soil Guide for Unrestricted Use= 75 pCi/g

During the 5 year period, average percentages of the limit were less than:

Onsite--2% Perimeter--2%
Regional--1.2%

NOTES:

- Numbers in parentheses represent the number of stations sampled annually to estimate mean concentrations.

CONCENTRATIONS OF PLUTONIUM-238 IN SOILS (pCi/g)

YEAR	ONSITE	PERIMETER	REGIONAL
1980	0.120 (22)	0.000 (10)	0.000 (6)
1981	0.003 (13)	0.002 (6)	0.003 (6)
1982	0.001 (10)	0.002 (6)	0.002 (6)
1983	0.002 (10)	0.001 (6)	0.002 (6)
1984	0.001 (10)	0.001 (6)	0.000 (7)

Minimum Limit of Detection= 0.003 pCi/g

Recommended Soil Guide for Unrestricted Use= 100 pCi/g

During the 5 year period, average percentages of this limit were less than:

Onsite--0.12% Perimeter--0.002%
Regional--0.003%

NOTES:

- Numbers in parentheses represent the number of stations sampled annually to estimate mean concentrations.

CONCENTRATIONS OF PLUTONIUM-239,240 IN SOILS (pCi/g)

YEAR	ONSITE	PERIMETER	REGIONAL
1980	0.089 (22)	0.048 (10)	0.009 (6)
1981	0.030 (13)	0.054 (6)	0.028 (6)
1982	0.055 (10)	0.048 (6)	0.011 (6)
1983	0.018 (10)	0.011 (6)	0.003 (6)
1984	0.022 (10)	0.002 (6)	0.008 (7)

Minimum Limit of Detection= 0.002 pCi/g

Recommended Soil Guide for Unrestricted Use= 100 pCi/g

During the 5 year period, average percentages of the limit were less than:

Onsite--0.09% Perimeter--0.06%
Regional--0.03%

NOTES:

- Numbers in parentheses represent the number of stations sampled annually to estimate mean concentrations.

REFERENCES

1. Environmental Surveillance Group, "Environmental Surveillance at Los Alamos during 1980," Los Alamos National Laboratory report LA-8810-ENV (April 1981).

2. Environmental Surveillance Group, "Environmental Surveillance at Los Alamos during 1981," Los Alamos National Laboratory report LA-9349-ENV (April 1982).

3. Environmental Surveillance Group, "Environmental Surveillance at Los Alamos during 1982," Los Alamos National Laboratory report LA-9762-ENV (April 1983).

4. Environmental Surveillance Group, "Environmental Surveillance at Los Alamos during 1983," Los Alamos National Laboratory report LA-10100-ENV (April 1984).

5. Environmental Surveillance Group, "Environmental Surveillance at Los Alamos during 1984," Los Alamos National Laboratory report LA-10421-ENV (April 1985).

6. U.S. Department of Energy, "Chapter XI, Requirements for Radiation Protection," In: Environmental Protection, Safety and Health Protection Program for Department of Energy Operations, Department of Energy Order 5480.1 (August 1981).

7. U.S. Environmental Protection Agency, "Title 40, Code of Federal Regulations, Section 141," (January 1985).

8. U.S. Department of Energy, "Radiological Guidelines for Application to DOE's Formerly Utilized Sites Remedial Action Program," Oak Ridge Operations report ORO-831 (March 1983).

APPENDIX D

DESCRIPTION OF HAZARDOUS WASTES

The table in this appendix is included in "RCRA Part B Permit Application," Vol. II, Los Alamos National Laboratory, Project No. 301017, January 1986 (Rev. November 1986).

