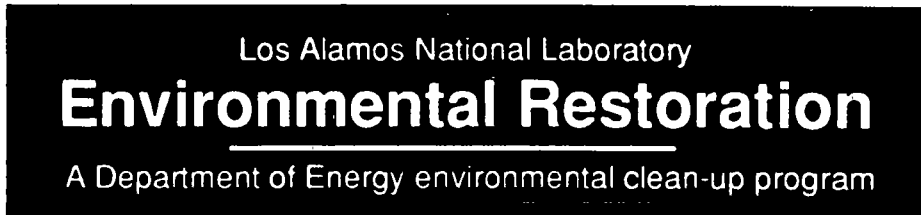


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SOLID WASTE MANAGEMENT UNITS

REPORT

Los Alamos Environmental Restoration
Records Processing Facility



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Los Alamos National Laboratory

Revised November 1990

VOL I of IV
(TA-0 through TA-9)

LAUR 90-3400

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Los Alamos National Laboratory
Environmental Restoration

A Department of Energy environmental clean-up program

**SOLID WASTE MANAGEMENT UNITS
REPORT**

Los Alamos National Laboratory

Revised November 1990

VOL I of IV
(TA-0 through TA-9)

Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

memorandum

TO: Distribution

DATE: March 18, 1991

THRU: Robert Vocke, ^{RV} Group Leader

MAIL STOP/TELEPHONE: K481/5-0226

FROM: Robert L. Gonzales, ^{for MS} Tech. Team Leader

SYMBOL: HSE-13:91:207

SUBJECT: **SOLID WASTE MANAGEMENT UNIT REPORT**

Attached is a copy of the Solid Waste Management Unit (SWMU) Report (November, 1990) for your use. We are encouraging Division Offices to provide copies of appropriate sections (Technical Areas) of the report to their Group Offices. This report has a control number for HSE-13 tracking and updating purposes. However, this report is not being issued as a controlled document. We are in the process of mapping the SWMU's in our ARC INFO Geographic Information System, which will be electronically available to Laboratory users in the near future.

Thank you for your cooperation in this request. If you have any questions regarding this material, please call me at 5-0226.

RG:RV:am

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S. Byrnes, PA-DO, MS A118
G. Kwei, PS-DO, MS P280
D. Cobb, SST-DO, MS D455
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M. Poling, ENG-2, MS K319
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J. Parkinson, WX-3, MS C930
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E. Eastburn, ENG-4, MS M706
P. Padilla, ENG-7, MS M703
T. Bush, ENG-6, MS D451
J. Straight, M-8, MS J960

J. Stump, UASO, MS A199

Cy: RPF, MS M707

**SOLID WASTE MANAGEMENT UNITS REPORT
LOS ALAMOS NATIONAL LABORATORY
REVISED NOVEMBER 1990**

by

**International Technology Corporation
5301 Central Ave. N.E., Suite 700
Albuquerque, New Mexico 87108**

**Contract Number
9-XS8-0062R-1**

**Los Alamos National Laboratory
Health, Safety, and Environment Division
Los Alamos, New Mexico**

INTRODUCTION

This report describes the Solid Waste Management Units (SWMUs) that have been identified at the Los Alamos National Laboratory, Los Alamos, New Mexico, up to September 30, 1990. It includes descriptions of SWMUs on the active portions of the facility and of SWMUs in areas that have been decommissioned and are no longer in use by the laboratory.

The nature of the research activities conducted at LANL during and since World War II has resulted in a large number of SWMUs of virtually all types. Research activities are conducted at designated technical areas (TAs) located throughout the 43 square-mile facility. Figure I-1 shows the locations of the technical areas within the LANL boundaries. As a comprehensive effort, this report examines all TAs within the facility boundary, in addition to (although not required) noncontiguous TAs and areas previously owned by the Department of Energy (DOE) and the Atomic Energy Commission (AEC) in Los Alamos, but now under different ownership (e.g., Los Alamos County, U.S. Forest Service). TA-17, -34, -38 and -58 are designated areas at LANL but were not constructed and, therefore, are not addressed in this report.

REGULATORY BACKGROUND

The U.S. Environmental Protection Agency (EPA) derives authority from the Resource Conservation and Recovery Act (RCRA), Section 3008(h), to issue "corrective action orders" and require other action by owners and operators in response to releases of hazardous waste or constituents from interim status treatment, storage, and disposal facilities. The definition of release is broadly interpreted by EPA to include any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment. Routine and systematic releases are considered by EPA to constitute waste management, regardless of whether the release is deliberate or unintentional. Waste management units from which such releases have occurred, as well as areas contaminated by releases, are considered solid waste management units (SWMUs).

Thus, a facility seeking an operating permit or post-closure permit must perform corrective action for all releases of hazardous waste or constituents into virtually any environmental

medium from a SWMU located within the property boundary. If corrective action is not completed by the time a permit is issued, Section 3004(u) of RCRA provides that the permit may be issued, but must include corrective action compliance schedules. The compliance schedule can consist of a schedule for completing corrective action, or a schedule for gathering the information necessary to determine the appropriate corrective action. When the permit is modified at a later date to incorporate more specific corrective action, the modification is considered a major modification and subject to public participation requirements.

The corrective action process can be divided into four phases: site assessment, remedial investigations, development of proposed corrective actions, and selecting and performing corrective actions.

This report fulfills the first phase of this process and is responsive to EPA regulations at 40 CFR 270.14(d), which require that applicants for operating or post-closure permits submit "reasonably available" information identifying SWMUs at the facility and their potential for or extent of release. Specific information requirements are:

- The location of the unit on a topographic map
- Designation of the type of unit
- General dimensions and structural description (including available drawings)
- Period of operation
- Specification of all wastes that have been managed at the unit, to the extent available.

Extensive information on solid waste management units located at Los Alamos National Laboratory (LANL) has been submitted to or compiled by EPA previously. LANL has provided information in a different format to the New Mexico Environmental Improvement Division (NMEID) and EPA Region VI as part of Phase I (preremediation activities) of its Comprehensive Environmental Assessment and Response Program (CEARP) conducted under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (DOE, 1987). Additional information was collected by A. T. Kearney, Inc. under contract to EPA, and resulted in completion of a RCRA Facility Assessment (RFA) for the facility (EPA Contract No. 68-01-7374) (Kearney, 1987). Finally, a report describing solid

waste management units located at the facility was submitted to the NMEID and EPA Region VI in December 1988.

This report is a revision of the Solid Waste Management Units Report submitted in 1988. This report will be revised and updated as required by the RCRA operating permit. This revision incorporates new data that have been collected by the Environmental Restoration (ER) Program at LANL. These data provide additional information on previously identified SWMUs and are used to identify and describe new SWMUs. This report revision represents a significant increase in the number of SWMUs at LANL. The SWMUs included in this report are those that were identified, reviewed, and approved by LANL and DOE representatives up to September 30, 1990. New SWMUs identified after this date will be included in the next revision to this report. The report is, therefore, a complete compilation of currently available information specifically directed toward the requirements of 40 CFR 270.14(d).

In addition to addressing the requirements of 40 CFR 270, this report will serve as a basis for RFI work plans developed by the Environmental Restoration Program. The ER program is a comprehensive program responsible for implementing the corrective actions specified in the permit including resource planning, site characterization, and corrective measures. Characterization of the SWMUs listed in this report will be addressed in the work plans that will document and provide rationale for the degree of sampling activities at each SWMU. Some SWMUs will require extensive sampling, while sampling at other SWMUs may be very limited.

In addition, about 285 potential release sites were identified during research for the 1990 SWMU report revision. These potential release sites do not fall under the definition of solid waste management units; however, they are areas of environmental concern and will be investigated in Environmental Restoration Program activities. These sites are listed in Appendix C to this report.

IDENTIFICATION OF SOLID WASTE MANAGEMENT UNITS

The definition of a Solid Waste Management Unit (SWMU) used in this report is that given in the "Special Conditions Pursuant to the 1984 Hazardous and Solid Waste Amendments to RCRA" section of LANL's final permit. This definition conforms to the SWMU definition

presented in the proposed subpart S to the RCRA regulations in 40 CFR Part 264 (Federal Register, Vol. 55, No. 145, July 27, 1990), has been used to define SWMUs at LANL. Solid Waste Management Units (SWMUs) are "any discernable unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at or around a facility at which solid wastes have been routinely and systematically released."

Applying this definition to units at the Lab, the following types of units are considered SWMUs:

- All units intended to store, treat, or dispose of all solid (hazardous and nonhazardous) waste materials, regardless of whether they have released, including: tanks, sumps, septic systems, drainlines, waste container storage areas, incinerators, landfills, surface disposal areas, adsorption beds, shafts, surface impoundments, and wastewater treatment.
- Areas contaminated by releases from any of the units above and from: outfalls, stacks, operations, detonation, and burning.
- Product storage, including the area surrounding underground storage tanks and containers, only if there is documented evidence of routine (more than once) releases from these units.
- Soil surrounding underground storage tanks and lines that stored product which have been removed with no documentation regarding possible leaks and spills.
- Existing or former buildings and structures (and the soil under them) that store waste.
- Soil under and around existing or former buildings that were contaminated or have had documented routine releases.
- Structures that are contaminated to the point of being inherently waste-like.
- Transformers with documented history of leakage (listed as having a "moderate leak" in transformer surveys conducted by LANL).

The following units are not considered SWMUs:

- Soil surrounding underground storage tanks that have been removed where no visible evidence of contamination has been documented.
- Active underground product storage tanks.

- One-time releases or spills (information regarding known one-time leaks and spills is provided in Appendix C to this report).
- Product storage areas, including high explosives (HE) bunkers, with no evidence of routine releases.
- Soil beneath existing or former buildings or structures with no evidence of contamination and no evidence of routine releases.
- Existing or former buildings or structures unless they stored waste or are contaminated to the point of being inherently waste-like.

Figure I-2 schematically illustrates the logic used in defining a SWMU at LANL. All units used to store, treat, or dispose of solid waste (as defined in 40 CFR 260, Appendix I) are considered SWMUs, regardless of whether a release has occurred. Units that are used to store, treat, or dispose of nonhazardous solid waste are included, through releases of hazardous waste or hazardous constituents could not occur from these units. Buildings and structures that are contaminated to the point of being inherently waste-like are also considered SWMUs. Buildings that cannot be used and are awaiting disposal are considered inherently waste-like. All other types of units are only considered SWMUs if there have been documented routine releases. In these cases, the medium that received the release is considered the solid waste management unit.

Some SWMUs described in this report manage wastes that are exempt from regulation under RCRA/HSWA. These units are included because all corrective actions at LANL will be managed under the ER program, which has been accepted as a joint integrated program addressing both RCRA and CERCLA requirements. One such waste type is radioactive waste consisting of source, special nuclear, or by-product material which is subject to Atomic Energy Act requirements and exempt from the definition of solid waste under RCRA. No distinction has been made in this report; all units containing radioactive waste have been included. Hazardous waste that is mixed with nonexempt radioactive material is subject to corrective action requirements and have been addressed in this report. Similarly, PCB wastes are included where routine releases have been documented.

Units that are similar in physical characteristics (e.g., container storage areas), or use (e.g., firing sites), or waste type (e.g., HE sumps) are described as sub-SWMUs within a larger SWMU description. Sub-SWMUs were grouped to eliminate repetition of information and each sub-SWMU is considered as a SWMU for purposes of corrective actions.

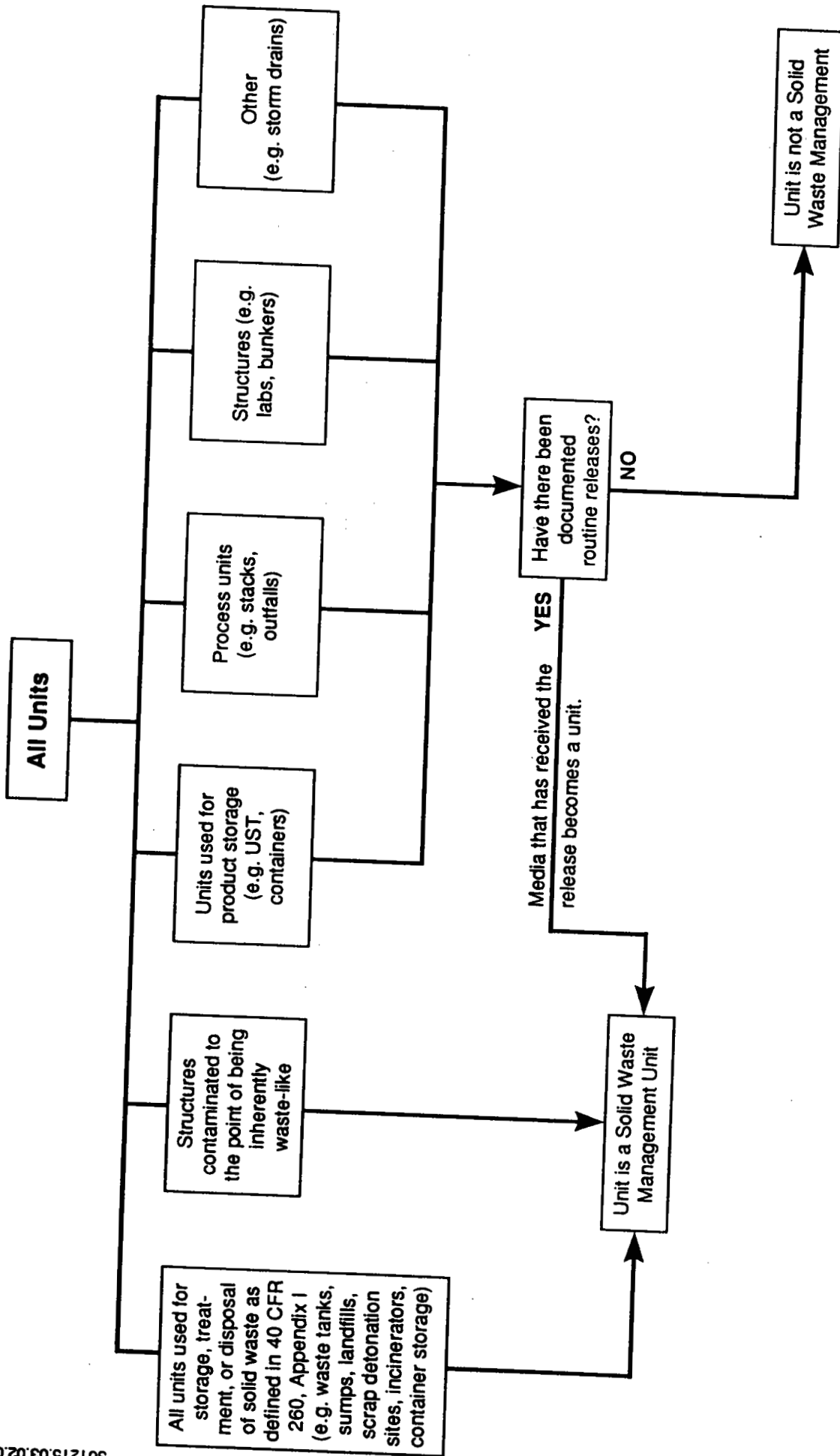


FIGURE I-2 DEFINITION OF A SOLID WASTE MANAGEMENT UNIT

The activities conducted by the facility are in many cases unique and have resulted in the creation of SWMUs not addressed by published EPA guidance documents and policy directives. The following is a description of the problematic areas encountered during this survey with regard to unit identification and the grouping of units.

Bunkers and Magazines

Bunkers and magazines used for the storage of high-explosive materials (nonwaste) have not been included as solid waste management units unless there have been documented routine releases from the structures. Decommissioning of these units requires removal of all stored explosives and then burning the structure. Any noncombustible debris remaining is typically landfilled. Descriptions of the known landfills receiving such debris, however, are included in this report.

Drains and Waste Lines

Many floors and sinks in buildings throughout the facility drain to waste lines that direct waste to a specific treatment, storage, or disposal unit or directly to an outfall. These drains and waste lines have been included in this report as part of the unit they serve. If a known release has occurred (e.g., seepage through joints, pipe rupture, etc.), any information as to the extent of the release is provided in the SWMU description.

Determination as to whether a release has occurred is generally made at the time a waste line is decommissioned. Any releases of wastes that occur during routine operations utilizing functional drains and waste lines are, in general, noted under the description of the treatment, storage, or disposal unit receiving the waste (e.g., waste lines from structures located in several TAs lead to the TA-50 treatment plant; these lines are noted in the description of that unit).

Outfalls

All National Pollution Discharge and Elimination System (NPDES) outfalls are shown on the map(s) accompanying each TA summary. Information describing NPDES-permitted outfalls is provided in Appendix A to this report. (This appendix is subject to revisions based on additional information or the construction of new facilities.) Active and inactive outfalls that discharged prior to implementation of the NPDES program are described as SWMU

because routine and systematic releases of hazardous constituents are suspected to have occurred in the receiving areas associated with the outfalls.

Air Stacks

A listing of air stacks in operation throughout the active portions of the facility is provided in Appendix B to this report. A comprehensive report on air emissions from the facility currently is in progress to meet SARA Title III requirements. The results of this study were not available during preparation of this report. No active air stacks are associated with the decommissioned technical areas. Where available information documents or suggests significant soil deposition of particulates contained in stack emissions, these areas have been described in this report.

Underground Storage Tanks

All known underground storage tanks previously or currently used for the storage of wastes have been included. Underground tanks used only for storage of products, fuel, or other nonwaste materials have not been included unless a release is known or suspected to have occurred. (In some cases, tank testing data indicates that the integrity of the tank is such that a release potentially could occur; in others, observations during tank removal were sufficient to make this determination.) Product tanks removed prior to 1987 are included as SWMUs because no program to monitor tanks for leaks was in place at LANL prior to that date.

Closed/Decommissioned Units

All closed or decommissioned solid waste management units have been described, regardless of whether releases have occurred.

Contaminated Buildings

Several buildings and other structures at the facility have become contaminated with radionuclides or chemicals to the point where they cannot be used and are awaiting decommissioning. Descriptions of these buildings, per se, have not been included in this report, as they are not considered wastes. An exception to this is a building complex in TA-16, which is contaminated to the point of being inherently waste-like. This complex is included as a SWMU.

Septic Systems

A septic system typically consists of a tank (and associated waste lines) that discharges to a leach field, seepage bed, or outfall. All components of a septic system are grouped as one unit. Sanitary waste, not chemically contaminated and managed in septic tanks, is exempt from the definition of solid waste. Sanitary waste that is chemically mixed and treated by a publicly-owned treatment works is similarly exempt. Regardless of these exemptions, units discharging or managing such wastes have been described in this report, unless the unit was known to have received only uncontaminated sanitary waste, such as those systems that serve guard stations.

Container Storage Areas

All areas storing containerized wastes are described. Product, fuel, or raw material storage areas are included only if known routine releases have occurred.

Firing Sites

Firing sites typically are used for experimentation involving high explosives. Because residues of hazardous materials, including metals and reactives, may potentially remain at a firing site, the surrounding soil or structural remains may be considered a solid waste management unit. Thus, all known firing sites are described in this report.

REPORT ORGANIZATION

Descriptions of solid waste management units at the facility are grouped by TA. Each TA summary begins with a brief description of its site operations and environmental setting. These descriptions are based on information contained in the following reports.

- Comprehensive Environmental Assessment and Response Program; Phase I: Installation Assessment - Los Alamos National Laboratory (DOE, 1987a-draft)
- Hydrogeologic Assessment of Technical Area 54, Areas G and L, Los Alamos National Laboratory (IT Corp., 1987a)
- Soil Survey of Los Alamos County, New Mexico (Nyhan, et al., 1978)
- Environmental Surveillance Reports (Environmental Surveillance Group, 1986; Apt and Lee, 1975)
- Los Alamos National Laboratory Site Development Plan (LANL, 1989)

Following the description of the site operations and setting, are the SWMU descriptions. Each SWMU is identified by a unique number designation, shown in the upper left-hand corner of the SWMU description. The SWMU numbers indicate the technical area that they are located in and are sequentially numbered within the TA. SWMU number designations are as follows:

33 - 001

where:

33 - the technical area the unit is located in

001 - the sequential number of SWMU descriptions within that technical area.

The SWMU descriptions include the name, type, and period of operation for each unit. The unit description includes all current, reasonably obtainable information on the unit including location, dimensions, and materials of construction. Waste information is provided and is as detailed as current information allows. Where possible, the potential for release is described and includes any available information on the nature and extent of any actual releases. The information provided in each SWMU description is compiled from previously published documents as shown in the cross-reference section at the bottom of each SWMU description. Other sources of information include interviews and review of LANL internal correspondence. Copies of all reference material is available in the ER program files in the ER program public reading room.

Maps indicating the known locations of units are included at the end of each TA summary. All units listed on the figure index which precedes the maps.