DESCRIPTION OF HAZARDOUS WASTES

EPA Hazardous Waste Number	Estimated Annual Quantity of Waste (lb)	Process/Disposal Codes (1)	Waste Type for Segregation (2)	Waste Materials (3)
P001	250(4)	S01	O	Warfarin (H)
P002	250(4)	S01	O	1-Acetyl-2-thiourea (H)
P003	250(4)	S01	O	Acrolein (H)
P004	250(4)	S01	O	Aldrin (H)
P005	250(4)	S01	O	Allyl alcohol (H)
P006	250(4)	S01, T04	R	Aluminum phosphide (H)
P007	250(4)	S01	O	Muscimol (H)
P008	250(4)	S01	O	4-Aminopyridine (H)
P009	250(4)	S01, T04	R	Ammonium picrate (R)
P010	250(4)	S01	M	Arsenic acid (H)
P011	250(4)	S01	M	Arsenic pentoxide (H)
P012	250(4)	S01	M	Arsenic trioxide (H)
P013	250(4)	S01, T01	M	Barium cyanide (H)
P014	250(4)	S01	O	Benzenethiol (H)
P015	6000	S01	M	Beryllium dust (H)
P016	250(4)	S01	O	Bis(chloromethyl) ether (H)
P017	250(4)	S01	O	Bromoacetone (H)
P018	250(4)	S01	O	Brucine (H)
P020	250(4)	S01	O	Dinoseb (H)
P021	250(4)	S01, T01	M	Calcium cyanide (H)
P022	250(4)	S01, T04	O	Carbon bisulfide (H)
P023	250(4)	S01	O	Chloroacetaldehyde (H)
P024	250(4)	S01	O	p-Chloroaniline (H)
P026	250(4)	S01	O	1-(o-Chlorophenyl) thiourea (H)
P027	250(4)	S01	O	3-Chloropropionitrile (H)
P028	250(4)	S01	O	Chloromethylbenzene (H)
P029	250(4)	S01, T01	M	Copper cyanide (H)
P030	250(4)	S01, T01	M	Cyanide salts (H)
P031	250(4)	S01, T04	M	Cyanogen (H)
P033	250(4)	S01, T04	M	Cyanogen chloride (H)
P034	250(4)	S01	O	2-Cyclohexyl-4,6-dinitrophenol (H)
P036	250(4)	S01	O	Dichlorophenylarsine (H)
P037	250(4)	S01	O	Dieldrin (H)
P038	250(4)	S01	O	Diethylarsine (H)
P039	250(4)	S01	O	Disulfoton (H)
P040	250(4)	S01	O	Thionazin (H)
P041	250(4)	S01	O	Paraoxon (H)
P042	250(4)	S01	O	Epinephrine (H)
P043	250(4)	S01	A	Isoflurophate (H)
P044	250(4)	S01	O	Dimethoate (H)
P045	250(4)	S01	O	Thiofanox (H)
P046	250(4)	S01	O	Phentermine (H)
P047	250(4)	S01	O	Dinitrocresol (H)
P048	250(4)	S01	O	2,4-Dinitrophenol (H)
P049	250(4)	S01	O	2,4-Dithiobiuret (H)
P050	250(4)	S01	O	Endosulfan (H)
P051	250(4)	S01	O	Endrin (H)
P054	250(4)	S01, T01, T04	O	Ethylenimine (H)
P056	250(4)	S01, T04	G	Fluorine (H)
P057	250(4)	S01	O	Fluoroacetamide (H)
P058	250(4)	S01	O	Fluoroacetic acid, sodium salt (H)
P059	250(4)	S01	O	Heptachlor (H)
P060	250(4)	S01	O	Hexachlorohexahydro-exo, (H) exo-dimethanonaphthalene