Four appendices are included in this report:

- Appendix A lists the NPDES-permitted outfalls at LANL; it is current as of 1990.
- Appendix B lists the hazardous air emissions from the facility; this information is based on a report that was in progress in 1988.
- Appendix C lists sites of environmental concern that do not meet the definition of a SWMU.
- Appendix D lists the current property owners of the past and present technical areas.

CORRELATION OF SWMUS WITH PREVIOUSLY IDENTIFIED UNITS

At the bottom of each SWMU description is a cross reference section. It provides a correlation between the SWMUs in this report and the LANL CEARP Phase I units, RFA units, and Environmental Restoration Program Database descriptions. Structures associated with each SWMU are also indicated on the cross reference.

There is some uncertainty in correlation between the RFA units and SWMUs described in this report. This uncertainty arises principally from two factors: (1) individual SWMU units encompass more or less than one RFA unit, and (2) the RFA descriptions do not include enough information for a positive correlation; these correlations are noted with a question mark on the cross reference section.

The following tables list the major changes made to the SWMU report in this revision. Table I-1 shows the SWMUs that have been assigned a new SWMU number due to changes in the technical area boundaries that were put into effect in 1989. Table I-2 shows the new SWMUs that have been identified and added and Table I-3 shows SWMUs that have been deleted along with rationale for the deletion.

TABLE I-1**RENUMBERED SOLID WASTE MANAGEMENT UNITS (SWMUs)**

ORIGINAL NUMBER	NEW NUMBER	TITLE/DESCRIPTION
Technical Area 0		
0-002*	61-006	Used Oil Container Storage Area
0-006*	61-005	Active Landfill
0-007*	73-001(a)-(b)	Landfills
0-009*	9-013	Material Disposal Area M
0-010	73-005	Surface Disposal
0-011(f)	72-002	Open Detonation Area
0-011(g)	36-009	Open Detonation Area
0-013	69-001	Two-Mile Mesa Incinerator
0-014*	73-002	Airport Incinerator/Surface Disposal
0-015(a)	72-001	Active Firing Range
0-015(b)	0-015	Active Firing Range
0-018(b)	0-018(a)	Pueblo Wastewater Treatment Plant
0-018(c)	0-018(b)	Bayo Wastewater Treatment Plant
0-020	73-003	Garbage Truck and Can Cleaning
0-021(a)	73-004(a)	Inactive Airport Septic System
0-021(b)	73-004(b)	Inactive Airport Septic System
0-022	61-004(b)	Decommissioned Septic System
0-023*	61-007	Soil Contamination/Operational Release
Technical Area 1		
1-003*	1-003(a)	Bailey Bridge Landfill
Technical Area 2		
2-006	2-006(a)	French Drain
2-008*	2-008(a)	Cooling Tower Blowdown
2-009(e)-(h)	2-009(c)	Operational Releases

*Units identified in the RCRA/HSWA Operating Permit.

TABLE I-1**RENUMBERED SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

ORIGINAL NUMBER	NEW NUMBER	TITLE/DESCRIPTION
Technical Area 3		
3-001(g)	60-001(a)	Active Container Storage Area
3-001(h)	60-001(b)	Active Container Storage Area
3-001(i)	3-001(g)	Active Container Storage Area
3-001(j)	3-001(h)	Active Container Storage Area
3-001(k)	3-001(i)	Active Container Storage Area
3-001(k)	3-056(b)	Active Container Storage Area
3-001(l)	3-001(j)	Active Container Storage Area
3-001(m)*	3-001(k)	Active Container Storage Area
3-001(n)	3-001(l)	Active Container Storage Area
3-001(n)	3-056(f)	Active Container Storage Area
3-001(o)	3-001(m)	Active Container Storage Area
3-001(p)*	3-056(a)	Used Oil Storage Area
3-001(q)	61-001	Active Container Storage Area
3-001(r)*	3-056(c)	Active Container Storage Area
3-001(s)	3-056(d)	Active Container Storage Area
3-001(t)	3-056(e)	Active Container Storage Area
3-001(u)	3-056(h)	Active Container Storage Area
3-003(c)*	61-002(a)	PCB Storage Area
3-004	3-004(a)	Radioactive Waste Storage Area
3-004	3-004(b)	Radioactive Waste Storage Area
3-005(a)	60-004(a)	Equipment and Debris Storage Area
3-005(b)	60-004(b)	Diesel Sludge Drum Storage
3-005(c)	60-004(c)	Drum Storage Area
3-006(a)	61-003	Burn Facility
3-006(b)	3-006	Burn Facility

*Units identified in the RCRA/HSWA Operating Permit.

TABLE I-1**RENUMBERED SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

ORIGINAL NUMBER	NEW NUMBER	TITLE/DESCRIPTION
3-009(h)*	60-002	Landfill/Surface Disposal
3-010*	3-010(a)	Vacuum Pump Oil
3-013*	3-013(a)	Storm Drain
3-013*	3-013(b)	Floor Drains
3-013*	3-013(c)	Cable Wash Pad
3-016(b)	3-016(a)	Seepage Pit
3-016(c)	60-006(a)	Septic Tank
3-016(d)	60-006(a)	Seepage Pit
3-017(a)	3-016(c)	Active Septic System
3-017(b)	61-004(a)	Inactive Septic System
3-017(c)	3-016(b)	Active Septic System
3-020*	3-020(a)	Pit
3-026	3-026(a)	Pump Sump
3-027(a)	60-003	Vehicle Maintenance Oil and Water Separators
3-027(b)	3-027	Vehicle Maintenance Sump
3-029(a)*	60-005(a)	Solar Pond
3-029(b)*	3-029	Asphalt Dumping Pit
3-030(a)	60-005(b)	Drilling Mud Pit
3-030(b)	3-030	Earthen Pit
3-034	3-034(a)	Radioactive Waste Storage Tanks
3-035(a)*	3-043(e)	Decommissioned Product Tank
3-035(b)*	3-035(a)	Leaking Underground Fuel Tank
3-035(d)	3-035(b)	Leaking Underground Fuel Tank
3-036(d)*	3-036(c)	Cooled Asphalt Storage Tanks
3-036(e)*	3-036(d)	Asphalt Emulsion Storage Tanks
3-039*	3-039(a)	Silver Recovery Unit

*Units identified in the RCRA/HSWA Operating Permit.

TABLE I-1**RENUMBERED SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

ORIGINAL NUMBER	NEW NUMBER	TITLE/DESCRIPTION
3-044*	3-044(a)	Container Storage Area
Technical Area 5		
5-005*	5-005(a)	French Drain
Technical Area 6		
6-007*	6-007(a)	Two Pits
6-007*	6-007(b)	Pit
6-007*	6-007(c)	Pit
6-007*	6-007(d)	Pit
Technical Area 9		
9-008*	9-008(b)	Oxidation Pond
9-010	9-010(a)	Waste Can Shelter
Technical Area 10		
10-003*	10-003(d)	Industrial Liquid Waste Disposal Pit
10-003*	10-003(e)	Industrial Liquid Waste Disposal Pit
10-003*	10-003(f)	Industrial Liquid Waste Disposal Pit
10-003(d)*	10-003(g)	Manhole
10-003(e)*	10-003(h)	Manhole
10-003(f)*	10-003(i)	Tank TA-10-39
Technical Area 15		
15-004(c)	15-004(b)	Firing Point A Control Chamber
15-004(d)	15-004(b)	Firing Point A X-Unit Chamber
15-004(e)*	15-004(c)	Firing Point B Plate Barricade
15-004(f)	15-004(d)	Firing Point C Control Chamber

*Units identified in the RCRA/HSWA Operating Permit.

TABLE I-1

**RENUMBERED SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

ORIGINAL NUMBER	NEW NUMBER	TITLE/DESCRIPTION
15-004(g)	15-004(e)	Firing Point D Control Chamber
15-004(h)	15-004(f)	Firing Point E X-Unit Chamber
15-004(i)	15-004(g)	Firing Point G Barricade
15-004(j)	15-004(g)	Firing Point G X-Unit Chamber
15-004(k)	15-004(h)	Firing Point H Instrument Chamber
15-004(l)	15-004(c)	Firing Point B X-Unit Chamber
15-004(m)	15-004(f)	Firing Point E Control Chamber
15-004(n)	15-004(g)	Firing Point G Control Chamber
15-004(o)	15-004(h)	Firing Point H Camera Chamber
15-012(b)*	15-010(c)	Outfall
15-012(c)*	15-014(m)	Outfall
15-012(d)*	15-014(k)	Outfall
15-012(e)*	15-014(l)	Outfall
15-012(f)*	15-014(i)	Outfall
15-012(g)*	15-014(j)	Outfall
Technical Area 16		
16-003(p)-(v)*	16-029(a)-(g)	Inactive HE Sumps
16-005(g)	16-005(f)	Septic System Dosing Chamber
16-005(h)	16-005(f)	Septic System Distribution Box
16-005(i)	16-005(g)	Filter Bed
16-005(j)	16-005(h)	Septic Tank
16-005(k)	16-005(i)	Septic Tank
16-005(l)	16-005(j)	Septic Tank
16-005(m)	16-029(h2)	Inactive HE Septic System Manhole
16-005(n)	16-005(k)	Septic Tank
16-005(o)	16-005(l)	Grease Trap

*Units identified in the RCRA/HSWA Operating Permit.

TABLE I-1**RENUMBERED SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

ORIGINAL NUMBER	NEW NUMBER	TITLE/DESCRIPTION
16-006(a)*	16-005(n)	Decommissioned Septic System
16-006(b)*	16-006(a)	Active Septic System
16-006(c)	16-006(b)	Active Septic System
16-006(d)*	16-006(c)	Active Septic System
16-006(e)*	16-006(d)	Active Septic System
16-006(f)*	16-006(e)	Active Septic System
16-006(g)*	16-005(o)	Decommissioned Septic System
16-006(h)*	16-006(f)	Active Septic System
16-007*	16-007(a)	Four Decommissioned Waste Ponds
16-009(a)*	16-009	Burn Area
16-013(a)*	16-013	Decommissioned Container Storage Area
16-013(b)*	16-012(z)	Rest House Storage
16-021*	16-021(a)	Plating Operation Drainage
16-022	16-022(a)	Leaking Underground Storage Tank
Technical Area 18		
18-001*	18-001	Lagoons
18-005*	18-005(a)	Soil Contamination Under Magazine
Technical Area 20		
20-004(a)	20-005	Decommissioned Septic System
20-004(b)	20-004	Septic System
Technical Area 21		
21-002*	21-002(a)	Abandoned Drums
21-006(c)*	21-006(b)	Seepage Pit
21-006(d)*	21-006(c)	Seepage Pit
21-006(e)*	21-006(d)	Stone Pit

*Units identified in the RCRA/HSWA Operating Permit.

TABLE I-1**RENUMBERED SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

ORIGINAL NUMBER	NEW NUMBER	TITLE/DESCRIPTION
21-011(h)*	21-011(i)	Acid Tank TA-21-288
21-011(i)*	21-011(j)	Acid Tank TA-21-289
21-012*	21-012(a)	Dry Well
21-016(b)*	21-016(a)	Adsorption Bed Sump
21-016(c)*	21-016(a)	Adsorption Bed Sump
21-016(d)*	21-016(a)	Adsorption Bed Sump
21-016(e)*	21-016(a)	Adsorption Bed Sump
21-016(f)*	21-016(b)	Redwood Pit
21-016(g)*	21-016(c)	Waste Shafts
Technical Area 22		
22-002(a)	22-003(a)	Solvent Storage Drum
22-002(b)	22-003(g)	Solvent Storage Container
22-004(a)	22-014(a)	Sump
22-004(b)	22-014(a)	Dry Well
22-005*	22-014(b)	Sumps
22-006*	22-015(a)	Dry Wells
22-007*	22-015(b)	Sump System
22-008*	22-015(c)	Drains and Outfall
22-009*	22-015(d)	Drain
22-009	22-015(e)	Sump
22-010(a)*	22-016	Inactive Septic System
22-010(b)*	22-010(a)	Active Septic System
22-010(c)*	22-010(b)	Active Septic System
Technical Area 23		
23-001	9-014	Firing Site
23-002	9-015	Industrial Waste Manhole

*Units identified in the RCRA/HSWA Operating Permit.

TABLE I-1**RENUMBERED SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

ORIGINAL NUMBER	NEW NUMBER	TITLE/DESCRIPTION
Technical Area 24		
24-001(a)	16-005(j)	Septic System
24-001(b)	16-005(m)	Septic System
Technical Area 25		
25-002(a)	16-006(g)	Septic System
25-002(b)	16-006(h)	Septic System
Technical Area 26		
26-002	26-002(a)	Sump System
Technical Area 33		
33-011*	33-011(a)	Drilling Storage Yard
Technical Area 35		
35-009(f)*	35-009(c)	Septic Tank (now includes a newly identified distribution box, as well)
35-009(g)*	35-009(d)	Septic Tank
35-014*	35-014(a)	Operational Release
35-014*	35-014(b)	Leaking Drum
Technical Area 36		
36-004	36-004(f)	Firing Site
36-006(a)	36-006	Surface Disposal Area
Technical Area 39		
39-001*	39-001(a)	Two Disposal Trenches
39-001*	39-001(b)	Four Disposal Trenches
39-002*	39-007(e)	Inactive Storage Area
39-002(b)	39-007(b)	Inactive Storage Area
39-002(c)*	39-007(a)	Inactive Storage Area
39-002(d)	39-002(c)	Active Satellite Storage Area

*Units identified in the RCRA/HSWA Operating Permit.

TABLE I-1**RENUMBERED SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

ORIGINAL NUMBER	NEW NUMBER	TITLE/DESCRIPTION
39-002(g)	39-007(c)	Inactive Storage Area
39-002(h)	39-007(d)	Inactive Storage Area
39-006*	39-006(a)	Septic System
Technical Area 40		
40-002	40-002(a)	Drum Storage Area
40-002	40-002(b)	Shot Waste Storage Area
Technical Area 42		
42-002	42-002(a)	Vacublaster
Technical Area 43		
43-001*	43-001(a)	Industrial Waste Lines
Technical Area 46		
46-009	46-009(a)	Canyonside Disposal
Technical Area 48		
48-002(b)*	48-002(c)	Container Storage Area
48-003(a)-(b)*	48-003	Inactive Septic System
Technical Area 49		
49-001*	49-001(a)	Area 1 of MDA AB
49-001*	49-001(b)	Area 2 of MDA AB
49-001*	49-001(c)	Area 2A of MDA AB
49-001*	49-001(d)	Area 2B of MDA AB
49-001*	49-001(e)	Area 3 of MDA AB
49-001*	49-001(f)	Area 4 of MDA AB
49-001*	49-001(g)	Migrant Contamination
Technical Area 50		
50-001*	50-001(a)	Radioactive Waste Treatment Facility
50-002(b)*	50-004(b)	Tank Farm
50-002(c)*	50-002(b)	Tank

*Units identified in the RCRA/HSWA Operating Permit.

TABLE I-1**RENUMBERED SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

ORIGINAL NUMBER	NEW NUMBER	TITLE/DESCRIPTION
50-002(d)*	50-002(c)	Tank
50-004*	50-004(a)	Radioactive Contaminated Waste Line
50-006*	50-006(a)	Contamination from Sump Overflow
50-006*	50-006(c)	Plutonium Contaminated Soil
50-006*	50-006(d)	Treatment Plant Effluent Outfall
50-011(b)*	50-011(a)	Decommissioned Septic System
50-011(c)*	50-011(a)	Decommissioned Septic System
Technical Area 51		
51-001(a)	54-007(d)	Septic System
51-001(b)	54-007(e)	Septic System
51-001(c)	51-001	Septic System
51-001(d)	51-001	Septic System
Technical Area 52		
52-002(b) *	52-002(a)	Distribution Box
52-002(c) *	52-002(b)	Septic Tank
52-002(d) *	52-002(c)	Septic System
52-002(e) *	52-002(d)	Septic System
52-002(f) *	52-002(e)	Septic System
52-002(g) *	52-002(e)	Seepage Pit
52-002(h) *	52-002(b)	Septic Tank
52-002(i) *	52-002(b)	Septic Tank
52-002(j) *	52-002(f)	Septic System
52-002(k) *	63-001(b)	Septic System
Technical Area 54		
54-003(b) *	54-015(a)	Drum Storage Area
54-011	54-015(h)	TRU Waste Packaging Area

*Units identified in the RCRA/HSWA Operating Permit.

TABLE I-1**RENUMBERED SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

ORIGINAL NUMBER	NEW NUMBER	TITLE/DESCRIPTION
54-012	54-012(a)	Compactor in MDA-G
54-013*	54-013(a)	Truck Washing Pit in TA-54 West
Technical Area 55		
55-002	55-002(a)	Low Level Radioactive Waste Oil Drum
55-009	64-001(b)	Sump
Technical Area 57		
57-004	57-004(a)	Drilling Mud Pit
Technical Area 73		
73-001	73-001(a)	Inactive Airport Landfill
73-001	73-001(b)	Waste Oil Pit
0-010	73-005	Surface Disposal

*Units identified in the RCRA/HSWA Operating Permit.

ACTIVE TECHNICAL AREA LOCATIONS

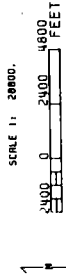
TECH AREA TECHNICAL AREA NOMENCLATURE MAP

- 1A-1 UNDESIGNED LAND RESERVE C-1
- 1A-2 OMBIA SITE B-1
- 1A-3 SOUTH MEA SITE B-1
- 1A-4 TAD HILL MEA SITE B-2
- 1A-5 ANCHON SITE WEST B-2
- 1A-6 ANCHON SITE EAST B-2
- 1A-7 O-SITE B-2
- 1A-8 O-SITE B-2
- 1A-9 O-SITE B-2
- 1A-10 O-SITE B-2
- 1A-11 O-SITE B-2
- 1A-12 O-SITE B-2
- 1A-13 O-SITE B-2
- 1A-14 O-SITE B-2
- 1A-15 O-SITE B-2
- 1A-16 O-SITE B-2
- 1A-17 O-SITE B-2
- 1A-18 O-SITE B-2
- 1A-19 O-SITE B-2
- 1A-20 O-SITE B-2
- 1A-21 O-SITE B-2
- 1A-22 O-SITE B-2
- 1A-23 O-SITE B-2
- 1A-24 O-SITE B-2
- 1A-25 O-SITE B-2
- 1A-26 O-SITE B-2
- 1A-27 O-SITE B-2
- 1A-28 O-SITE B-2
- 1A-29 O-SITE B-2
- 1A-30 O-SITE B-2
- 1A-31 O-SITE B-2
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- 1A-35 O-SITE B-2
- 1A-36 O-SITE B-2
- 1A-37 O-SITE B-2
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- 1A-39 O-SITE B-2
- 1A-40 O-SITE B-2
- 1A-41 O-SITE B-2
- 1A-42 O-SITE B-2
- 1A-43 O-SITE B-2
- 1A-44 O-SITE B-2
- 1A-45 O-SITE B-2
- 1A-46 O-SITE B-2
- 1A-47 O-SITE B-2
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- 1A-60 O-SITE B-2
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- 1A-62 O-SITE B-2
- 1A-63 O-SITE B-2
- 1A-64 O-SITE B-2
- 1A-65 O-SITE B-2
- 1A-66 O-SITE B-2
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- 1A-68 O-SITE B-2
- 1A-69 O-SITE B-2
- 1A-70 O-SITE B-2
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- 1A-72 O-SITE B-2
- 1A-73 O-SITE B-2
- 1A-74 O-SITE B-2