EPA Hazardous Waste Number	Estimated Annual Quantity of Waste (lb)	Process/Disposal Codes (1)	Waste Type for Segregation (2)	Waste Materials (3)
P062	250(4)	S01	A	Tetraphosphoric acid, hexaethyl ester (H)
P063	250(4)	S01, T04	CN	Hydrogen cyanide (H)
P064	250(4)	S01, T04	A	Isocyanic acid, methyl ester (H)
P065	250(4)	S01, T04	R	Mercury fulminate (R, T)
P066	250(4)	S01	O	Methomyl (H)
P067	250(4)	S01	O	1,2-Propylenimine (H)
P068	250(4)	S01	O	Methylhydrazine (H)
P069	250(4)	S01, T04	CN	2-Methyllactonitrile (H)
P070	250(4)	S01	O	Aldicarb (H)
P071	250(4)	S01, T04	O	Methyl parathion (H)
P072	250(4)	S01	O	2-Naphthylthiourea (H)
P073	250(4)	S01, T01, T04	M	Nickel tetracarbonyl (H)
P074	250(4)	S01, T01	CN	Nickel cyanide (H)
P075	250(4)	S01	O	Nicotine and salts (H)
P076	250(4)	S01, T01, T04	G	Nitric oxide (H)
P077	250(4)	S01, T04	O	p-Nitroaniline (H)
P078	250(4)	S01, T01	G	Nitrogen dioxide (H)
P081	250(4)	S01, T04	R	Nitroglycerine (R)
P082	250(4)	S01	O	Dimethylnitrosamine (H)
P084	250(4)	S01	O	N-Nitrosomethylvinylamine (H)
P085	250(4)	S01	O	Schradan (H)
P087	250(4)	S01	M	Osmium tetroxide (H)
P088	250(4)	S01	O	Endothall (H)
P089	250(4)	S01	O	Parathion (H)
P092	250(4)	S01	M	Phenyulmecuric acetate (H)
P093	250(4)	S01, T03	O	N-Phenylthiourea (H)
P094	250(4)	S01, T03	O	Phorate (H)
P095	250(4)	S01, T03	O	Phosgene (H)
P096	250(4)	S01, T04	G	Phosphine (H)
P097	250(4)	S01, T03	O	Famphur (H)
P098	250(4)	S01, T01	CN	Potassium cyanide (H)
P099	250(4)	S01, T01	CN	Potassium silver cyanide (H)
P101	250(4)	S01, T03	CN	Acrylonitrile (H)
P102	250(4)	S01, T03	O	Propargyl alcohol (H)
P103	250(4)	S01, T03	M	Selenourea (H)
P104	250(4)	S01, T01	CN	Silver cyanide (H)
P105	250(4)	S01	O	Sodium azide (H)
P106	250(4)	S01, T01	CN	Sodium cyanide (H)
P107	250(4)	S01, T04	S	Strontium sulfide (H)
P108	250(4)	S01, T03	O	Strychnidin-10-one, and salts (H)
P109	250(4)	S01, T03	O	Sulfotepp (H)
P110	250(4)	S01, T03	O	Tetraethyl lead (H)
P111	250(4)	S01, T03	O	Tetraethyl pyrophosphate(H)
P112	250(4)	S01, T03, T04	R	Tetranitromethane (R)
P113	250(4)	S01	M	Thallic oxide (H)
P114	250(4)	S01	M	Thallium selenite (H)
P115	250(4)	S01	M	Thallium sulfate (H)
P116	250(4)	S01	O	Thiosemicarbazide (H)
P118	250(4)	S01, T03	O	Trichloromethanethiol (H)
P119	250(4)	S01	A	Vanadic acid, ammonium salt (H)
P120	250(4)	S01	M	Vanadium pentoxide (H)
P121	250(4)	S01, T01	CN	Zinc cyanide (H)
P122	250(4)	S01, T04	R	Zinc phosphide (R, T)
P123	250(4)	S01, T03	O	Toxaphene (H)