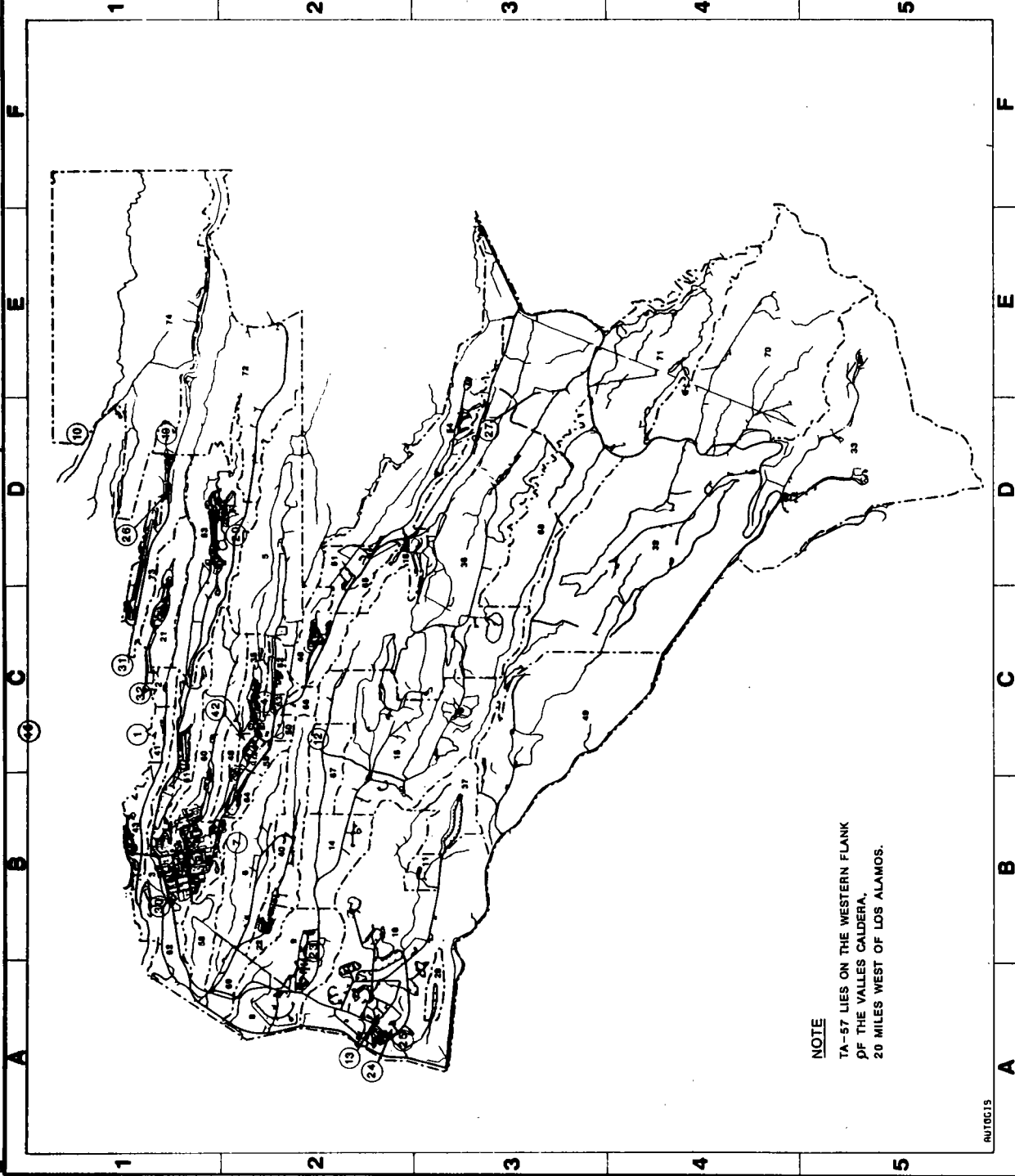
*** OUTSIDE LABORATORY BOUNDARY, SEE APPROPRIATE TA MAP
 * MARKS NOW INCLUDED IN TA MAP

FIGURE I-1

**LOS ALAMOS NATIONAL LABORATORY
 TECHNICAL AREA LOCATIONS**



UNIVERSITY OF CALIFORNIA	DATE: 12/2/81
Los Alamos 15 1585	DATE: 12/2/81
FACILITIES ENGINEERING DIVISION	SEC. CLASSIFICATION
STRUCTURE LOCATION MAP	CLASS: 42
TECH AREA BOUNDARY MAP	REVISION: 1
DATE: 12/2/81	DATE: 12/2/81
BY: [Signature]	BY: [Signature]
CHECKED: [Signature]	DATE: 12/2/81
DATE: 12/2/81	ENG: R. J. [Signature]



NOTE
 TA-57 LIES ON THE WESTERN FLANK
 OF THE VALLES CALDERA,
 20 MILES WEST OF LOS ALAMOS.

AUTOCG15

TABLE I-2**NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)**

SWMU NUMBER	TITLE/DESCRIPTION
Technical Area 0	
0-010	Surface Disposal Area South of MDA-B
0-024	Cistern
0-025	Tank Mesa Landfill
0-026	Gun Mount Landfill
0-027	DP Road Storage Area
0-028(a)-(b)	Los Alamos County Recreational Areas
0-029(a)-(c)	Leakage from PCB Transformers
0-030(a)-(m)	Septic Systems
0-031(a)-(b)	Soil Contamination Beneath Former Service Stations
0-032	Soil Contamination Beneath Former Zia Motorpool Facilities
0-033	Soil Contamination Beneath Former Zia Warehouses
Technical Area 1	
1-001(o)	Sanitary Sewer Drainline/Outfall
1-001(p)	Sanitary Sewer Drainline/Outfall
1-001(q)	Sanitary Sewer Drainline/Outfall
1-001(r)	Sanitary Sewer Drainline
1-001(s)	Sanitary Sewer Drainline/Outfall
1-001(t)	Sanitary Sewer Drainline
1-001(u)	Sanitary Sewer Drainline
1-001(v)	Sanitary Sewer Drainline
1-001(w)	Sanitary Sewer Drainline
1-003(b)-(e)	Debris Disposal Areas
1-006(a)-(b)	Drainlines and Outfalls
1-007(a)-(b)	Soil Contamination Beneath Former Buildings

TABLE I-2**NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

SWMU NUMBER	TITLE/DESCRIPTION
Technical Area 2	
2-004(g)	Portable Tank
2-006(b)	Acid Waste Line
2-006(c)-(d)	Drainline
2-006(e)	Sump
2-008(b)	Photo Processing Outfall
2-008(c)	Outfall into Stream
2-009(d)	Operational Release
2-011(a)-(e)	Storm Drains and Outfalls
2-012	Potential Soil Contamination Beneath Former USTs
2-013	Active Hazardous Waste Container Storage Areas
Technical Area 3	
3-001(h)-(y)	Active Satellite Container Storage Areas
3-002(d)	Former Drum Storage Area
3-003(c)	Drum and Capacitor Storage Area
3-003(d)	Transformer Storage Area
3-003(e)	Transformer Storage Area
3-003(f)	Transformer Storage Area
3-003(g)	PCB Oil Spill
3-003(h)	PCB Transformer Storage Area
3-003(i)	PCB Transformer Storage Area
3-003(j)	Drum and Capacitor Storage Area
3-003(k)	PCB Storage Area
3-003(l)	PCB Transformer Storage Area
3-003(m)	Capacitor and Transformer Storage Area
3-003(n)	PCB Storage Area
3-003(o)	Capacitor Storage and Maintenance

TABLE I-2**NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

SWMU NUMBER	TITLE/DESCRIPTION
3-003(p)	PCB Transformer and Capacitor Storage Area
3-004(c)-(d)	Radioactive Waste Storage Dumpsters
3-004(e)	Radioactive Waste Storage Drum
3-009(i)	Debris Surface Disposal Area
3-009(j)	Soil Fill Area
3-010(b)	Vacuum Pump
3-010(c)	Hydraulic Pump Oil Leak
3-010(d)	Vacuum Pumps
3-013(d)	Hydraulic Bender and Shearer
3-013(e)	Antifreeze Spill
3-013(f)	Stained Soil Area
3-013(g)	Oil Stained Soil
3-013(h)	Oil and Grease Leaks
3-014(v)	Floor Drains
3-014(w)	Photographic Waste
3-014(x)	Photographic Waste
3-014(y)	Floor Drains
3-014(z)	Floor Drains
3-014(a2)	Floor Drains
3-014(b2)	Outfall
3-014(c2)	Outfall
3-016(d)	Septic Pit
3-016(e)	Septic Pit
3-020(b)	Steam Cleaning Pit
3-025(c)	Sump
3-026(b)	Four Sumps
3-026(c)	Cooling Tower Sumps

TABLE I-2**NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

SWMU NUMBER	TITLE/DESCRIPTION
3-026(d)	Sump
3-034(b)	Waste Transfer Tanks
3-036(e)	Reclamite Storage Tank
3-036(f)	Unleaded Gasoline Storage Tank
3-036(g)	Sulfuric Acid Storage Tank
3-036(h)	Cooling Water Inhibitor Storage Tanks
3-036(i)	Diesel Fuel Storage Tanks
3-036(j)	Diesel Fuel Storage Tanks
3-038(c)	Industrial Waste Lines
3-038(d)	Industrial Waste Lines
3-038(e)	Sink Drain
3-038(f)	Drainline
3-039(b)-(e)	Silver Recovery Units
3-043(a)-(b)	Decommissioned Tanks
3-043(d)	Decommissioned Tanks
3-043(f)-(i)	Decommissioned Tanks
3-044(b)	Lithium Hydride Storage Area
3-045(b)	Cooling Tower Outfall
3-045(c)	Cooling Tower Outfall
3-045(d)	Storage Tank Outfall
3-045(e)	Tank and Pump Building Outfall
3-045(f)	Sink Drain Outfall
3-045(g)	Storm Drain Outfall
3-045(h)	Cooling Tower Outfall
3-045(i)	Floor and Sink Drain Outfall
3-046	Waste Treatment Tank
3-047(a)-(k)	Soil Contamination from Product Storage Tanks

TABLE I-2**NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

SWMU NUMBER	TITLE/DESCRIPTION
3-048	Radioactive Container Storage Area
3-049(a)-(e)	Soil Contamination from Mortandad Canyon Outfalls
3-050(a)-(g)	Soil Contamination from Stack Emissions
3-051(a)-(d)	Soil Contamination from Leaking Compressors
3-052(a)-(c)	Storm Drainage System
3-053(c)	Rolling Mill Building Soil Contamination
3-054(a)-(e)	Cooling Tower and Associated Outfalls
3-055(a)-(d)	Outfalls
3-056(i)-(n)	Waste Storage Facilities
3-057	Cafeteria Grease Traps
3-058	TRU Container Storage Area
3-059	Boneyard
Technical Area 4	
4-003(a)-(b)	Drains and Outfalls
4-004	Soil Contamination Beneath Former Building
Technical Area 6	
6-007(e)	Pit
6-007(f)	Surface Disposal Areas
6-008	Decommissioned UST
Technical Area 5	
5-001(a)	Firing Point
5-005(b)	Outfall
5-006(a)-(h)	Soil Contamination Beneath Former Buildings
Technical Area 8	
8-008(a)-(d)	Transformer Storage Area
8-009(a)-(e)	Drains and Outfalls
8-010(a)-(c)	Waste Container Storage Area
8-011(a)-(b)	Decommissioned Underground Storage Tanks

TABLE I-2
NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)

SWMU NUMBER	TITLE/DESCRIPTION
Technical Area 9	
9-003(g)-(i)	Decommissioned Sumps and Pipes
9-008(a)	Lagoon
9-010(b)-(c)	Waste Can Shelters
9-016	Decommissioned UST
Technical Area 10	
10-001(e)	Sand Pile Detonation Experiment Site
10-003(m)	Clay Pipe Drain
10-003(n)	Stream Bed Leach Field
10-003(o)	Decontamination Holes
Technical Area 11	
11-005(c)	Sanitary Sewer Line
11-011(a)-(d)	Drainlines and Outfalls
11-012(a)-(d)	Soil Contamination at Former Building Sites
Technical Area 14	
14-010	Decommissioned Sumps and Drains
Technical Area 15	
15-004(i)	Blast Test Site
15-005(d)	Lead Brick Storage Area
15-006(e)	120-mm Gun Firing Site
15-008(e)-(g)	Surface Disposal Areas
15-009(k)	Active Septic System TA-15-67
15-009(l)	Active Septic System TA-15-00
15-012(b)	Containment Vessel Washing Area
15-013(a)-(b)	Underground Storage Tanks
15-014(a)-(m)	Deadlines and Outfalls

TABLE I-2**NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

SWMU NUMBER	TITLE/DESCRIPTION
Technical Area 16	
16-007(b)	Small Earth Pond
16-010(n)	Burning Ground Trough
16-012(a2)	Less Than 90 day Storage
16-016(d)	Debris Area
16-016(e)	Surface Disposal
16-016(f)	Construction Debris Disposal Area
16-016(g)	Scattered Debris
16-021(b)	Hydraulic Press Leak
16-021(c)	Barium Nitrate Grinding Drainage
16-022(b)	Leaking Underground Storage Tank
16-024(a)-(v)	Soil Contamination from Decommissioned Magazines
16-025(a)-(h2)	Soil Contamination at Decommissioned HE Facilities
16-026(a)-(k2)	Inactive Outfalls from Building Drains
16-027(a)-(d)	Leakage from PCB Transformers
16-028(a)-(e)	Active Outfalls from Cooling Towers and Tanks
16-029(h)-(h2)	Inactive HE Sumps
16-030(a)-(h)	Active Outfalls from Building Drains
16-031(a)-(h)	Inactive Outfalls: Cooling Towers/Industrial Lines
16-032(a)-(e)	Decommissioned HE Sumps
16-033(a)-(j)	Decommissioned Fuel Tanks
16-034(a)-(p)	Soil Contamination from Miscellaneous Buildings
16-035	Soil Contamination from Former Control Bunker
16-036	Soil Contamination from Battleship Bunkers
16-037	Industrial Waste Tank

TABLE I-2**NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

SWMU NUMBER	TITLE/DESCRIPTION
Technical Area 18	
18-001(d)	Sanitary Sewer Lines
18-001(c)	Gravity Drain
18-005(b)-(c)	HE Storage Magazines
18-008	Inactive Underground Storage Tank
18-009(a)-(e)	Leakage From PCB Transformers
18-010(a)-(f)	Storm Sewer Outfalls
18-011	Potential Soil Contamination Beneath Former Structure
18-012(a)-(d)	Sumps, Acid Drainlines, Outfalls
Technical Area 19	
19-003	Drainline and Outfall
Technical Area 21	
21-002(b)	Barrel Storage Area
21-004(d)	Sump/Pump
21-006(e)	Seepage Pit
21-006(f)	Paved Seepage Pit
21-011(h)	Acid Tank
21-012(b)	Dry Well
21-013(d)	"Cold Dump"
21-013(e)	Construction Refuse Disposal Area
21-013(f)	Disposal Area
21-013(g)	Drainlines
21-022(i)-(j)	Sump Pump
21-024(l)-(o)	Drainlines/Outfalls
21-028(e)	Three Satellite Container Storage Areas
21-029	DP Tank Farm

TABLE I-2**NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

SWMU NUMBER	TITLE/DESCRIPTION
Technical Area 22	
22-003(b)-(g)	Satellite Storage Areas
Technical Area 26	
26-002(b)	Drainline/Outfall
Technical Area 27	
27-004	Soil Contamination Under Former Building Location
Technical Area 33	
33-002(d)-(e)	Drainlines/Outfalls
33-004(g)	Drainline/Outfall
33-004(h)	Drainline/Outfall
33-004(i)	Drainlines/Outfall
33-004(j)	Outfall System
33-004(k)	Drainlines/Outfall
33-004(l)	Drainline/Outfall
33-004(m)	Septic System
33-004(n)	Septic System
33-010(d)	Old Debris Site
33-010(e)	Debris Site
33-010(f)	Debris Site
33-010(g)	Debris Site
33-010(h)	Debris Site
33-011(b)	Storage Yard
33-011(c)	Soil Contamination Area
33-011(d)	Possible Soil Contamination Area
33-011(e)	Soil Contamination Area

TABLE I-2**NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

SWMU NUMBER	TITLE/DESCRIPTION
Technical Area 35	
35-003(r)	Outfall
35-004(k)-(o)	Container Storage Areas
35-009(e)	Drainline/Outfall
35-011(d)	Underground Storage Tanks
35-012(b)	"Oil Siege Tanks" (Underground Storage Tanks)
35-014(c)	Stained Soil Area
35-014(d)	Stained Soil Areas
35-014(e)	Dielectric Oil Spill Areas
35-014(f)	Stained Soil Areas
35-014(g)	Stained Soil Areas
35-016(a)-(q)	Drains and Outfalls
35-017	Soil Contamination from Reactor Operations
35-018(a)-(b)	Leaking PCB Transformers
Technical Area 36	
36-003(d)	Septic System
Technical Area 39	
39-002(b)	Active Satellite Storage Area
39-002(e)-(g)	Active Satellite Storage Areas
39-006(b)	Active Septic System
39-008	Soil Contamination at Gun Firing Site
39-009	Drainline and Outfall
Technical Area 40	
40-002(c)	Photo Processing Waste Storage Area
Technical Area 41	
41-003	Sump
41-004	Container Storage Area

TABLE I-2**NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

SWMU NUMBER	TITLE/DESCRIPTION
Technical Area 42	
42-002(b)	Large Objects Cleaning Area
42-004	Canyon Disposal
Technical Area 43	
43-001(b)	Drinking Fountain Discharge
43-005	Radioactive Liquid Waste Storage
Technical Area 45	
45-004	Outfalls
Technical Area 46	
46-003(h)	Septic System
46-004(i)	Pumphouse and Cooling Tower Outfall
46-004(j)	Laboratory Outfall
46-004(k)	Cooling Tower Outfall
46-004(l)	Cooling Tower Outfall
46-004(m)	Noncontact Cooling Water Outfall
46-004(n)	Noncontact Cooling Water Outfall
46-004(o)	Treated Cooling Water Outfall
46-006(e)	Metallurgical Polishing Effluent Release
46-008(g)	Drum Storage Area
46-009(b)	Canyonside Disposal
46-010(a)-(f)	Active Waste Storage Areas
Technical Area 48	
48-002(b)	Container Storage Area
48-002(d)	Container Storage Area
48-002(e)	Container Storage Area
48-007(a)-(f)	Drains and Outfalls
48-008	Leakage from PCB Transformers

TABLE I-2**NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

SWMU NUMBER	TITLE/DESCRIPTION
48-009	Soil Contamination from Air Compressor Operations
48-010	Surface Impoundment
Technical Area 49	
49-008(a)-(d)	Surface Contamination at Area 12
49-009	Decommissioned Underground Storage Tank
Technical Area 50	
50-001(b)	Radioactive Waste Drainlines
50-002(d)	Nitric Acid Storage Tank
50-004(c)	Drainlines and Associated Manholes
50-006(b)	Potentially Contaminated Soil
50-006(e)	Releases from Diesel Fuel Tank
50-011(b)	Sanitary Sewer Drainlines
Technical Area 52	
52-002(g)	Septic System
Technical Area 53	
53-001(e)-(o)	Satellite Storage Areas
53-006(f)	Underground Storage Tank
53-010	Soil Contamination
53-011(a)-(e)	Leaking PCB Transformers
53-012(a)-(h)	Drains and Outfalls
Technical Area 54	
54-001(f)	Hazardous Waste Container Storage Area
54-012(b)	Drum Crusher in MDA-L
54-013(b)	Truck Monitoring/Washing Facility in MDA-G
54-014(a)-(d)	Radioactive Waste Storage Shafts and Pits
54-015(b)	Dumpster Storage of Low Level Waste in MDA-G
54-015(c)-(f)	TRU Waste Storage Pads 1 to 4 in MDA-G

TABLE I-2**NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

SWMU NUMBER	TITLE/DESCRIPTION
54-015(g)	Uranium Contaminated Lead Casks
54-015(i)	Radioactively Contaminated Forklift Battery in MDA-L
54-015(j)	Storage of Mixed Waste Sludge in MDA-G
54-015(k)	Retrievable TRU Waste Surface Storage in MDA-G
54-016(a)-(b)	Sumps in Area G and TA-54 West
54-017	MDA-G Disposal Pits Active Before 11/19/1980
54-018	MDA-G Disposal Pits Active After 11/19/1980
54-019	MDA-G Disposal Shafts Active Before 11/19/1980
54-020	MDA-G Disposal Shafts Active After 11/19/1980
54-021	Waste Oil Storage Tanks in Area G
54-022	Leakage from PCB Transformer
Technical Area 55	
55-002(b)	Low Level Waste Dumpsters
55-010	Solvent Spills
55-011(a)-(e)	Drains and Outfalls
55-012	Inactive Hazardous Waste Container Storage Area
55-013	Active Hazardous Waste Container Storage Area
Technical Area 57	
57-004(b)	Surface Impoundment
Technical Area 59	
59-004	Outfall
Technical Area 60	
60-001(c)-(d)	Satellite Container Storage Area
60-004(d)	Underground Storage Tank Cutting Area
60-004(e)	Storage Area
60-006(c)	Septic Tank
60-007(a)-(b)	Operational Releases

TABLE I-2**NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

SWMU NUMBER	TITLE/DESCRIPTION
Technical Area 63	
63-001(a)-(b)	Septic Systems
Technical Area 64	
64-001(a)	Active Waste Container Storage Area
Technical Area 69	
69-002(a)	Septic System
69-002(b)	Septic System
Technical Area 72	
72-003(a)-(b)	Septic System
Technical Area 73	
73-001(c)	Debris Disposal Area
73-001(d)	Debris Burial Pits
73-004(c)	Control Tower Septic System
73-004(d)	Landfill Office Septic System
73-006	Airport Building Outfalls

TABLE I-3

DELETED SOLID WASTE MANAGEMENT UNITS (SWMUs)

SWMU NUMBER	RATIONALE
Technical Area 0	
0-018(a)	The White Rock Wastewater Treatment Plant was deleted because it never received Laboratory waste.
Technical Area 2	
2-009(c)*	Unit was the same site as 2-003(e).
2-009(d)	Unit was the same site as 2-003(b).
2-009(i)	Unit was the same site as 2-003(d).
Technical Area 3	
3-035(c)	Tank TA-3-382-2 has been deleted because no visible signs of contamination were apparent at the time of decommissioning.
3-036(c)	The catchment basin was never used.
Technical Area 15	
15-009(k)	Septic system TA-15-293 was never constructed.
Technical Area 16	
16-002	Tritium facility has not become operational and does not generate waste.
16-009(b)*	Unit was a burn area that was part of Material Disposal Area R, which is addressed in 16-019.
16-014	Tritium facility has not become operational and does not generate waste.
Technical Area 21	
21-006(b)*	Gravel seepage pit is interpreted to be MDA-T (21-016).
21-016(b) - (e)*	Sumps near and in MDA-T adsorption bed considered part of 21-016(a).

*Units identified in the RCRA/HSWA Operating Permit.

TABLE I-3

**DELETED SOLID WASTE MANAGEMENT UNITS (SWMUs)
(CONTINUED)**

SWMU NUMBER	RATIONALE
Technical Area 35	
35-009(b)-(c)*	Units were components of a single septic system [35-009(a)].
35-009(d)-(e)*	Units are components of a single septic system [35-009(b)].
Technical Area 36	
36-006(b)	Unit determined to be soil excavated on site for use as fill material.
36-008	Unit is included in 36-004(c).
Technical Area 39	
39-002(e)	Unit has been deleted because only empty drums were noted at this location.
39-002(f)	Unit has been deleted because only empty drums were noted at this location.
Technical Area 54	
54-003(a)*	Material Disposal Area G is now discussed in SWMU Nos. 54-014, 54-015, 54-016, 54-017, 54-018, and 54-019.

*Units identified in the RCRA/HSWA Operating Permit.

GLOSSARY

ACTIVE	A unit that was in use at the time this report was prepared.
ASL	Above sea level
BONEYARD	A place where surplus, used, or worn-out equipment and materials are stored to await disposition (reuse, recycling, disposal, etc.)
BOTTOM	Residues remaining from evaporation, distillation, or desiccation processes
BUNKER	A fortified chamber which may be partly covered with soil, typically constructed or reinforced concrete and provided with embrasures for storage of explosives
DECOMMISSIONED	A unit that has been physically removed from the site.
DETONATION	A violent chemical reaction within a chemical compound or mechanical mixture evolving heat and pressure, with the reaction preceding through the reacted material toward the unreacted material at a supersonic velocity
DRY WELL	A vertical pit with its depth greater than its diameter used to dispose of waste in the same manner as a seepage pit.
EXPLOSIVE	Any chemical compound, mixture, or device which, when subjected to suitable initiating impulses or agents such as flame, spark, heat, impact, or friction (whether applied mechanically or electrically), will undergo chemical and physical transformations at speeds varying from extremely rapid to virtually instantaneous resulting in a sudden and rapid development of very high pressure in the surrounding medium
HIGH EXPLOSIVE (HE)	An explosive in which the transformation from its original position and form, once initiated, proceeds with virtually instantaneous and continuous speed throughout the total mass, accompanied by the rapid evolution of heat and a large volume of gas, causing very high pressure and a widespread shattering effect
INACTIVE	A unit that was not in use at the time this report was prepared, but is physically present at the site
LOW ORDER	The incomplete detonation of high explosives
MAGAZINE	Any building, structure, or container, other than a building used in the manufacture of energetic materials, which has been approved for the storage of these materials

**OPEN BURNING/
OPEN DETONATION**

The burning or detonation of materials in the open air, either on the ground surface or in a containment device, without a significant control of the combustion and in such a manner that the products of combustion are emitted directly into the ambient air without passing through a device intended to control the gaseous or particulate emissions

ORDNANCE

Military material such as combat weapons of all kinds, including ammunition and equipment required for their use

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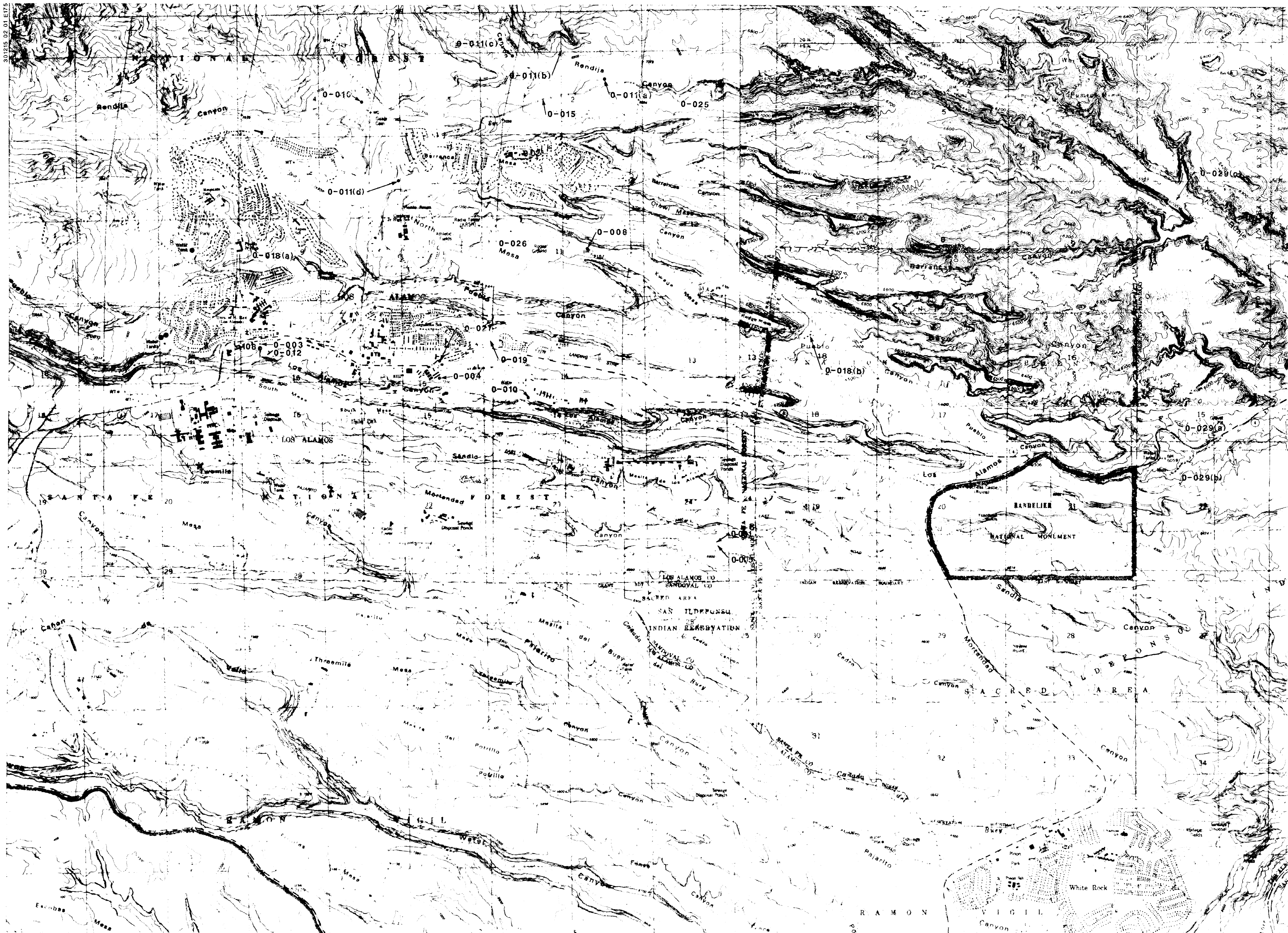
"Protection of the Environment," 40 CFR Parts 190-399, 1987.

LIST OF ACRONYMS

AEC	Atomic Energy Commission
ASL	Above Sea Level
BTX	Benzene, Toluene, Xylene
CEARP	Comprehensive Environmental Assessment and Response Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CMP	Corrugated Metal Pipe
CMR	Chemical Metallurgical Research (Building)
D&D	Decontamination and Decommissioning
DOE	U.S. Department of Energy
dU	Depleted Uranium
EETF	Experimental Engineering Test Facility (Building)
EID	New Mexico Environmental Improvement Division
EM	Electromagnetic
EPA	U.S. Environmental Protection Agency
EP TOXIC	Extraction Procedure Toxicity
ER	Environmental Restoration
FP	Fission Products
HE	High Explosive
HEPA	High Efficiency Purified Air (Filter)
HSE	LANL Health, Safety, and Environment Division
HSWA	Hazardous and Solid Waste Amendment to RCRA
IWMP	Interim Waste Management Program (DOE's Department of Defense Waste and Transportation Management)
LAO	U.S. Department of Energy Los Alamos Area Office
LAMPF	Los Alamos Meson Physics Facility
LAMPRE	Los Alamos Molten Plutonium Reactor Experiment
LANL	Los Alamos National Laboratory
LAPRE	Los Alamos Power Reactor Experiment
LASCP	Los Alamos Site Characterization Program
LASL	Los Alamos Scientific Laboratory
LL	Low Level (Radioactive Waste)
MAP	Mixed Activation Products
MDA	Material Disposal Area
MEGAS	Multiple Energy Gamma Assay Spectrometer
MFP	Mixed Fission Products
N.C.	Non-Compactible (Radioactive Waste)
NMEID	New Mexico Environmental Improvement Division
NPDES	National Pollution Discharge Elimination System
O.D.	Outside Diameter
OWR	Omega West Reactor
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PHERMEX	Pulsed High-Energy Radiographic Machine Emitting X-rays
P.N.	Property Numbers
PPB	Parts Per Billion
PPM	Parts Per Million
RCRA	Resource Conservation and Recovery Act
RH	Remote Handled (Radioactive Waste)
SARA	Superfund Amendments and Reauthorization Act
SRF	Size Reduction Facility

LIST OF ACRONYMS
(Continued)

SWMU	Solid Waste Management Unit
TA	Technical Area
TCE	Trichloroethylene
TRU	Transuranic
Tsk	Task
TSTA	Tritium Systems Test Assembly (Building)
UST	Underground Storage Tank
WIPP	Waste Isolation Pilot Plant



NOTES

LOCATIONS OF NPDES OUTFALLS ARE APPROXIMATE

EXPLANATION

0-001 SWMU LOCATION

010

LOCATION OF OUTFALL INDICATING ASSOCIATED PIPING AND NPDES SERIAL NUMBERS (SEE APPENDIX A)

REV.1 3/27/90

FIGURE 0-1
SOLID WASTE MANAGEMENT UNIT (SWMUs) IN TA-0

301215 02 01 EIV75

TA-0
OPERATIONS AND ENVIRONMENTAL SETTING

Technical Area (TA) 0 includes all Los Alamos-related operations and sites outside the current and former Laboratory boundaries. Because of the special conditions involved in designating a SWMU as belonging to TA-0 and because of the varying topography and environmental conditions of TA-0, pertinent environmental information is provided in the unit descriptions that follow. SWMUs that had been previously identified in TA-0, but are now in a designated technical area are discussed in detail in the appropriate technical area discussion in this report. The SWMU's that have been renumbered are shown on Table I-1 in the introduction to this report.

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-0

0-001 SURFACE IMPOUNDMENTS
0-002 USED OIL CONTAINER STORAGE AREA (renumbered)
0-003 DECOMMISSIONED CONTAINER STORAGE AREA
0-004 ACTIVE CONTAINER STORAGE AREA
0-005 MORTANDAD CANYON LANDFILL
0-006 ACTIVE LANDFILL (renumbered)
0-007 INACTIVE AIRPORT LANDFILL (renumbered)
0-008 NORTH MESA SURFACE DISPOSAL
0-009 MATERIAL DISPOSAL AREA M (renumbered)
0-010 SURFACE DISPOSAL
0-011 MORTAR IMPACT AREAS
0-012 WESTERN STEAM PLANT
0-013 TWO-MILE MESA INCINERATOR (renumbered)
0-014 AIRPORT INCINERATOR / SURFACE DISPOSAL (renumbered)
0-015 ACTIVE FIRING RANGE
0-016 INACTIVE FIRING RANGE
0-017 WASTE LINES
0-018 ACTIVE WASTEWATER TREATMENT PLANTS
0-019 DECOMMISSIONED WASTEWATER TREATMENT PLANT
0-020 GARBAGE TRUCK AND CAN CLEANING (renumbered)
0-021 INACTIVE AIRPORT SEPTIC SYSTEMS (renumbered)
0-022 DECOMMISSIONED SEPTIC SYSTEM (renumbered)
0-023 SOIL CONTAMINATION / OPERATIONAL RELEASE (renumbered)
0-024 CISTERN
0-025 TANK MESA LANDFILL
0-026 GUN MOUNT LANDFILL
0-027 DP ROAD STORAGE AREA
0-028 LOS ALAMOS COUNTY RECREATION AREAS
0-029 LEAKAGE FROM PCB TRANSFORMERS
0-030 SEPTIC SYSTEMS
0-031 SOIL CONTAMINATION BENEATH FORMER SERVICE STATIONS
0-032 SOIL CONTAMINATION UNDER FORMER MOTORPOOL FACILITY
0-033 SOIL CONTAMINATION BENEATH FORMER ZIA WAREHOUSES

SUMMARY

LOCATION	: TA-0	MATERIALS MANAGED	: MIXED WASTE
TYPE OF UNIT(S)	: SURFACE IMPOUNDMENTS		SUSPECTED HAZARDOUS WASTE
UNIT USE	: STORAGE		
OPERATIONAL STATUS	: ACTIVE		
PERIOD OF USE	: SEE BELOW		
HAZARDOUS RELEASE	: SUSPECTED		
RADIOACTIVE RELEASE	: KNOWN		

UNIT INFORMATION

There are three surface impoundments near the laboratory boundary in Mortandad Canyon. The impoundments are aligned down the canyon, and capacity of the impoundments (in downstream direction) is 1 million, 200,000, and 500,000 gallons, respectively. These impoundments were first constructed at this location in the 1970s. Other impoundments had been used before these were built. The purpose of the impoundments is to prevent outfall water and sediment originating in Upper Mortandad Canyon from moving down canyon and outside of the laboratory boundaries.

WASTE INFORMATION

The waste consists of outfall water from laboratory operations and sediments. These include sorbed contaminants which are primarily radionuclides (including plutonium, americium, cobalt, and cesium), non-sorbed contaminants (including uranium and strontium), and possibly other chemicals.

RELEASE INFORMATION

There have been several small surface releases of water from the impoundments; however, so far as is known the flow did not extend very far below the impoundments. Some radiological surveys may have been performed below these impoundments.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-001	**			MORTANDAD CANYON

** No corresponding E. R. Program unit.

NOTES

This SWMU has been renumbered to SWMU No. 61-006.

SUMMARY

LOCATION	: TA-0	MATERIALS MANAGED	: SOLID WASTE
TYPE OF UNIT(S)	: CONTAINER STORAGE AREA		HAZARDOUS WASTE
UNIT USE	: STORAGE		
OPERATIONAL STATUS	: DECOMMISSIONED		
PERIOD OF USE	: ? - 1987		
HAZARDOUS RELEASE	: KNOWN		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

There was a container storage area at the Western Steam Plant, TA-0-1051, noted during the VSI. The area consisted of 55-gallon drums on pallets storing chemicals used for boiler water treatment. This container storage area, estimated to be 100 square feet, was decommissioned in 1987. The site is located near the LAAD Office Building on DOE property.

WASTE INFORMATION

The chemicals stored in the drums may have contained algicides for the treatment of water in the boilers.

RELEASE INFORMATION

The storage area was noted to have had releases from drum corrosion that resulted in spillage below the pallets. There were no release controls associated with this unit which allowed uncontrolled drainage to the adjacent canyon.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-003	**	0.003	Tsk 26 : 24	TA-0-1051

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-0
 TYPE OF UNIT(s) : CONTAINER STORAGE AREA
 UNIT USE : STORAGE
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : 7 - PRESENT
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

A container storage area is located in the 6th Street warehouse. This area is used for satellite storage of solvents. It is inspected on a regular basis. A 1975 engineering drawing (Z-4627) shows that the asphalt parking area of the 6th Street warehouse is sloped to drain into an unlined storm drainage ditch.

WASTE INFORMATION

This unit stores solvents. The storm drainage system manages storm water.

RELEASE INFORMATION

The facility is inspected regularly and is inside a building; releases from this unit are unlikely. Hazardous contaminants are not expected to occur in, or be released to, the storm drainage system. However, past operations at most container storage areas have resulted in systematic releases of solid wastes, including RCRA-regulated constituents.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-004	**		Tsk 26 : 25	

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-0
TYPE OF UNIT(s) : LANDFILL
UNIT USE : DISPOSAL
OPERATIONAL STATUS : INACTIVE
PERIOD OF USE : ? - 1988
HAZARDOUS RELEASE : NONE
RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : RADIOACTIVE WASTE

UNIT INFORMATION

In Mortandad Canyon approximately one mile east of the Los Alamos County line, there is a fenced area posted with warning signs for radioactivity. The fenced area was used in an experiment involving radionuclide uptake by plants. The CEARP noted drums within the fenced area, but a November 1988 field survey noted that the drums have been removed.

WASTE INFORMATION

The waste within the fenced area is soil containing radionuclides.

RELEASE INFORMATION

It is unknown whether there has been a release of radionuclides from within the fenced area.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-005	TA0-19-CA-1-RW			MORTANDAD CANYON

NOTES

This SWMU has been renumbered to SWMU No. 61-005.

NOTES

This SWMU has been renumbered to SWMU Nos. 73-001(a) and (b).

SUMMARY

LOCATION : TA-0
 TYPE OF UNIT(S) : SURFACE DISPOSAL
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : EST. 1950s - 1960s
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : UNKNOWN
 SOLID WASTE

UNIT INFORMATION

A small open disposal area containing building debris was observed by the CEARP field survey on North Mesa. The disposal area is thought to be associated with a small hutment, which may have been torn down. The hutment was previously used for weather measurements in connection with shots in Bayo Canyon. This site is located east of the Los Alamos County Fair and Rodeo Grounds on what is thought to be county land.

WASTE INFORMATION

The surface disposal area contains building debris and unknown materials. A recent field survey indicated that the waste has decomposed and the surface disposal area is difficult to identify.

RELEASE INFORMATION

It is unknown whether hazardous releases have occurred from this area.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-008	TA0-10-0L-1-SW		Tsk 25 : 10	NORTH MESA

NOTES

This SWMU has been renumbered to SWMU No. 9-013.

SUMMARY

LOCATION : TA-0
 TYPE OF UNIT(s) : SURFACE DISPOSAL
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : ?
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : UNKNOWN
 SOLID WASTE

UNIT INFORMATION

An area in which soil material was piled above the natural contour was observed on a small mesa south of MDA-B (TA-21) during a CEARP field survey. This area appears to have trenches on a 1948 aerial photograph. Additionally, a fence around this area is shown on a late 1940s engineering drawing. This site is located on DOE land in Los Alamos Canyon.

WASTE INFORMATION

Wastes that may have been deposited in the trenches are unknown.

RELEASE INFORMATION

Possible releases from this disposal area are unknown.

NOTES

The surface disposal north of TA-21 and south of Airport Road that was formerly 0-010 is now located in TA-73. See 73-005.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-010	**		Tsk 8 : 7	SOUTH OF MDA-B

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-0 MATERIALS MANAGED : HAZARDOUS WASTE
 TYPE OF UNIT(S) : MORTAR IMPACT AREAS
 UNIT USE : TESTING/DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1944 - 1948
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : NONE

UNIT INFORMATION

This unit consists of several mortar impact areas that cover a total of approximately 10 acres. Impact areas that have been identified as having existed in the Los Alamos area for firing various types of ordnance included: 1) 3 areas in Rendija Canyon [0-011(a), (b), and (c)], 2) Barranca Area [0-011(d)], and 3) 37-mm Canyon [0-011(e)]. The 1986 CEARP field survey found three possible areas in Rendija Canyon. One is a fenced and marked area [0-011(a)] east of the present Sportsmen's Club firing range and is thought to be on DOE land. The second area [0-011(b)] was north of the Sportsmen's Club firing range and is thought to have been on Forest Service land. The third area [0-011(c)] is marked only by the concrete foundation of a warning sign and by two nearly illegible signs that are near Rendija Canyon and Guaje Mountain Pass Trail and is thought to be on Forest Service land. The Barranca Area is located near Barranca Road; it is well-fenced and marked. No information is available on 37-mm Canyon. The impact area in the old TA-27 is fenced and posted. Some of impact areas have been surveyed and exposed munitions swept at periodic intervals and exposed residuals removed.