EPA Hazardous Waste Number	Estimated Annual Quantity of Waste (lb)	Process/Disposal Codes (1)	Waste Type for Segregation (2)	Waste Materials (3)
U001	250(4)	S01, T03	O	Acetaldehyde (I)
U002	1000	S01, T03	O	Acetone (I)
U003	250(4)	S01, T03	O	Acetonitrile (I, T)
U004	250(4)	S01, T03	O	Acetophenone (T)
U005	250(4)	S01	O	2-Acetylaminofluorene (T)
U006	250(4)	S01, T04	R	Acetyl chloride (C, R, T)
U007	250(4)	S01, T03	O	Acrylamide (T)
U008	250(4)	S01, T03, T04	A	Acrylic acid (I)
U009	250(4)	S01, T03	O	Acrylonitrile (T)
U010	250(4)	S01, T03	O	Mytomycin-C (T)
U011	250(4)	S01, T03	O	Amitrole (T)
U012	250(4)	S01, T03	O	Aniline (I, T)
U014	250(4)	S01, T03	O	Auramine (T)
U015	250(4)	S01, T03	O	Azaserine (T)
U016	250(4)	S01, T03	O	3,4-Benzacridine (T)
U017	250(4)	S01, T03	O	Benzal chloride (T)
U018	250(4)	S01, T03	O	1,2-Benzanthracene (T)
U019	250(4)	S01	O	Benzene (I, T)
U020	250(4)	S01, T03, T04	R	Benzenesulfonyl chloride (C, R)
U021	250(4)	S01, T03	O	Benzidine (T)
U022	250(4)	S01, T03	O	3,4-Benzopyrene (T)
U023	250(4)	S01, T03, T04	R	Benzotrichloride (C, R, T)
U024	250(4)	S01, T03	O	Bis(2-chloroethoxy) methane (T)
U025	250(4)	S01, T03	O	Dichloroethyl ether (T)
U026	250(4)	S01, T03	O	Chlornaphazine (T)
U027	250(4)	S01, T03	O	2,2 Oxybis-2-chloropropane (T)
U028	250(4)	S01, T03	O	Bis(2-ethylhexyl) phthalate (T)
U029	250(4)	S01, T03	G	Methyl bromide (T)
U030	250(4)	S01, T03	O	4-Bromophenyl phenyl ether (T)
U031	250(4)	S01, T03	O	n-Butyl alcohol (I)
U032	250(4)	S01, T01	M	Calcium chromate (T)
U033	250(4)	S01, T04	G	Carbon oxyfluoride (R, T)
U034	250(4)	S01, T03	O	Chloral (T)
U035	250(4)	S01, T03	O	Chlorambucil (T)
U036	250(4)	S01, T03	O	Chlordane (T)
U037	250(4)	S01, T03	O	Chlorobenzene (T)
U038	250(4)	S01, T03	O	Chlorobenzilate (T)
U039	250(4)	S01, T03	O	4-chloro-m-cresol (T)
U041	250(4)	S01, T03	O	Epichlorohydrin (T)
U042	250(4)	S01, T03, T04	O	Chloroethyl vinyl ether (T)
U043	250(4)	S01, T04	G	Chloroethene (T)
U044	1000	S01, T03	O	Chloroform (T)
U045	250(4)	S01, T04	G	Methyl chloride (I, T)
U046	250(4)	S01, T03	O	Chloromethoxymethane (T)
U047	250(4)	S01, T03	O	-Chloronaphthalene (T)
U048	250(4)	S01, T03	O	o-Chlorophenol (T)
U049	250(4)	S01, T03	O	4-Chloro-o-toluidine, hydrochloride (T)
U050	250(4)	S01, T03	O	Chrysene (T)
U051	250(4)	S01, T03	O	Creosote (T)
U052	250(4)	S01, T03	O	Cresols (T)
U053	250(4)	S01, T03	O	Crotonaldehyde (T)
U055	250(4)	S01, T03	O	Cumene (I)
U056	250(4)	S01, T03	O	Cyclohexane (I)