WASTE INFORMATION

The waste that may be present at the impact areas is HE and buried shell residuals.

RELEASE INFORMATION

Ordnance and HE are known to have been present in these areas; the extent of releases from these wastes is unknown.

NOTES

Impact area 0-011(f) is now located in TA-72. See 72-002. Impact area 0-011(g) is now located in TA-36. See 36-009. Impact area in TA-27 is now located in TA-27. See 27-003.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-011(a)	TA0-11-CA-I-HW		Tsk 25 : 15	RENDIJA CANYON
0-011(b)	TA0-11-CA-I-HW		Tsk 25 : 16	RENDIJA CANYON
0-011(c)	TA0-11-CA-I-HW		Tsk 25 : 17	RENDIJA CANYON
0-011(d)	TA0-11-CA-I-HW		Tsk 25 : 18	BARRANCA CANYON
0-011(e)	TA0-11-CA-I-HW		Tsk 25 : 19	37-mm CANYON

SUMMARY

LOCATION : TA-0
 TYPE OF UNIT(s) : UNDERGROUND TANK
 UNIT USE : DISPOSAL/TREATMENT
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : 1949 - PRESENT
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SOLID WASTE

UNIT INFORMATION

An active filtration tank is located at the Western Steam Plant, TA-0-1051. The tank is 10 ft long and 4 ft in diameter with a 24"-dia manhole. The blowdown from the steam plant is first routed to this underground storage tank through a 3"-dia drainline to remove any solids before the decant liquid is discharged to an outfall via a 4"-dia drainline that extends 5 ft from the building wall. The outfall is NPDES permit serial number 108 (see Appendix A). Floor drains in the Western Steam Plant connected to the sanitary sewer and were routed to the Bayo Wastewater Treatment Plant [0-018]. From 1976 to 1983, the Zia Wastewater Laboratory was within the Western Steam Plant. This site is located near the LAAO Office Building on DOE property.

WASTE INFORMATION

Presently, there are no known hazardous constituents in the blowdown water. Whether chromates or biocides were ever used is not known. Various chemicals used in water and wastewater analyses were routinely disposed of in the floor drains.

RELEASE INFORMATION

There have been no known hazardous releases from this tank. Chemicals from the Zia Wastewater Laboratory were routed to the Bayo Wastewater Treatment Plant.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-012	TA0-21-S-A-HW		Tsk 27 : 1072	TA-0-1051

NOTES

This SWMU has been renumbered to SWMU No. 69-001.

NOTES

This SWMU has been renumbered to SWMU No. 73-002.

SUMMARY

LOCATION : TA-0
TYPE OF UNIT(s) : FIRING SITE
UNIT USE : TESTING/DISPOSAL
OPERATIONAL STATUS : ACTIVE
PERIOD OF USE : 1966 - PRESENT
HAZARDOUS RELEASE : SUSPECTED
RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE
SOLID WASTE

UNIT INFORMATION

An active firing range (0-015) for private persons is located in Rendija Canyon at structure number TA-0-1078. This is the site of the Sportsmen's Club Firing Range.

WASTE INFORMATION

The waste at this site consists of spent lead bullets and metal cases.

RELEASE INFORMATION

The lead bullets are not removed. The extent of soil contamination, if any, by lead is unknown.

NOTES

The firing range at TA-0-274 [0-015(a)] is now in TA-72. See 72-001.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-015	TA0-2-CA-A-HW			TA-0-1078

SUMMARY

LOCATION : TA-0
TYPE OF UNIT(s) : FIRING SITE
UNIT USE : TESTING/DISPOSAL
OPERATIONAL STATUS : INACTIVE
PERIOD OF USE : LATE 1940s - 1960s
HAZARDOUS RELEASE : SUSPECTED
RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE
SOLID WASTE

UNIT INFORMATION

This unit is a firing range that received extensive use before the new range was built in Sandia Canyon. The range occupied approximately two acres on what is now the townsite. It is shown on aerial photographs and topographic maps from the late 1940's to be near the present Los Alamos (Guaje Pine) cemetery. Several small buildings and mounded earth to catch shots were associated with the unit. Steps, concrete pads, and dirt mounds were found during the 1986 CEARP field survey. The lead shot was not removed. The land is currently owned by the U.S. Forest Service.

WASTE INFORMATION

The waste consists of lead bullets and spent shells.

RELEASE INFORMATION

Lead bullets were not removed. The extent of soil contamination, if any, by lead is unknown.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-016	TA0-1-CA-1-HW		Tsk 25 : 9	

SUMMARY

LOCATION	: TA-0	MATERIALS MANAGED :	HAZARDOUS WASTE
TYPE OF UNIT(s)	: WASTE LINE		RADIOACTIVE WASTE
UNIT USE	: DISPOSAL		MIXED WASTE
OPERATIONAL STATUS	: INACTIVE/DECOMMISSIONED		
PERIOD OF USE	: EST. 1950s - 1970s		
HAZARDOUS RELEASE	: KNOWN		
RADIOACTIVE RELEASE	: KNOWN		

UNIT INFORMATION

Throughout the Laboratory, 39,000 feet of underground acid/industrial waste lines and associated sumps and pumps have been used to transport waste to various treatment facilities. The lines transported liquid radioactive waste generated by Laboratory operations. In operating the Laboratory, the underground liquid waste lines and associated structures have become contaminated. Various decommissioning operations have taken place, and presently, only a few lines remain in place.

WASTE INFORMATION

The liquid wastes contained radionuclides and other chemicals, notably acidic compounds.

RELEASE INFORMATION

Leaks were known to have occurred in the sumps and waste lines. Most of the contamination has been removed; however, some small isolated sections of waste lines and areas of contamination remain.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-017	TA0-16-CA/S-I-HW/RW			

SUMMARY

LOCATION	: TA-0	MATERIALS MANAGED :	SANITARY WASTE
TYPE OF UNIT(s)	: WASTEWATER TREATMENT PLANT		SUSPECTED HAZARDOUS WASTE
UNIT USE	: TREATMENT		SUSPECTED RADIOACTIVE WASTE
OPERATIONAL STATUS	: ACTIVE		
PERIOD OF USE	: ? - PRESENT		
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: UNKNOWN		

UNIT INFORMATION

Two wastewater treatment plants that have received waste from the Laboratory are present in TA-0: Pueblo and Bayo [0-018(a) and (b)]. These plants are now county-owned and operated. These plants are located within the county and receive waste liquids from businesses and residences. Some office space leased by LANL is served by the waste treatment plants. The Pueblo Plant receives sewage from businesses and residences east of Diamond Drive and north of Canyon Drive. There is some indication that the Pueblo Plant may have received waste from the medical laboratory in TA-43 at some time. The Bayo Plant received effluent from TA-43.

WASTE INFORMATION

The waste treatment plants generally manage sanitary wastes, and some laboratory and maintenance facility wastes. The Bayo and Pueblo Plants may have received radioactive waste and lab chemicals.

RELEASE INFORMATION

The plants have NPDES-permitted outfalls to canyons that drain to the Rio Grande. It is unknown whether hazardous waste has been released. Effluent from both the Bayo and Pueblo Plants has been monitored for radionuclides because of the potential for receiving laboratory waste.

NOTES

The White Rock Wastewater Treatment Plant [0-018(a)] was deleted because it never received Laboratory waste.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-018(a)	TA0-15-0/CA-A/I-HW/RW		Tsk 27 : 1006	
0-018(b)	TA0-15-0/CA-A/I-HW/RW		Tsk 27 : 1007	

SUMMARY

LOCATION	: TA-0	MATERIALS MANAGED	: SANITARY WASTE
TYPE OF UNIT(S)	: WASTEWATER TREATMENT PLANT		SUSPECTED HAZARDOUS WASTE
UNIT USE	: TREATMENT		SUSPECTED RADIOACTIVE WASTE
OPERATIONAL STATUS	: DECOMMISSIONED		
PERIOD OF USE	: 1940s - 1964		
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: UNKNOWN		

UNIT INFORMATION

The Central wastewater plant was active from the 1940s to 1964 when it was abandoned and subsequently decommissioned. Sewage from businesses and residences east of Diamond Drive and south of Canyon Road was treated at the Central Plant. Zia motor pool and storage facilities were among the businesses served by the plant. Residences located between the Central Plant and the airport were also connected to the Central Plant. Effluent from the Central Plant was routed through an 8"-dia steel drainline along Canyon Road. The effluent line split into an 8"-dia line that discharged at the Golf Course and a 6"-dia line that discharged into Los Alamos Canyon at the end of 39th Street. This site is located on Los Alamos County land in the vicinity of East Park.

WASTE INFORMATION

This wastewater treatment plant generally managed sanitary waste; however, it may have also received radioactive waste and lab chemicals.

RELEASE INFORMATION

The extent to which hazardous waste may have been released from this plant is unknown.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-019	TA0-15-O/CA-A/I-HW/RW		Tsk 27 : 1008	

NOTES

This SWMU has been renumbered to SWMU No. 73-003.

NOTES

This SWMU has been renumbered to SWMU Nos. 73-004(a) and (b).

NOTES

This SWMU has been renumbered to SWMU No. 61-004(b).

NOTES

This SWMU has been renumbered to SWMU No. 61-007.

SUMMARY

LOCATION : TA-0
TYPE OF UNIT(S) : WELL
UNIT USE : DISPOSAL
OPERATIONAL STATUS : INACTIVE
PERIOD OF USE : ? - 1965
HAZARDOUS RELEASE : NONE
RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

In 1965, ordnance-type materials from an old cistern on Barranca Mesa were removed. However, details regarding the ordnance removal are lacking. This site is east of the Sportsmen's Club on what is thought to be Los Alamos County land.

WASTE INFORMATION

The materials removed from the cistern are described by the CEARP as ordnance.

RELEASE INFORMATION

It is unknown whether sampling has been conducted. CEARP notes that there was no indication of residual contamination of environmental concern at the site.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-024	TA0-7-CA-1-HW		Tsk 25 : 8	

SUMMARY

LOCATION : TA-0
TYPE OF UNIT(S) : LANDFILL
UNIT USE : DISPOSAL
OPERATIONAL STATUS : INACTIVE
PERIOD OF USE : ?
HAZARDOUS RELEASE : UNKNOWN
RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : UNKNOWN

UNIT INFORMATION

A possible landfill was identified in an engineering file (1757) evaluated by CEARP. The information indicated the possibility of past disposal activities on Tank Mesa. The exact location of Tank Mesa is uncertain; however, it is believed to be south of Rendija Canyon and north of Barranca Mesa. This site is thought to be located on Los Alamos County land east of the Sportsmen's Club.

WASTE INFORMATION

The waste in this possible landfill is unknown.

RELEASE INFORMATION

It is unknown whether hazardous releases have occurred from this area.

NOTES

This SWMU was formerly SWMU No. 0-XXX.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-025	TA0-18-L-1-HW/RW		Tsk 25 : 12	

SUMMARY

LOCATION	: TA-0	MATERIALS MANAGED	: RADIOACTIVE WASTE
TYPE OF UNIT(s)	: LANDFILL		SOLID WASTE
UNIT USE	: DISPOSAL		
OPERATIONAL STATUS	: INACTIVE		
PERIOD OF USE	: 1946		
HAZARDOUS RELEASE	: NONE		
RADIOACTIVE RELEASE	: UNKNOWN		

UNIT INFORMATION

CEARP reports that an interviewee indicated that an uranium-contaminated, bolt-down, Navy-style, 5' x 5' x 6' gun mount that had been used at Anchor Ranch was buried on North Mesa in 1946. The site was not identified. So far as known, the gun mount was never recovered. North Mesa was also the location of radio poles, hutments and other miscellaneous structures in the 1940's. Details of the decommissioning of these structures are lacking. This site is thought to be located in the vicinity of the Los Alamos County Fair and Rodeo Grounds.

WASTE INFORMATION

The waste buried at this disposal site is a uranium-contaminated steel gun mount. It is unknown if the structures were contaminated.

RELEASE INFORMATION

No known hazardous releases have occurred from this area.

NOTES

This SWMU was formerly SWMU No. 0-XXX.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-026	TA0-8-L-I-SW TA0-9-CA-I-RW/HW		Tsk 25 : 13	

SUMMARY

LOCATION : TA-0
 TYPE OF UNIT(s) : PIT
 UNIT USE : STORAGE
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1948 - ?
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

Engineering drawing Z-252 (1948) indicates that an area north of DP Road, in the vicinity of the present Knights of Columbus Hall, was used for drum storage. The drum storage area consisted of 6 compartments, each about 38 ft wide, separated by a 2-ft high earthen dikes. The floors of the compartments were covered by 2 inches of gravel and were sloped to the northwest. An iron drain pipe was present below each compartment. It is unknown whether the drain pipe was removed. In 1947, eight aboveground oil storage tanks were located in this same area. The tanks are shown on a 1947 engineering drawing and are visible on a 1947 aerial photograph. Engineering drawing Z-252 (1948) indicates the presence of fill stations along the north side of the drum storage area. These fill stations were presumably associated with the oil storage tanks, which had been removed prior to construction of the drum storage area.

WASTE INFORMATION

The oil storage tanks and, later, the drums in storage contained fuel oil.

RELEASE INFORMATION

It is unknown whether releases of hazardous material have occurred from this area.

NOTES

This SWMU was formerly SWMU No. 0-XXX.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-027	TAO-12-L-I-RW/MW		Tsk 25 : 14	

SUMMARY

LOCATION : TA-0
 TYPE OF UNIT(s) : SOIL CONTAMINATION
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1940s - 1964
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : SUSPECTED

MATERIALS MANAGED : MIXED WASTE

UNIT INFORMATION

The Los Alamos County Golf Course [0-028(a)] and the North Mesa Road Athletic Fields [0-028(b)] received treated effluent from the Central Wastewater Treatment Plant (see 0-019) and the Pueblo Wastewater Treatment Plant (see 0-018). Engineering drawings SFA-R-711 and Z650 indicate that an irrigation line was run from these wastewater treatment plants to these recreation areas.

WASTE INFORMATION

The effluent may have contained radioactive waste and laboratory chemicals.

RELEASE INFORMATION

The extent of radioactive or hazardous releases to these areas is unknown.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-028(a)	**			
0-028(b)	**			

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-0	MATERIALS MANAGED	: SOLID WASTE
TYPE OF UNIT(S)	: SOIL CONTAMINATION		PCBs
UNIT USE	: DISPOSAL		SUSPECTED HAZARDOUS WASTE
OPERATIONAL STATUS	: DECOMMISSIONED		
PERIOD OF USE	: ? - 1987		
HAZARDOUS RELEASE	: SUSPECTED		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

All transformers removed since 1985 are visually inspected before removal. If stains are observed on the soil or concrete, the soil is analyzed for PCBs and appropriate cleanup procedures are implemented. The following are transformers that are known to have leaked in TA-0:

SWMU NO.	STRUCTURE NO.	NO. OF TRANSFORMERS	DATE REMOVED	ANALYTICAL RESULTS	CAPACITY	LOCATION
0-029(a)	00-1105	2	10/14/87	292 ppm 162 ppm	43 gal.	LA Well #5
0-029(b)	00-1104	3	10/14/87	231 ppm 206 ppm 362 ppm	43 gal.	LA Well #4
0-029(c)	00-234	1	4/19/86	<50 ppm	43 gal.	Guaje Well #1

These three sites are believed to be located on the San Ildefonso Indian Reservation.

WASTE INFORMATION

The transformers contained oil with PCB concentrations of between <50 and 362 ppm.

RELEASE INFORMATION

Cleanup operations have been implemented at each site. It is unknown whether residual contamination remains.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E. R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-029(a)	**		Tsk 27 : 1077	00-1105
0-029(b)	**		Tsk 27 : 1078	00-1104
0-029(c)	**		Tsk 27 : 1080	00-234

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-0
 TYPE OF UNIT(s) : SEPTIC SYSTEM
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : UNKNOWN
 PERIOD OF USE : LATE 1940s - ?
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : SANITARY WASTE

UNIT INFORMATION

The following septic systems have been identified from engineering drawings:

SWMU NO.	ENGINEERING DRAWING	LOCATION	SIZE	BUILDING SERVED	OVERFLOW
0-030(a)	Z-252 (1948)	North of DP Road, LANL coordinates N97+50 E112+50	6.6' x 3.6' x 5.75' 4" VCP piping	Fuel dispatch office	unknown
0-030(b)	"Post Plan" (1947) "Septic Tanks #1"	South of DP Road, near intersection w/ Trinity	20' x 15' x (?)	Zia Warehouses	unknown
0-030(c)	"Post Plan" (1947) "Septic Tank #1A"	North of Canyon Rd., near intersection w/ Manhattan Loop	unknown	unknown	unknown
0-030(d)	"Post Plan" (1947) "Septic Tank #2"	Cul de sac of Pine Street	unknown	unknown	unknown
0-030(e)	"Post Plan" (1947) "Septic Tank #4" & "Septic Tank #4A"	North and south of Canyon Rd., north of Sage	unknown	unknown	unknown
0-030(f)	"Post Plan" (1947) "Septic Tank #5"	South of Canyon Rd., north of Spruce St.	unknown	unknown	unknown
0-030(g)	"Post Plan" (1947) "Septic Tank #6"	North of Canyon Rd., west of intersection with Central	unknown	unknown	unknown
0-030(h)	"Post Plan" (1947) "Septic Tank #7"	North of Canyon Rd., south of 35th Street	unknown	unknown	unknown
0-030(i)	"Post Plan" (1947) "Septic Tank #8"	South of Trinity Dr., east of 35th Street	unknown	unknown	unknown
0-030(j)	"Post Plan" (1947) "Septic Tank"	West of Central Waste- water Treatment Plant	unknown	unknown	unknown
0-030(k)	"Post Plan" (1947) "Septic Tank"	East of Central Waste- water Treatment Plant	unknown	unknown	unknown
0-030(l)	P.E. 434 (1946)	120-7th Street	1000 gallon	Zia Warehouses 3 and 4	outfall
0-030(m)	P.E. 434 (1946) "Grease Trap"	Near 120-7th Street	unknown	Materials Testing Laboratory	unknown

WASTE INFORMATION

The septic systems presumably handled sanitary waste, although other potentially hazardous materials may also have been discharged to these systems. All of the septic systems, with the exceptions of 0-030(a), (b), (l), and (m), appear to be associated with residential areas. Septic systems 0-030(a), (b), (l), and (m) served various Zia Company facilities.

(continued)

RELEASE INFORMATION

It is unknown whether releases of hazardous or radioactive materials occurred from these septic systems.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-030(a)	**			
0-030(b)	**			
0-030(c)	**			
0-030(d)	**			
0-030(e)	**			
0-030(f)	**			
0-030(g)	**			
0-030(h)	**			
0-030(i)	**			
0-030(j)	**			
0-030(k)	**			
0-030(l)	**			
0-030(m)	**			

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-0	MATERIALS MANAGED	: SOLID WASTE
TYPE OF UNIT(s)	: SOIL CONTAMINATION		SUSPECTED HAZARDOUS WASTE
UNIT USE	: DISPOSAL		
OPERATIONAL STATUS	: INACTIVE		
PERIOD OF USE	: ?		
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

A service station [0-031(a)] was located on Trinity Drive near its intersection with 4th Street. It was operated by the Zia Company on land owned by the Atomic Energy Commission. This service station had at least two 10,000-gallon underground storage tanks to store gasoline, according to a Zia employee. It is not known whether oil sumps were also present. The date and details of decommissioning are not available, although the building is shown on a 1962 engineering drawing (Z-424). The underground storage tanks were removed during decommissioning. Another service station [0-031(b)] was located on Trinity Drive near 9th Street. It was built in 1959 adjacent to the police station, as shown on Engineering Drawing Z-1676. A 10,000-gallon underground storage tank and two fuel pumps were installed for this service station. The date and details of this decommissioning are unknown. Both of these sites are thought to be located on private land.

WASTE INFORMATION

The wastes potentially included are hydrocarbons (gasoline and oil) and possibly solvents.

RELEASE INFORMATION

It is unknown whether hazardous materials were released to the soil underlying the service station.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-031(a)	**			
0-031(b)	**			

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-0	MATERIALS MANAGED	: SOLID WASTE
TYPE OF UNIT(S)	: SOIL CONTAMINATION		HAZARDOUS WASTE
UNIT USE	: DISPOSAL		
OPERATIONAL STATUS	: INACTIVE		
PERIOD OF USE	: LATE 1940s - ?		
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

Zia Company motorpool facilities were located between Central Avenue and Trinity Drive at 15th Street. In 1958, according to engineering drawing Z-1540 (1958), the motorpool facilities consisted of an automotive maintenance hangar and three other buildings. The maintenance hangar included a vehicle greasing area, vehicle washing area, four subsurface pits, locker room, latrine, and body shop, as shown on engineering drawing Z-498 (1950). The pits contained gravel fill and piping for drainage; the purpose of these pits is unknown. In 1958, a surface storm drainage system was added to the area between the maintenance hangar and a building labeled "BLDG NO. 1" on engineering drawing Z-1540 (1958). Inlet drains connected to 15"-diameter corrugated metal pipes and drained to the curb along Trinity Drive. In 1962, the maintenance hangar was removed and all of its services transferred to other buildings. According to engineering drawing Z-1362, there were four buildings that housed the modified motorpool: Building 1 contained carburetion and ignition section, parts issue, battery repair, radiator repair, superintendent's office, chassis repair, plant maintenance, body and sheet metal shop, and paint shop; Building 2 contained machine tools, blacksmith shop, materials control office, and equipment repair bays; Building 3 contained the frame, front end, and wheel shop; Building 4 contained the tire repair shop and administrative offices. Currently, buildings 1, 2, and 3 contain numerous private retail establishments. Building 4 was removed and private commercial buildings are located over its former location. Prior to construction of the Zia Motorpool Facility, the site was used for military personnel sleeping quarters.

WASTE INFORMATION

The types of wastes handled in the motorpool facility are expected to include oil, grease, gasoline, solvents, paint, metals, washwater, and storm water.

RELEASE INFORMATION

It is unknown whether releases occurred from these facilities.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-032	**			

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-0	MATERIALS MANAGED	: UNKNOWN
TYPE OF UNIT(S)	: SOIL CONTAMINATION		SOLID WASTE
UNIT USE	: DISPOSAL		
OPERATIONAL STATUS	: INACTIVE		
PERIOD OF USE	: 1946 - 1961		
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

The Zia Company had warehouse facilities along 7th Street, south of DP Road. In 1946, there were five warehouse buildings and a cold storage plant, according to engineering drawing PE 434. There were storm drains around the two buildings that were divided into Warehouse 1 and 2 and Warehouse 3 and 4. The storm drains had outfalls into Los Alamos Canyon. Warehouse 1/2 had a 4 sq ft concrete "blow-off" tank and a 5000-gallon steel fuel oil storage tank associated with the boiler room. In 1948, a materials testing laboratory was constructed to the south of Warehouse 3/4. This materials testing laboratory had three floor drains served by two drainlines that had outfalls into Los Alamos Canyon. A 1961 engineering drawing (Z-803) shows Warehouse building 3/4 was leased by private commercial entities. It is now thought that part of this property is DOE-owned and part is privately owned.

WASTE INFORMATION

Waste generating operations in the warehouses, cold storage plant, and materials testing laboratory are unknown. Soil around the fuel oil tank could potentially contain fuel oil. Other potential wastes are unknown.

RELEASE INFORMATION

There was a reported incident of solvents stored in the Zia warehouse having crystallized. The crystallized solvents were taken to the parking lot and washed down with water. The resulting liquid discharged through the storm drains. No other release information is available.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
0-033	**			

** No corresponding E. R. Program unit.

**TA-0 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURES INDEX**

SWMU	FIGURE NUMBER
0-001	0-1
0-003	0-1
0-004	0-1
0-005	0-1
0-008	0-1
0-010	0-1
0-011(a)	0-1
0-011(b)	0-1
0-011(c)	0-1
0-011(d)	0-1
0-011(e)	Not shown, location unknown
0-012	0-1
0-015	0-1
0-016	0-1
0-017	Not shown
0-018(a)	0-1
0-018(b)	0-1
0-019	0-1
0-024	0-1
0-025	0-1
0-026	0-1
0-027	0-1
0-028(a)	0-2
0-028(b)	0-2
0-029(a)	0-1
0-029(b)	0-1
0-029(c)	0-1
0-030(a)	0-2
0-030(b)	0-2
0-030(c)	0-2
0-030(d)	0-2
0-030(e)	0-2
0-030(f)	0-2
0-030(g)	0-2
0-030(h)	0-2
0-030(i)	0-2
0-030(j)	0-2
0-030(k)	0-2
0-030(l)	0-2
0-030(m)	0-2

Rev. 1, 3/27/90

LAN:TA-Units/1

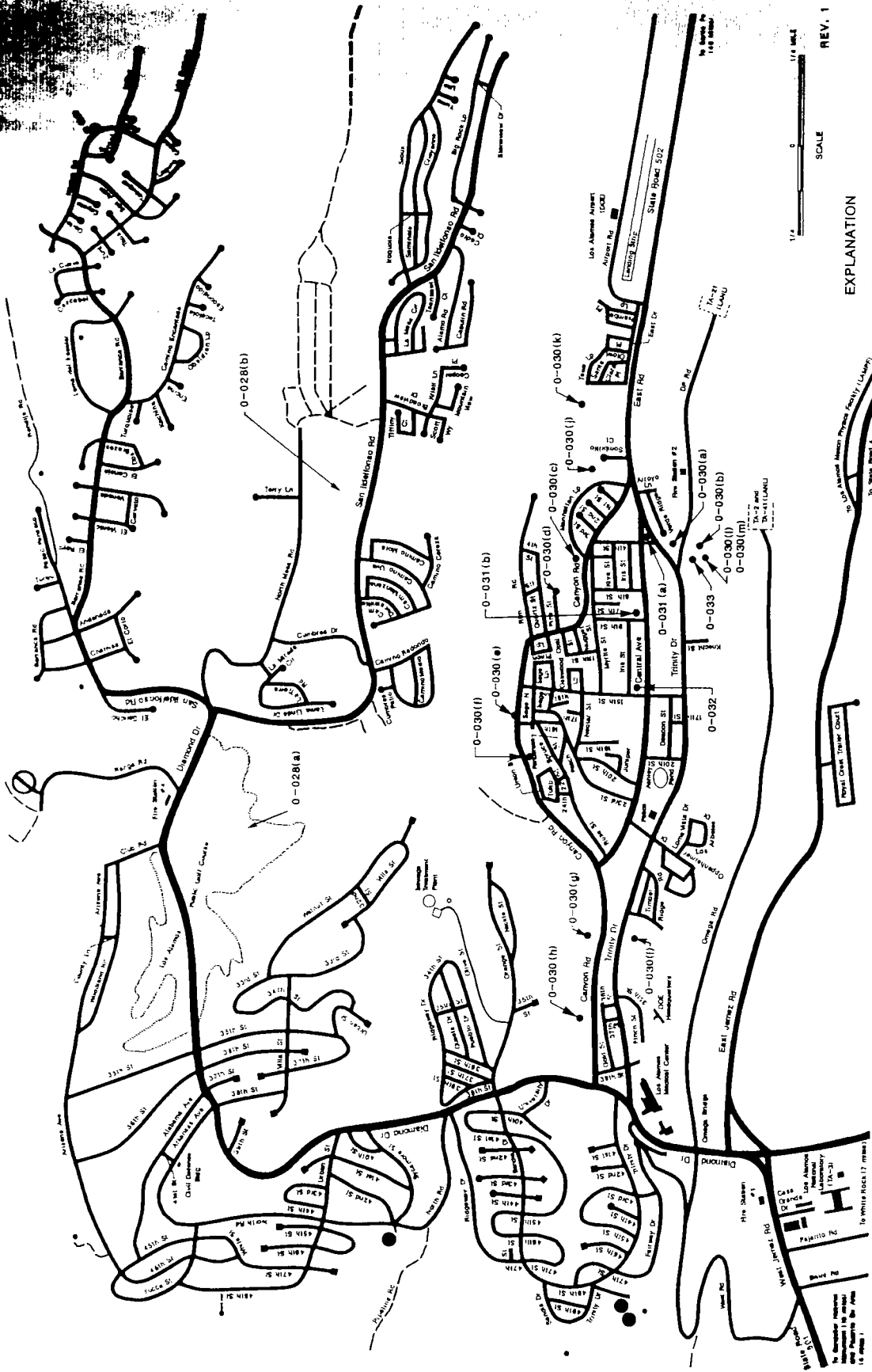
**TA-0 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURES INDEX
(CONTINUED)**

SWMU	FIGURE NUMBER
0-031 (a)	0-2
0-031 (b)	0-2
0-032	0-2
0-033	0-2

NOTE: Some structure locations may contain more than one SWMU.

Rev. 1, 3/27/90

LAN:TA-Units/2



SCALE 1/4" = 1/2 MILE

REV. 1 3/27/90

EXPLANATION

0-001 SWMU LOCATION

SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-0

TA-1 OPERATIONS AND ENVIRONMENTAL SETTING

Technical Area (TA) 1 was the first technical area at the Laboratory which housed the theoretical divisions, Laboratory administration, plutonium chemistry, physics research, and other activities beginning in November, 1942. Between 1943 and 1945, much of the theoretical, experimental, and production work in developing the atomic bomb took place in the main technical area. Beginning in the 1950s, a slow move to new facilities at TA-3 on South Mesa took place. TA-1 became inactive by 1965 and was decontaminated and demolished in stages beginning in 1966. By the late 1960's the U.S. Atomic Energy Commission (AEC) relinquished the old TA-1 area so that it could be used for residential and commercial development (DOE, 1987a).

The site of the former TA-1 lies at an elevation of approximately 7,300 feet asl. It is located on East Mesa, outside of the current operating boundary of the Laboratory in the area now incorporating parts of the Los Alamos town site both on the north and south sides of Trinity Drive. East Mesa is bounded by Pueblo Canyon on the north, Los Alamos Canyon on the south, and DP Canyon (a branch of Los Alamos Canyon) on its southeastern edge. The site is underlain by welded Bandelier Tuff. Vegetation at the location of former TA-1 is in the Ponderosa Pine overstory vegetation zone (DOE, 1979a). The soil consists of Ponga fine sandy loam, a well drained soil, typical of gently to steeply sloping mesa tops (Nyhan et al., 1978).

The potentiometric surface of the main aquifer in the Los Alamos area lies at 6,050 to 6,125 feet asl at the location of former TA-1. The aquifer is in the Tertiary sedimentary rocks of the Tesuque and Puye Formations. Over 1,000 feet of unsaturated tuff and volcanic rock separate the surface from the aquifer. There is little potential for downward flow from the surface because of low moisture conditions of the tuff (IT, 1987a).

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-1

1-001	SEPTIC SYSTEMS
1-002	ACID WASTE LINES, OUTFALL, AND RECEIVING CANYON
1-003	LANDFILL AND SURFACE DUMPS
1-004	INCINERATORS
1-005	BENCH-SCALE INCINERATOR
1-006	DRAINLINES AND OUTFALLS
1-007	SOIL CONTAMINATION BENEATH FORMER BUILDINGS

SUMMARY

LOCATION : TA-1
 TYPE OF UNIT(S) : SEPTIC SYSTEM
 UNIT USE : TREATMENT/DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1940s - 1960s
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : KNOWN

MATERIALS MANAGED : SANITARY WASTE
 SUSPECTED HAZARDOUS WASTE
 RADIOACTIVE WASTE

UNIT INFORMATION

Several septic tanks operated in TA-1 throughout its operational period.

STRUCTURE	SWMU NO.	USE PERIOD	DIMENSIONS	CONSTRUCTION	REMOVED
TA-1-134	1-001(a)	1949 - 1964	5' x 9'2" x 6'7" deep	reinforced concrete	1975
TA-1-135	1-001(b)	1949 - 1964	8'3" x 3'6" x 5'8" deep, 4" thick	reinforced concrete	1975
TA-1-137	1-001(c)	1944 - 1953	4' dia x 4' deep	cylindrical metal	1975
TA-1-138	1-001(d)	1943 - 1956	4' dia x 4' deep	cylindrical metal	1975
TA-1-139	1-001(e)	1944 - 1965	3' x 6' x 5' deep	reinforced concrete	
TA-1-140	1-001(f)	1945 - 1965	5' x 10' x 6'2" deep	reinforced concrete	1976
TA-1-141	1-001(g)	1943 - 1965	4' dia x 4' deep	cylindrical metal	1975
TA-1-142	1-001(h)	1944 - 1953	5' x 10' x 6' deep	reinforced concrete	1976
TA-1-143	1-001(i)	1951 - 1965	4' dia x 4' deep	cylindrical metal	1975
TA-1-149	1-001(j)	1943 - ?	6' x 16'	steel	
TA-1-268	1-001(k)	1948 - 1964	250 gallons		
TA-1-269	1-001(l)	1945 - 1954	9' long x 29" dia	tile	
TA-1-275	1-001(m)	1944 - 1946	300 gallons		
TA-1-276	1-001(n)	1944 - 1946	4' x 6' x 4' high	reinforced concrete	1977

Tank TA-1-149 was taken to TA-3.

In addition, drainlines from a large sanitary sewer system served numerous buildings in the TA-1 area throughout its operational period. Portions of these sewer lines may still exist.

SWMU NO.	BUILDING(S) SERVED	OUTFALL
1-001(o)	TA-1-34, -42	Head of Bailey's Canyon
1-001(p)	TA-1-49, -42	Bailey's Canyon
1-001(q)	TA-1-46	24th Street
1-001(r)	TA-1-17	
1-001(s)	TA-1-1, -2, -4, -5, -6, -21, -43, -56, -70	Near the acid-sewer outlet
1-001(t)	TA-1-1, -17, -22, -43, -46, -47, -50, -53, -64, -69, -70, -71, -83, -127	
1-001(u)	TA-1-115	
1-001(v)	TA-1-46	
1-001(w)	TA-1-46, -127	

It is thought that most of these sites are located on Los Alamos County land but that a few may be located on private land.

WASTE INFORMATION

The septic systems received predominantly sanitary liquid waste, although at several times received liquids from various industrial operations which included radionuclides and could have included solvents and other chemicals.

RELEASE INFORMATION

Most of the discharge tanks have been removed along with their associated drain lines. The laundry facility at TA-1 originally discharged directly to the hillsides. The discharges from Tank 137 and perhaps other discharges have contaminated the hillsides below the tank with plutonium-239 and any associated chemicals and solvents. The same is true for the hillside below Tank 138. The discharge area below Tank 140 is contaminated with uranium and any associated chemicals and solvents. These areas have not yet been decommissioned and the contamination remains in place. Whether mobilization of waste constituents has occurred is not known. Possible contamination associated with sanitary drainlines, and specifically the drainline which served TA-1-5 and -6, may remain in place under existing buildings and structures on private property.

(continued)

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
1-001(a)	TA1-5-ST-I-HW/RW		Tsk 11 : 4 43	TA-1-134
1-001(b)	TA1-5-ST-I-HW/RW		Tsk 11 : 5 44	TA-1-135
1-001(c)	TA1-2-CA-I-HW/RW		Tsk 11 : 1 45	TA-1-137
	TA1-5-ST-I-HW/RW			
1-001(d)	TA1-2-CA-I-HW/RW		Tsk 11 : 2 46	TA-1-138
	TA1-5-ST-I-HW/RW			
1-001(e)	TA1-5-ST-I-HW/RW		Tsk 11 : 6 47	TA-1-139
1-001(f)	TA1-2-CA-I-HW/RW		Tsk 11 : 3 48	TA-1-140
	TA1-5-ST-I-HW/RW			
1-001(g)	TA1-5-ST-I-HW/RW		Tsk 11 : 7 49	TA-1-141
1-001(h)	TA1-5-ST-I-HW/RW		Tsk 11 : 8 50	TA-1-142
1-001(i)	TA1-5-ST-I-HW/RW		Tsk 11 : 9 51	TA-1-143
1-001(j)	TA1-5-ST-I-HW/RW			TA-1-149
1-001(k)	TA1-5-ST-I-HW/RW		Tsk 11 : 10 52	TA-1-268
1-001(l)	TA1-5-ST-I-HW/RW		Tsk 11 : 11 53	TA-1-269
1-001(m)	TA1-5-ST-I-HW/RW		Tsk 11 : 12 54	TA-1-275
1-001(n)	TA1-5-ST-I-HW/RW		Tsk 11 : 13 55	TA-1-276
1-001(o)	TA1-5-ST-I-HW/RW		Tsk 11 : 14 56	TA-1-34, -42
1-001(p)	TA1-5-ST-I-HW/RW		Tsk 11 : 15 57	TA-1-49, -42
1-001(q)	TA1-5-ST-I-HW/RW		Tsk 11 : 16 58	TA-1-46
1-001(r)	TA1-5-ST-I-HW/RW		Tsk 11 : 59	TA-1-17
1-001(s)	TA1-5-ST-I-HW/RW		Tsk 11 : 60	TA-1-1, -2, -4, -5, -6, -21, -43, -56, -70
1-001(t)	TA1-5-ST-I-HW/RW		Tsk 11 : 61	TA-1-1, -17, -22, -43, -46, -47, -50, -53, -64, -69, -70, -71, -83, -127
1-001(u)	TA1-5-ST-I-HW/RW		Tsk 11 : 62	TA-1-115
1-001(v)	TA1-5-ST-I-HW/RW		Tsk 11 : 63	TA-1-46
1-001(w)	TA1-5-ST-I-HW/RW		Tsk 11 : 64	TA-1-46, -127

SUMMARY

LOCATION : TA-1
 TYPE OF UNIT(S) : OUTFALL
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : DECOMMISSIONED
 PERIOD OF USE : 1943 - 1951
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : KNOWN

MATERIALS MANAGED : MIXED WASTE

UNIT INFORMATION

The acid waste lines once serving TA-1 discharged to an outfall located near the present county swimming pool. The outfall discharged to a small tributary of Pueblo Canyon, known as Acid/Pueblo Canyon. Although the lines have been decommissioned, portions of the drainline and of two manhole structures may remain at a depth of more than 20 feet. After 1951, the liquids were treated at TA-45 prior to disposal in Acid/Pueblo Canyon. Later, during decommissioning of TA-45, rock and soil at the untreated outfall were removed and taken to TA-54, MDA-G.

WASTE INFORMATION

The waste consisted of untreated industrial wastewater containing radionuclides, solvents, and other chemicals.

RELEASE INFORMATION

The waste lines and soil at the outfall area have been removed. The receiving Acid/Pueblo and Pueblo Canyon system still retains an inventory of radionuclides. The trenches from which drainlines were excavated were found to have no radioactive contamination; no analyses for hazardous chemical constituents were conducted. The extent of chemical contamination is not known, as detailed data is not available. Radioactive contamination in the receiving area extends from Acid/Pueblo Canyon through lower Los Alamos Canyon. Early measurements indicated plutonium concentrations of 0.122-550 pCi/g in a 250,000 square meter area of Acid/Pueblo Canyon. Contamination from the acid waste lines is also present in the vicinity of former Building D (TA-1-6).

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
1-002	TA1-1-CA-I-HW/RW TA1-4-CA-I-HW/RW		Tsk 11 : 73	TA-1-6, -49, -42, -43, -4, -26, -56, -115

SUMMARY

LOCATION	: TA-1	MATERIALS MANAGED :	SOLID WASTE
TYPE OF UNIT(s)	: LANDFILL/SURFACE DISPOSAL		RADIOACTIVE WASTE
UNIT USE	: DISPOSAL		HAZARDOUS WASTE
OPERATIONAL STATUS	: INACTIVE		
PERIOD OF USE	: 1960s		
HAZARDOUS RELEASE	: NONE		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

A landfill [1-003(a)] is located in the Bailey Bridge, TA-1-131, area and measures approximately 200' x 100' x 100' deep (including clean fill cover). Several other surface disposal areas are located below the canyon rim. These other canyon debris disposal areas are located on the north rim of Los Alamos Canyon, including one [1-003(b)] observed just east of Bailey's Canyon, one west of Bailey's Canyon [1-003(c)], and one [1-003(d)] observed just south of the telephone building. A further debris disposal area [1-003(e)] was located just southeast of the Los Alamos Inn. All of these sites are thought to be on Los Alamos County land.

WASTE INFORMATION

These disposal areas primarily received construction debris, although the Bailey Bridge landfill [1-003(a)] also received concrete contaminated with low levels of uranium. Material with <2500 counts per minute of surface alpha contamination was bulldozed or trucked to the drainage area crossed by Bailey Bridge, dumped there, and in time, covered with fill material. Remnants of the debris disposed of in Los Alamos Canyon [1-003(b)] included concrete, utility boxes, pipe and other construction material. In another area [1-003(d)], cans for paints and solvents that appeared to have been deposited over the side of the canyon were seen protruding from the soil. Based on what is known about the debris in the Bailey's Canyon area, low-level gross alpha contamination may exist.