EPA Hazardous Waste Number	Estimated Annual Quantity of Waste (lb)	Process/Disposal Codes (1)	Waste Type for Segregation (2)	Waste Materials (3)
U057	250(4)	S01, T03	O	Cyclohexanone (I)
U058	250(4)	S01, T03	O	Cyclophosphamide (T)
U059	250(4)	S01, T03	O	Daunomycin (T)
U060	250(4)	S01, T03	O	DDD (T)
U061	250(4)	S01, T03	O	DDT (T)
U062	250(4)	S01, T03	O	Diallate (T)
U063	250(4)	S01, T03	O	Dibenzanthracene (T)
U064	250(4)	S01, T03	O	Dibenzopyrene (T)
U066	250(4)	S01, T03	O	1,2-Dibromo-3-chloropropane (T)
U067	250(4)	S01, T03	O	Ethylene dibromide (T)
U068	250(4)	S01, T03	O	Methylene bromide (T)
U069	250(4)	S01, T03	O	Dibutyl phthalate (T)
U070	250(4)	S01, T03	O	o-Dichlorobenzene (T)
U071	250(4)	S01, T03	O	m-Dichlorobenzene (T)
U072	250(4)	S01, T03	O	p-Dichlorobenzene (T)
U073	250(4)	S01, T03	O	3,3-Dichlorobenzidine (T)
U074	250(4)	S01, T03	O	1,4-Dichloro-2-butene (T, I)
U075	250(4)	S01, T04	G	Dichlorodifluoromethane (T)
U076	250(4)	S01, T03	O	1,1-Dichloroethane (T)
U077	250(4)	S01, T03	O	Ethylene dichloride (T)
U078	250(4)	S01, T03	O	1,1-Dichloroethylene (T)
U079	250(4)	S01, T03	O	1,2-Dichloroethylene (T)
U080	3000	S01, T03	O	Dichloromethane (T)
U081	250(4)	S01, T03	O	2,4-Dichlorophenol (T)
U082	250(4)	S01, T03	O	2,6-Dichlorophenol (T)
U083	250(4)	S01, T03	O	1,2-Dichloropropane (T)
U084	250(4)	S01, T03	O	1,3-Dichloropropene (T)
U085	250(4)	S01, T03	O	1,2:3,4-Diepoxybutane (I, T)
U086	250(4)	S01, T03	O	N,N-Diethylhydrazine (T)
U087	250(4)	S01, T03	O	O,O-Diethyl-s-methyl-dithiophosphate (T)
U088	250(4)	S01, T03	O	Diethyl phthalate (T)
U089	250(4)	S01, T03	O	Diethylstilbestrol (T)
U090	250(4)	S01, T03	O	Dihydrosafrole (T)
U091	250(4)	S01, T03	O	3,3-Dimethoxybenzidine (T)
U092	250(4)	S01, T04	O	Dimethylamine (I)
U093	250(4)	S01, T03	O	Dimethylaminoazobenzene (T)
U094	250(4)	S01, T03	O	7,12-Dimethylbenzanthracene (T)
U095	250(4)	S01, T03	O	3,3-Dimethylbenzidine (T)
U096	250(4)	S01, T03	R	- -Dimethylbenzylhydroperoxide (R)
U097	250(4)	S01, T03	O	Dimethylcarbamoyl chloride (T)
U098	250(4)	S01, T03	O	1,1-Dimethylhydrazine (T)
U099	250(4)	S01, T03	O	1,2-Dimethylhydrazine (T)
U101	250(4)	S01, T03	O	2,4-Dimethylphenol (T)
U102	250(4)	S01, T03	O	Dimethyl phthalate (T)
U103	250(4)	S01, T03	O	Dimethyl sulfate (T)
U105	250(4)	S01, T03	O	2,4-Dinitrotoluene (T)
U106	250(4)	S01, T03	O	2,6-Dinitrotoluene (T)
U107	250(4)	S01, T03	O	Di-n-octyl phthalate (T)
U108	250(4)	S01, T03	O	1,4-Dioxane (T)
U109	250(4)	S01, T03	O	1,2-Diphenylhydrazine (T)
U110	250(4)	S01, T03	O	Dipropylamine (I)
U111	250(4)	S01, T03	O	Di-n-propylnitrosamine (T)
U112	250(4)	S01, T03, T04	O	Ethyl acetate (I)