RELEASE INFORMATION

No releases are known to have occurred from any of these units.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
1-003(a)	TA1-3-OL-1-RW/HW	0.011	Tsk 11 : 92	BELOW TA-1-131
1-003(b)	TA1-3-OL-1-RW/HW	0.011	Tsk 11 : 94	EAST OF BAILEY'S CANYON
1-003(c)	TA1-3-OL-1-RW/HW	0.011	Tsk 11 : 93	WEST OF BAILEY'S CANYON
1-003(d)	TA1-3-OL-1-RW/HW	0.011	Tsk 11 : 96	SOUTH OF TELEPHONE BUILDING
1-003(e)	TA1-3-OL-1-RW/HW	0.011	Tsk 11 : 95	SOUTHEAST OF LOS ALAMOS INN

SUMMARY

LOCATION : TA-1
 TYPE OF UNIT(s) : INCINERATOR
 UNIT USE : TREATMENT
 OPERATIONAL STATUS : DECOMMISSIONED
 PERIOD OF USE : 1947 - 1960s
 HAZARDOUS RELEASE : NONE
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SOLID WASTE

UNIT INFORMATION

Two incinerators were at one time located in TA-1. Both have been decommissioned, TA-1-146 [1-004(a)] in 1958 and TA-1-147 [1-004(b)] in 1959. Both were 2'6" x 3'6" x 3' high gas-fired units located in the center of a concrete base 7' x 7' x 6' high. These sites are thought to be located on private land.

WASTE INFORMATION

The wastes incinerated consisted of routine combustible materials generated at TA-1. In 1957 they were reported to be free of significant radioactive contamination.

RELEASE INFORMATION

There are no known releases of hazardous constituents from this unit.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
1-004(a)	TA1-6-IN-1-SW			TA-1-146
1-004(b)	TA1-6-IN-1-SW			TA-1-147

SUMMARY

LOCATION	: TA-1	MATERIALS MANAGED	: MIXED WASTE
TYPE OF UNIT(S)	: INCINERATOR		RADIOACTIVE WASTE
UNIT USE	: TREATMENT		
OPERATIONAL STATUS	: DECOMMISSIONED		
PERIOD OF USE	: EST. 1940s - 1950s		
HAZARDOUS RELEASE	: NONE		
RADIOACTIVE RELEASE	: SUSPECTED		

UNIT INFORMATION

This unit, a bench-scale incinerator, was located in Building TA-1-68. It was used by laboratory personnel for incinerating uranium contaminated combustible items so that uranium could be recovered. This site is thought to be located on private land.

WASTE INFORMATION

The wastes consisted of such items as paper products and rags contaminated with uranium. The ash produced through combustion was treated to recover the uranium.

RELEASE INFORMATION

The only known past releases from the unit consisted of combustion products which may have contained uranium and oxides of nitrogen. There are no current releases associated with this unit.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
1-005	TA1-6-IN-1-SW			TA-1-68

SUMMARY

LOCATION	: TA-1	MATERIALS MANAGED :	SOLID WASTE
TYPE OF UNIT(S)	: OUTFALL		SUSPECTED RADIOACTIVE WASTE
UNIT USE	: DISPOSAL		SUSPECTED HAZARDOUS WASTE
OPERATIONAL STATUS	: INACTIVE		
PERIOD OF USE	: SEE BELOW		
HAZARDOUS RELEASE	: SUSPECTED		
RADIOACTIVE RELEASE	: KNOWN		

UNIT INFORMATION

Several buildings in TA-1 had drainlines that discharged to outfalls. The drainlines were of two types: building drains [1-006(a)] and storm drains [1-006(b)]. Although TA-1 was decontaminated and decommissioned in 1953 to 1959, portions of these drainlines may remain. The building drains and outfalls [1-006(a)] were as follows:

DRAIN FROM STRUCTURE NO.	BUILDING NAME	NO. OF LINES	OUTFALL LOCATION	PERIOD OF USE
TA-1-80	Cooling Tower	1	Los Alamos Canyon	? - 1954
TA-1-6	D Building	1	Los Alamos Canyon	1943 - 1954
TA-1-8	D-2 Building	3	Hillside 137	1944 - 1953
TA-1-9	D-3 Building	1	Hillside 137	? - 1955
TA-1-46 and "Cleaning Plant"	P Building and Cleaning Plant	2	Ashley Pond	1947 - 1959

The storm drains and outfalls [1-006(b)] were as follows:

STORM DRAIN FOR STRUCTURE NO.	BUILDING NAME	NO. OF LINES	OUTFALL LOCATION	PERIOD OF USE
TA-1-76	Warehouse 4	1	Between TA-1-29 and -67	? - 1954
TA-1-79, -42, -49, -6, -10, -13	X, ML, Q, D, D-4, and D-7 Buildings	4	Los Alamos Canyon	? - ?
TA-1-50, -81	R and Y Buildings	1	Hillside 138	? - 1956
TA-1-50, -54	R and S-1 Buildings	2	Los Alamos Canyon	? - 1954
TA-1-53	S Building	2	Los Alamos Canyon	? - 1959
TA-1-76, 75	Warehouse 4 and J-Division Annex	2	Near TA-1-67	? - 1965
TA-1-75, -74	Warehouse 2 and J-Division Annex	2	Near TA-1-48	? - 1965
TA-1-56, -74	Warehouse 2 and Sigma Building	3	East of TA-1-48	? - 1965
TA-1-6	D Building	1	Hillside 137	? - 1954
TA-1-1, -2, -5, -26, -61	A, B, C, H, and Sigma-4 Buildings	4	Bailey Canyon	? - 1964
TA-1-29, -98	HT and K-1 Buildings	1	Near TA-1-98	? - 1965
TA-1-64	T Building	1	Trinity Drive	? - 1959
TA-1-34, -79	J and X Buildings	1	Near TA-1-37	? - 1954
TA-1-46	P Building	1	Trinity Drive	? - 1965
TA-1-5	C Building	1	Near TA-1-56	? - 1964

It is thought that some of these sites are on Los Alamos County land while others are on private land.

WASTE INFORMATION

In general, the building drains and storm drains could have received any of the materials used in TA-1, including a variety of radionuclides and hazardous organic chemicals. The cooling tower (TA-1-80) discharged cooling water that may have contained biocides with chromium to the drainline and outfalls.

(continued)

RELEASE INFORMATION

It is unknown whether releases have occurred from most of these drainlines and outfalls. Some areas have been sampled and the results are as follows:

DRAIN/OUTFALL FROM STRUCTURE NO.	RESULTS
TA-1-80	Analyzed for chromium, negative result
TA-1-76	Uranium contamination detected
TA-1-6	Drainline located within area of gross-alpha contamination in TA-1-6 (Building D)
Hillside 137	Plutonium-239 maximum surface contamination of 400 pCi/g over an area of 450 sq meters
Hillside 138	Plutonium-239 maximum surface contamination of 3,600-8,900 pCi/g over an area of 435 sq meters

Samples from these areas were not analyzed for hazardous constituents.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
1-006(a)	TA1-1-CA-1-HW/RW TA1-2-CA-1-HW/RW		Tsk 11 : 17-24, 65-72	TA-1-6, -8, -9, -46, -80, CLEANING PLANT
1-006(b)	TA1-1-CA-1-HW/RW TA1-2-CA-1-HW/RW		Tsk 11 : 25-42, 74-91	TA-1-1, -2, -5, -6, -10, -13, -26, -29, -34, -42, -46, -49, -50, -53, -54, -56, -61, -64, -74, -75, -76, -79, -81, -98

SUMMARY

LOCATION : TA-1
 TYPE OF UNIT(s) : SOIL CONTAMINATION
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1943 - 1959
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : KNOWN

MATERIALS MANAGED : RADIOACTIVE WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

Subsurface contamination may be present in the soil beneath existing buildings and structures in TA-1. Some contamination may be found in the fill material under Trinity Drive [1-007(a)], from the Los Alamos Inn to the Trinity Village Apartments. During a 1966 street widening and repaving project, approximately 1,000 to 2,000 cubic meters of soil fill was taken from fill material near the former locations of TA-1-6 and TA-1-8. The fill from the TA-1-6 area is thought to have contained construction debris (concrete supports, steam-pipe insulation, etc.) that was contaminated.

General subsurface contamination [1-007(b)] may also exist on private lands, in particular where development and construction has hampered surveying efforts. Specifically, contamination is possible in the vicinity of former buildings D, U, and W (TA-1-6, -69, and -71).

WASTE INFORMATION

Soil and construction debris used as fill under Trinity Drive [1-007(a)] are thought to be contaminated with uranium and fission products. Soil in the vicinity of the former TA-1-6, -69, and -71 [1-007(b)] is thought to contain possible tritium contamination.

RELEASE INFORMATION

The extent of radionuclide and chemical contamination is unknown.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
1-007(a)	TA1-1-CA-1-HW/RW		Tsk 11 : 97	TA-1-6, -8
1-007(b)	TA1-1-CA-1-HW/RW		Tsk 11 : 98	TA-1-6, -69, -71

**TA-1 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX**

SWMU	FIGURE NUMBER
1-001(a)	1-1
1-001(b)	1-1
1-001(c)	1-1
1-001(d)	1-1
1-001(e)	1-1
1-001(f)	1-1
1-001(g)	1-1
1-001(h)	1-1
1-001(i)	1-1
1-001(j)	Not Shown
1-001(k)	1-1
1-001(l)	Not Shown
1-001(m)	1-2
1-001(n)	1-1
1-001(o)	1-1
1-001(p)	1-1
1-001(q)	1-1
1-001(r)	1-1
1-001(s)	1-1, 1-3
1-001(t)	1-1
1-001(u)	1-1
1-001(v)	1-1
1-001(w)	1-1
1-002	1-3
1-003(a)	1-1
1-003(b)	1-1
1-003(c)	1-1
1-003(d)	1-1
1-003(e)	1-1
1-004(a)	1-1
1-004(b)	1-1
1-005	1-1
1-006(a)	1-1
1-006(b)	1-1
1-007(a)	1-2
1-007(b)	1-2

NOTE: Some structure locations may contain more than one SWMU.

Rev. 1, 2/15/90

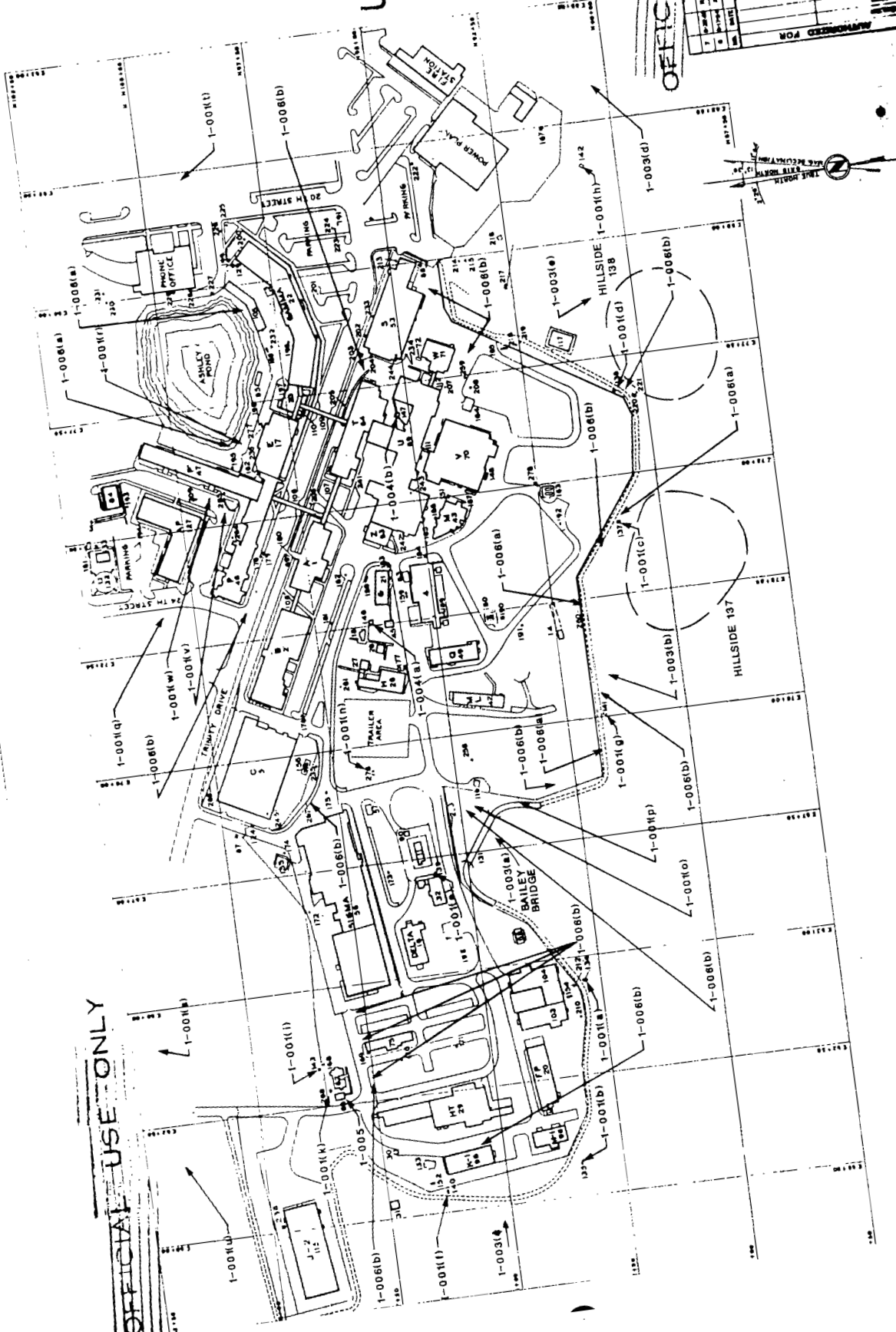
OFFICIAL USE ONLY

UNCLASSIFIED

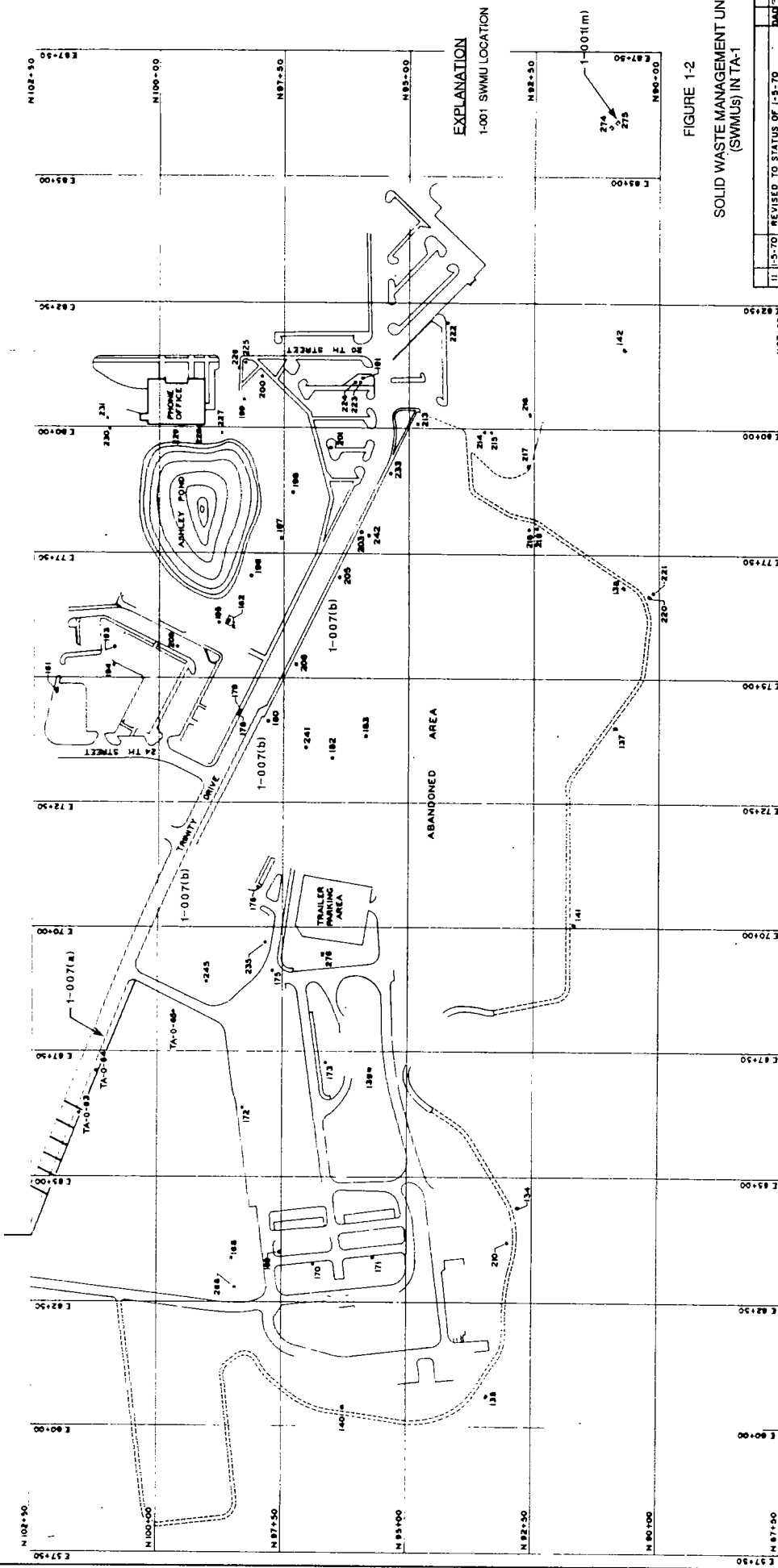
EXPLANATION
1-001 SWMU LOCATION
REV. 1 2/15/90

FIGURE 1-1
SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-1

OFFICIAL USE ONLY



APPROVED FOR	
DATE	1/15/90
BY	11000
LOS ALAMOS SCIENTIFIC LABORATORY University of California Los Alamos, N. M.	
STRUCTURE LOCATION PLAN	
TA-1 MAIN TECHNICAL AREA	
DATE	1/15/90
BY	11000
PROJECT	ENG-R 113
REVISION	1-15/90
STATUS	1-15/90



EXPLANATION
1-001 SWMU LOCATION

FIGURE 1-2
SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-1



REV. 1 2/15/90



UNCLASSIFIED

11	1-5-70	REVISED TO STATUS OF 1-5-70	DATE	BY
12	1-5-70	REVISED TO STATUS OF 1-5-70 (SWMUs)	DATE	BY
LOS ALAMOS SCIENTIFIC LABORATORY ENGINEERING DEPARTMENT UNIVERSITY OF CALIFORNIA - LOS ALAMOS, NEW MEXICO				
STRUCTURE LOCATION PLAN TA-1 FORMER MAIN TECHNICAL AREA				
DATE	0-15-81	BY	3-15-81	ENGR 2407
SCALE	AS NOTED	DATE	3-15-81	ENGR 2407

UNCLASSIFIED

1-002

1-001(s)