EPA Hazardous Waste Number	Estimated Annual Quantity of Waste (lb)	Process/Disposal Codes (1)	Waste Type for Segregation (2)	Waste Materials (3)
U113	250(4)	S01, T03, T04	O	Ethyl acrylate (I)
U114	250(4)	S01, T03	O	1,2 Ethanediylbiscarbamodithioc acid (T)
U115	250(4)	S01, T03, T04	O	Ethylene oxide (I, T)
U116	250(4)	S01, T03	O	Ethylene thiourea (T)
U117	250(4)	S01, T03, T04	O	Ethyl ether (I)
U118	250(4)	S01, T03, T04	O	Ethyl methacrylate (T)
U119	250(4)	S01, T03	O	Ethyl methanesulfonate (T)
U120	250(4)	S01, T03	O	Benzo(j,k)fluorene (T)
U121	250(4)	S01	O	Trichlorofluoromethane (T)
U122	250(4)	S01, T03	G	Formaldehyde (T)
U123	250(4)	S01	A	Formic acid (C, T)
U124	250(4)	S01, T03	O	Furan (I)
U125	250(4)	S01, T03	O	Furfural (I)
U126	250(4)	S01, T03	O	Glycidylaldehyde (T)
U127	250(4)	S01, T03	O	Hexachlorobenzene (T)
U128	250(4)	S01, T03	O	Hexachlorobutadiene (T)
U129	250(4)	S01, T03	O	Hexachlorocyclohexane (T)
U130	250(4)	S01, T03	O	Hexachloropentadiene (T)
U131	250(4)	S01, T03	O	Hexachloroethane (T)
U132	250(4)	S01, T03	O	Hexachlorophene (T)
U133	250(4)	S01, T03, T04	R	Hydrazine (R, T)
U134	250(4)	S01, T01, T04,	G	Hydrogen fluoride (C, T)
U135	250(4)	S01, T04	G	Hydrogen sulfide (T)
U136	250(4)	S01	A	Cacodylic acid (T)
U137	250(4)	S01, T03	O	Indeno (1,2,3) pyrene (T)
U138	250(4)	S01, T03	O	Methyl iodide (T)
U139	250(4)	S01, T03	O	Iron dextran (T)
U140	250(4)	S01, T03	O	Isobutyl alcohol (I, T)
U141	250(4)	S01, T03	O	Isosafrole (T)
U142	250(4)	S01, T03	O	Kepone (T)
U143	250(4)	S01, T03	O	Lasiocarpine (T)
U144	250(4)	S01	M	Lead acetate (T)
U145	250(4)	S01	M	Lead phosphate (T)
U146	250(4)	S01	M	Lead subacetate (T)
U147	250(4)	S01, T03	O	Maleic anhydride (T)
U148	250(4)	S01, T03	O	Maleic hydrazide (T)
U149	250(4)	S01, T03	O	Malononitrile (T)
U150	250(4)	S01, T03	O	Melphalan (T)
U151	250(4)	S01, T03	M	Mercury (T)
U152	250(4)	S01	O	Methacrylonitrile (I, T)
U153	250(4)	S01, T03	G	Methanethiol (I, T)
U154	250(4)	S01, T03	O	Methanol (I)
U155	250(4)	S01, T03	O	Methapyrilene (T)
U156	250(4)	S01, T03	O	Methyl chlorocarbonate (I, T)
U157	1000	S01, T03	O	3-Methylcholanthrene (T)
U158	250(4)	S01, T03	O	4,4-Methylenebis[2-chloroaniline] (T)
U159	1000	S01, T03	O	Methyl ethyl ketone (I, T)
U160	250(4)	S01, T03, T04	R	Methyl ethyl ketone peroxide (R, T)
U161	250(4)	S01, T03	O	Methyl isobutyl ketone (I)
U162	250(4)	S01, T03	O	Methyl methacrylate (I, T)
U163	250(4)	S01, T03	O	N-Methyl-N-nitro-nitrosoguanidine (T)
U164	250(4)	S01, T03	O	Methylthiouracil (T)

DESCRIPTION OF HAZARDOUS WASTES (Continued)

EPA Hazardous Waste Number	Estimated Annual Quantity of Waste (lb)	Process/Disposal Codes (1)	Waste Type for Segregation (2)	Waste Materials (3)
U165	250(4)	S01, T03	O	Naphthalene (T)
U166	250(4)	S01, T03	O	1,4-Naphthalenedione (T)
U167	250(4)	S01, T03	O	1-Naphthylamine (T)
U168	250(4)	S01, T03	O	2-Naphthylamine (T)
U169	250(4)	S01, T03	O	Nitrobenzene (I, T)
U170	250(4)	S01, T03	O	p-Nitrophenol (T)
U171	250(4)	S01, T03	O	2-Nitropropane (I)
U172	250(4)	S01, T03	O	N-Nitrosodi-n-butylamine (T)
U173	250(4)	S01, T03	O	N-Nitrosodiethanolamine (T)
U174	250(4)	S01, T03	O	N-Nitrosodiethylamine (T)
U176	250(4)	S01, T03	O	N-Nitroso-N-ethylurea (T)
U177	250(4)	S01, T03	O	N-Nitroso-N-methylurea (T)
U178	250(4)	S01, T03	O	N-Nitroso-N-methylurethane (T)
U179	250(4)	S01, T03	O	N-Nitrosopiperidine (T)
U180	250(4)	S01, T03	O	N-Nitrosopyrrolidine (T)
U181	250(4)	S01, T03	O	2-Methyl-5-nitrobenzenamine (T)
U182	250(4)	S01, T03	O	Paraldehyde (T)
U183	250(4)	S01, T03	O	Pentachlorobenzene (T)
U184	250(4)	S01, T03	O	Pentachloroethane (T)
U185	250(4)	S01, T03	O	Pentachloronitrobenzene (T)
U186	250(4)	S01, T03	O	1,3-Pentadiene (I)
U187	250(4)	S01, T03	O	Phenacetin (T)
U188	250(4)	S01, T03	O	Phenol (T)
U189	250(4)	S01, T03, T04	R	Phosphorous sulfide (R)
U190	250(4)	S01, T03	O	Phthalic anhydride (T)
U191	250(4)	S01, T03	O	2-Picoline (T)
U192	250(4)	S01, T03	O	Pronamide (T)
U193	250(4)	S01, T03	O	1,3-Propane sulfone (T)
U194	250(4)	S01, T03	O	n-Propylamine (I, T)
U196	250(4)	S01, T03	O	Pyridine (T)
U197	250(4)	S01, T03	O	p-Benzoquinone (T)
U200	250(4)	S01, T03	O	Reserpine (T)
U201	250(4)	S01, T03	O	Resorcinol (T)
U202	250(4)	S01, T03	O	Saccharin and salts (T)
U203	250(4)	S01, T03	O	Safrole (T)
U204	250(4)	S01	M	Selenious acid (T)
U205	250(4)	S01, T04	R	Selenium disulfide (R, T)
U206	250(4)	S01, T03	O	Streptozotocin (T)
U207	250(4)	S01, T03	O	1,2,4,5-Tetrachlorobenzne (T)
U208	250(4)	S01, T03	O	1,1,1,2-Tetrachloroethane (T)
U209	250(4)	S01, T03	O	1,1,2,2-Tetrachloroethane (T)
U210	500(4)	S01, T03	O	Tetrachloroethylene (T)
U211	250(4)	S01, T03	O	Carbon tetrachloride (T)
U212	250(4)	S01, T03	O	2,3,4,6-Tetrachlorophenol (T)
U213	250(4)	S01, T03, T04	O	Tetrahydrofuran (I)
U214	250(4)	S01, T03	M	Thallium acetate (T)
U215	250(4)	S01	M	Thallium carbonate (T)
U216	250(4)	S01	M	Thallium chloride (T)
U217	250(4)	S01, T04	M	Thallium nitrate (T)
U218	250(4)	S01, T03	O	Thioacetamide (T)
U219	250(4)	S01	O	Thiourea (T)
U220	1000	S01, T03	O	Toluene (T)

DESCRIPTION OF HAZARDOUS WASTES (Continued)

EPA Hazardous Waste Number	Estimated Annual Quantity of Waste (lb)	Process/Disposal Codes (1)	Waste Type for Segregation (2)	Waste Materials (3)
U221	250(4)	S01, T03	O	Toluenediamine (T)
U222	250(4)	S01, T03	O	o-Toluidine hydrochloride (T)
U223	1000	S01, T03	R	Toluene diisocyanate (R, T)
U225	250(4)	S01, T03	O	Bromoform (T)
U226	1500	S01, T03	O	1,1,1-Trichloroethane (T)
U227	250(4)	S01, T03	O	1,1,2-Trichlorethane (T)
U228	2000	S01, T03	O	Trichloroethylene (T)
U230	250(4)	S01, T03	O	2,4,5-Trichlorophenol (T)
U231	250(4)	S01, T03	O	2,4,6-Trichlorophenol (T)
U232	250(4)	S01, T03	O	2,4,5-Trichlorophenoxyacetic acid (T)
U233	250(4)	S01, T03	O	Silvex (T)
U234	250(4)	S01, T04	R	syn-Trinitrobenzene (R, T)
U235	250(4)	S01, T03	O	Tris (2,3-dibromopropyl) phosphate (T)
U236	250(4)	S01, T03	O	Trypan blue (T)
U237	250(4)	S01, T03	O	Uracil mustard (T)
U238	250(4)	S01, T03	O	Ethyl carbamate (T)
U239	1000	S01, T03	O	Xylene (I)
U240	250(4)	S01, T03	O	2,4-D, salts and esters (T)
U242	250(4)	S01, T03	O	Pentachlorophenol (T)
U243	250(4)	S01, T03	O	Hexachloropropene (T)
U244	250(4)	S01, T03	O	Thiram (T)
U246	250(4)	S01	M	Bromine cyanide (T)
U247	250(4)	S01, T03	O	Methoxychlor (T)

(1)S01 - Temporary Storage; T01 - Tank Treatment; T03 - Incineration; T04 - Thermal Treatment

(2)O - Organic Solvent Waste; R - Reactive Metals and Compounds; M - Non-reactive Metals, Salts and Compounds; A - Acids; CN - Cyanide Waste; G - Gases

(3)Potential hazardous property of a waste material cited is indicated as follows: (T) toxic; (I) ignitable; (R) reactive; (C) corrosive; (H) acutely hazardous

(4)Waste is generated in lab pack quantities only.