EXPLANATION
1-001 SWMU LOCATION

NOTES
1-002 APPROXIMATE LOCATION

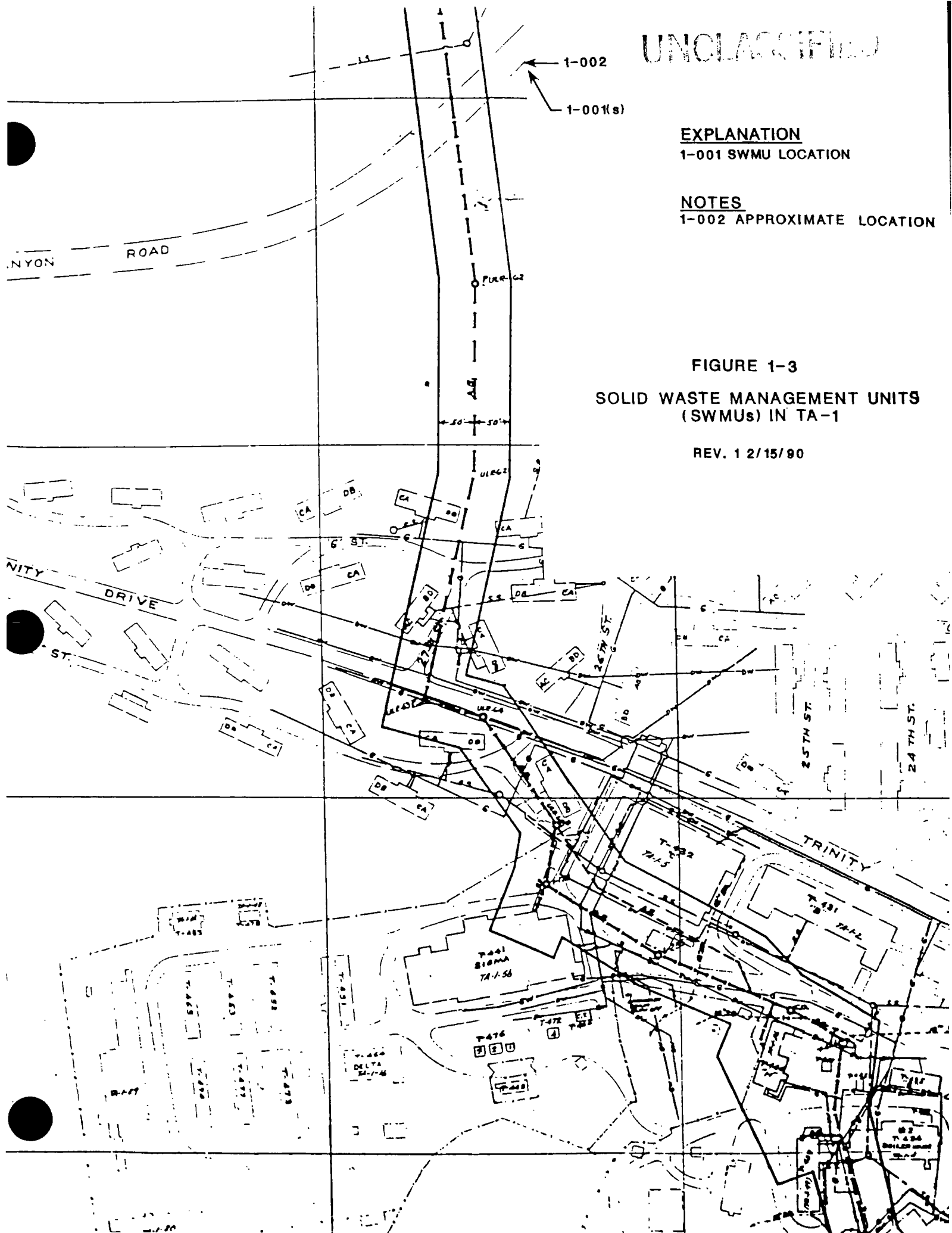


FIGURE 1-3

SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-1

REV. 1 2/15/90

STRUCTURE NUMBER	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION	STRUCTURE NUMBER	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
1A-11-11	BLDG. 1	REMOVED 1937		1A-11-28	BLDG. 1	REMOVED 1937	
1A-11-12	BLDG. 2	REMOVED 1938		1A-11-29	BLDG. 2	REMOVED 1938	
1A-11-13	BLDG. 3	REMOVED 1938		1A-11-30	BLDG. 3	REMOVED 1938	
1A-11-14	BLDG. 4	REMOVED 1938		1A-11-31	BLDG. 4	REMOVED 1938	
1A-11-15	BLDG. 5	REMOVED 1938		1A-11-32	BLDG. 5	REMOVED 1938	
1A-11-16	BLDG. 6	REMOVED 1938		1A-11-33	BLDG. 6	REMOVED 1938	
1A-11-17	BLDG. 7	REMOVED 1938		1A-11-34	BLDG. 7	REMOVED 1938	
1A-11-18	BLDG. 8	REMOVED 1938		1A-11-35	BLDG. 8	REMOVED 1938	
1A-11-19	BLDG. 9	REMOVED 1938		1A-11-36	BLDG. 9	REMOVED 1938	
1A-11-20	BLDG. 10	REMOVED 1938		1A-11-37	BLDG. 10	REMOVED 1938	
1A-11-21	BLDG. 11	REMOVED 1938		1A-11-38	BLDG. 11	REMOVED 1938	
1A-11-22	BLDG. 12	REMOVED 1938		1A-11-39	BLDG. 12	REMOVED 1938	
1A-11-23	BLDG. 13	REMOVED 1938		1A-11-40	BLDG. 13	REMOVED 1938	
1A-11-24	BLDG. 14	REMOVED 1938		1A-11-41	BLDG. 14	REMOVED 1938	
1A-11-25	BLDG. 15	REMOVED 1938		1A-11-42	BLDG. 15	REMOVED 1938	
1A-11-26	BLDG. 16	REMOVED 1938		1A-11-43	BLDG. 16	REMOVED 1938	
1A-11-27	BLDG. 17	REMOVED 1938		1A-11-44	BLDG. 17	REMOVED 1938	
1A-11-28	BLDG. 18	REMOVED 1938		1A-11-45	BLDG. 18	REMOVED 1938	
1A-11-29	BLDG. 19	REMOVED 1938		1A-11-46	BLDG. 19	REMOVED 1938	
1A-11-30	BLDG. 20	REMOVED 1938		1A-11-47	BLDG. 20	REMOVED 1938	
1A-11-31	BLDG. 21	REMOVED 1938		1A-11-48	BLDG. 21	REMOVED 1938	
1A-11-32	BLDG. 22	REMOVED 1938		1A-11-49	BLDG. 22	REMOVED 1938	
1A-11-33	BLDG. 23	REMOVED 1938		1A-11-50	BLDG. 23	REMOVED 1938	
1A-11-34	BLDG. 24	REMOVED 1938		1A-11-51	BLDG. 24	REMOVED 1938	
1A-11-35	BLDG. 25	REMOVED 1938		1A-11-52	BLDG. 25	REMOVED 1938	
1A-11-36	BLDG. 26	REMOVED 1938		1A-11-53	BLDG. 26	REMOVED 1938	
1A-11-37	BLDG. 27	REMOVED 1938		1A-11-54	BLDG. 27	REMOVED 1938	
1A-11-38	BLDG. 28	REMOVED 1938		1A-11-55	BLDG. 28	REMOVED 1938	
1A-11-39	BLDG. 29	REMOVED 1938		1A-11-56	BLDG. 29	REMOVED 1938	
1A-11-40	BLDG. 30	REMOVED 1938		1A-11-57	BLDG. 30	REMOVED 1938	
1A-11-41	BLDG. 31	REMOVED 1938		1A-11-58	BLDG. 31	REMOVED 1938	
1A-11-42	BLDG. 32	REMOVED 1938		1A-11-59	BLDG. 32	REMOVED 1938	
1A-11-43	BLDG. 33	REMOVED 1938		1A-11-60	BLDG. 33	REMOVED 1938	
1A-11-44	BLDG. 34	REMOVED 1938		1A-11-61	BLDG. 34	REMOVED 1938	
1A-11-45	BLDG. 35	REMOVED 1938		1A-11-62	BLDG. 35	REMOVED 1938	
1A-11-46	BLDG. 36	REMOVED 1938		1A-11-63	BLDG. 36	REMOVED 1938	
1A-11-47	BLDG. 37	REMOVED 1938		1A-11-64	BLDG. 37	REMOVED 1938	
1A-11-48	BLDG. 38	REMOVED 1938		1A-11-65	BLDG. 38	REMOVED 1938	
1A-11-49	BLDG. 39	REMOVED 1938		1A-11-66	BLDG. 39	REMOVED 1938	
1A-11-50	BLDG. 40	REMOVED 1938		1A-11-67	BLDG. 40	REMOVED 1938	
1A-11-51	BLDG. 41	REMOVED 1938		1A-11-68	BLDG. 41	REMOVED 1938	
1A-11-52	BLDG. 42	REMOVED 1938		1A-11-69	BLDG. 42	REMOVED 1938	
1A-11-53	BLDG. 43	REMOVED 1938		1A-11-70	BLDG. 43	REMOVED 1938	
1A-11-54	BLDG. 44	REMOVED 1938		1A-11-71	BLDG. 44	REMOVED 1938	
1A-11-55	BLDG. 45	REMOVED 1938		1A-11-72	BLDG. 45	REMOVED 1938	
1A-11-56	BLDG. 46	REMOVED 1938		1A-11-73	BLDG. 46	REMOVED 1938	
1A-11-57	BLDG. 47	REMOVED 1938		1A-11-74	BLDG. 47	REMOVED 1938	
1A-11-58	BLDG. 48	REMOVED 1938		1A-11-75	BLDG. 48	REMOVED 1938	
1A-11-59	BLDG. 49	REMOVED 1938		1A-11-76	BLDG. 49	REMOVED 1938	
1A-11-60	BLDG. 50	REMOVED 1938		1A-11-77	BLDG. 50	REMOVED 1938	
1A-11-61	BLDG. 51	REMOVED 1938		1A-11-78	BLDG. 51	REMOVED 1938	
1A-11-62	BLDG. 52	REMOVED 1938		1A-11-79	BLDG. 52	REMOVED 1938	
1A-11-63	BLDG. 53	REMOVED 1938		1A-11-80	BLDG. 53	REMOVED 1938	
1A-11-64	BLDG. 54	REMOVED 1938		1A-11-81	BLDG. 54	REMOVED 1938	
1A-11-65	BLDG. 55	REMOVED 1938		1A-11-82	BLDG. 55	REMOVED 1938	
1A-11-66	BLDG. 56	REMOVED 1938		1A-11-83	BLDG. 56	REMOVED 1938	
1A-11-67	BLDG. 57	REMOVED 1938		1A-11-84	BLDG. 57	REMOVED 1938	
1A-11-68	BLDG. 58	REMOVED 1938		1A-11-85	BLDG. 58	REMOVED 1938	
1A-11-69	BLDG. 59	REMOVED 1938		1A-11-86	BLDG. 59	REMOVED 1938	
1A-11-70	BLDG. 60	REMOVED 1938		1A-11-87	BLDG. 60	REMOVED 1938	
1A-11-71	BLDG. 61	REMOVED 1938		1A-11-88	BLDG. 61	REMOVED 1938	
1A-11-72	BLDG. 62	REMOVED 1938		1A-11-89	BLDG. 62	REMOVED 1938	
1A-11-73	BLDG. 63	REMOVED 1938		1A-11-90	BLDG. 63	REMOVED 1938	
1A-11-74	BLDG. 64	REMOVED 1938		1A-11-91	BLDG. 64	REMOVED 1938	
1A-11-75	BLDG. 65	REMOVED 1938		1A-11-92	BLDG. 65	REMOVED 1938	
1A-11-76	BLDG. 66	REMOVED 1938		1A-11-93	BLDG. 66	REMOVED 1938	
1A-11-77	BLDG. 67	REMOVED 1938		1A-11-94	BLDG. 67	REMOVED 1938	
1A-11-78	BLDG. 68	REMOVED 1938		1A-11-95	BLDG. 68	REMOVED 1938	
1A-11-79	BLDG. 69	REMOVED 1938		1A-11-96	BLDG. 69	REMOVED 1938	
1A-11-80	BLDG. 70	REMOVED 1938		1A-11-97	BLDG. 70	REMOVED 1938	
1A-11-81	BLDG. 71	REMOVED 1938		1A-11-98	BLDG. 71	REMOVED 1938	
1A-11-82	BLDG. 72	REMOVED 1938		1A-11-99	BLDG. 72	REMOVED 1938	
1A-11-83	BLDG. 73	REMOVED 1938		1A-12-00	BLDG. 73	REMOVED 1938	

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FIGURE 1-4

TA-1 STRUCTURE LOCATION INDEX (1 OF 2)

LOS ALAMOS SCIENTIFIC LABORATORY
 UNIVERSITY OF CALIFORNIA - LOS ALAMOS NEW MEXICO
 INDEX SHEET
 STRUCTURE LOCATION PLAN
 TA-1 FORMER MAIN TECHNICAL AREA
 AUTHORIZED FOR: NAME, GRADE, ISSUE, REVISION, DATE

NO.	DATE	BY	REVISION	APPROVED FOR
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FIGURE 1-4

TA-1 STRUCTURE LOCATION INDEX (1 OF 2)

LOS ALAMOS SCIENTIFIC LABORATORY
 UNIVERSITY OF CALIFORNIA - LOS ALAMOS NEW MEXICO
 INDEX SHEET
 STRUCTURE LOCATION PLAN
 TA-1 FORMER MAIN TECHNICAL AREA
 AUTHORIZED FOR: NAME, GRADE, ISSUE, REVISION, DATE

STRUCTURE NUMBER	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
1A-11-1	BLDG. 1	REMOVED 1937	
1A-11-2	BLDG. 2	REMOVED 1938	
1A-11-3	BLDG. 3	REMOVED 1938	
1A-11-4	BLDG. 4	REMOVED 1938	
1A-11-5	BLDG. 5	REMOVED 1938	
1A-11-6	BLDG. 6	REMOVED 1938	
1A-11-7	BLDG. 7	REMOVED 1938	
1A-11-8	BLDG. 8	REMOVED 1938	
1A-11-9	BLDG. 9	REMOVED 1938	
1A-11-10	BLDG. 10	REMOVED 1938	
1A-11-11	BLDG. 11	REMOVED 1938	
1A-11-12	BLDG. 12	REMOVED 1938	
1A-11-13	BLDG. 13	REMOVED 1938	
1A-11-14	BLDG. 14	REMOVED 1938	
1A-11-15	BLDG. 15	REMOVED 1938	
1A-11-16	BLDG. 16	REMOVED 1938	
1A-11-17	BLDG. 17	REMOVED 1938	
1A-11-18	BLDG. 18	REMOVED 1938	
1A-11-19	BLDG. 19	REMOVED 1938	
1A-11-20	BLDG. 20	REMOVED 1938	
1A-11-21	BLDG. 21	REMOVED 1938	
1A-11-22	BLDG. 22	REMOVED 1938	
1A-11-23	BLDG. 23	REMOVED 1938	
1A-11-24	BLDG. 24	REMOVED 1938	
1A-11-25	BLDG. 25	REMOVED 1938	
1A-11-26	BLDG. 26	REMOVED 1938	
1A-11-27	BLDG. 27	REMOVED 1938	
1A-11-28	BLDG. 28	REMOVED 1938	
1A-11-29	BLDG. 29	REMOVED 1938	
1A-11-30	BLDG. 30	REMOVED 1938	
1A-11-31	BLDG. 31	REMOVED 1938	
1A-11-32	BLDG. 32	REMOVED 1938	
1A-11-33	BLDG. 33	REMOVED 1938	
1A-11-34	BLDG. 34	REMOVED 1938	
1A-11-35	BLDG. 35	REMOVED 1938	
1A-11-36	BLDG. 36	REMOVED 1938	
1A-11-37	BLDG. 37	REMOVED 1938	
1A-11-38	BLDG. 38	REMOVED 1938	
1A-11-39	BLDG. 39	REMOVED 1938	
1A-11-40	BLDG. 40	REMOVED 1938	
1A-11-41	BLDG. 41	REMOVED 1938	
1A-11-42	BLDG. 42	REMOVED 1938	
1A-11-43	BLDG. 43	REMOVED 1938	
1A-11-44	BLDG. 44	REMOVED 1938	
1A-11-45	BLDG. 45	REMOVED 1938	
1A-11-46	BLDG. 46	REMOVED 1938	
1A-11-47	BLDG. 47	REMOVED 1938	
1A-11-48	BLDG. 48	REMOVED 1938	
1A-11-49	BLDG. 49	REMOVED 1938	
1A-11-50	BLDG. 50	REMOVED 1938	
1A-11-51	BLDG. 51	REMOVED 1938	
1A-11-52	BLDG. 52	REMOVED 1938	
1A-11-53	BLDG. 53	REMOVED 1938	
1A-11-54	BLDG. 54	REMOVED 1938	
1A-11-55	BLDG. 55	REMOVED 1938	
1A-11-56	BLDG. 56	REMOVED 1938	
1A-11-57	BLDG. 57	REMOVED 1938	
1A-11			

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STRUCTURE NUMBER	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
U-1-1	RESEARCH BUILDING	REMOVED 1952	
U-1-2	RESEARCH BUILDING	REMOVED 1952	
U-1-3	RESEARCH BUILDING	REMOVED 1952	
U-1-4	RESEARCH BUILDING	REMOVED 1952	
U-1-5	RESEARCH BUILDING	REMOVED 1952	
U-1-6	RESEARCH BUILDING	REMOVED 1952	
U-1-7	RESEARCH BUILDING	REMOVED 1952	
U-1-8	RESEARCH BUILDING	REMOVED 1952	
U-1-9	RESEARCH BUILDING	REMOVED 1952	
U-1-10	RESEARCH BUILDING	REMOVED 1952	
U-1-11	RESEARCH BUILDING	REMOVED 1952	
U-1-12	RESEARCH BUILDING	REMOVED 1952	
U-1-13	RESEARCH BUILDING	REMOVED 1952	
U-1-14	RESEARCH BUILDING	REMOVED 1952	
U-1-15	RESEARCH BUILDING	REMOVED 1952	
U-1-16	RESEARCH BUILDING	REMOVED 1952	
U-1-17	RESEARCH BUILDING	REMOVED 1952	
U-1-18	RESEARCH BUILDING	REMOVED 1952	
U-1-19	RESEARCH BUILDING	REMOVED 1952	
U-1-20	RESEARCH BUILDING	REMOVED 1952	
U-1-21	RESEARCH BUILDING	REMOVED 1952	
U-1-22	RESEARCH BUILDING	REMOVED 1952	
U-1-23	RESEARCH BUILDING	REMOVED 1952	
U-1-24	RESEARCH BUILDING	REMOVED 1952	
U-1-25	RESEARCH BUILDING	REMOVED 1952	
U-1-26	RESEARCH BUILDING	REMOVED 1952	
U-1-27	RESEARCH BUILDING	REMOVED 1952	
U-1-28	RESEARCH BUILDING	REMOVED 1952	
U-1-29	RESEARCH BUILDING	REMOVED 1952	
U-1-30	RESEARCH BUILDING	REMOVED 1952	
U-1-31	RESEARCH BUILDING	REMOVED 1952	
U-1-32	RESEARCH BUILDING	REMOVED 1952	
U-1-33	RESEARCH BUILDING	REMOVED 1952	
U-1-34	RESEARCH BUILDING	REMOVED 1952	
U-1-35	RESEARCH BUILDING	REMOVED 1952	
U-1-36	RESEARCH BUILDING	REMOVED 1952	
U-1-37	RESEARCH BUILDING	REMOVED 1952	
U-1-38	RESEARCH BUILDING	REMOVED 1952	
U-1-39	RESEARCH BUILDING	REMOVED 1952	
U-1-40	RESEARCH BUILDING	REMOVED 1952	
U-1-41	RESEARCH BUILDING	REMOVED 1952	
U-1-42	RESEARCH BUILDING	REMOVED 1952	
U-1-43	RESEARCH BUILDING	REMOVED 1952	
U-1-44	RESEARCH BUILDING	REMOVED 1952	
U-1-45	RESEARCH BUILDING	REMOVED 1952	
U-1-46	RESEARCH BUILDING	REMOVED 1952	
U-1-47	RESEARCH BUILDING	REMOVED 1952	
U-1-48	RESEARCH BUILDING	REMOVED 1952	
U-1-49	RESEARCH BUILDING	REMOVED 1952	
U-1-50	RESEARCH BUILDING	REMOVED 1952	
U-1-51	RESEARCH BUILDING	REMOVED 1952	
U-1-52	RESEARCH BUILDING	REMOVED 1952	
U-1-53	RESEARCH BUILDING	REMOVED 1952	
U-1-54	RESEARCH BUILDING	REMOVED 1952	
U-1-55	RESEARCH BUILDING	REMOVED 1952	
U-1-56	RESEARCH BUILDING	REMOVED 1952	
U-1-57	RESEARCH BUILDING	REMOVED 1952	
U-1-58	RESEARCH BUILDING	REMOVED 1952	
U-1-59	RESEARCH BUILDING	REMOVED 1952	
U-1-60	RESEARCH BUILDING	REMOVED 1952	
U-1-61	RESEARCH BUILDING	REMOVED 1952	
U-1-62	RESEARCH BUILDING	REMOVED 1952	
U-1-63	RESEARCH BUILDING	REMOVED 1952	
U-1-64	RESEARCH BUILDING	REMOVED 1952	
U-1-65	RESEARCH BUILDING	REMOVED 1952	
U-1-66	RESEARCH BUILDING	REMOVED 1952	
U-1-67	RESEARCH BUILDING	REMOVED 1952	
U-1-68	RESEARCH BUILDING	REMOVED 1952	
U-1-69	RESEARCH BUILDING	REMOVED 1952	
U-1-70	RESEARCH BUILDING	REMOVED 1952	
U-1-71	RESEARCH BUILDING	REMOVED 1952	
U-1-72	RESEARCH BUILDING	REMOVED 1952	
U-1-73	RESEARCH BUILDING	REMOVED 1952	
U-1-74	RESEARCH BUILDING	REMOVED 1952	
U-1-75	RESEARCH BUILDING	REMOVED 1952	
U-1-76	RESEARCH BUILDING	REMOVED 1952	
U-1-77	RESEARCH BUILDING	REMOVED 1952	
U-1-78	RESEARCH BUILDING	REMOVED 1952	
U-1-79	RESEARCH BUILDING	REMOVED 1952	
U-1-80	RESEARCH BUILDING	REMOVED 1952	
U-1-81	RESEARCH BUILDING	REMOVED 1952	
U-1-82	RESEARCH BUILDING	REMOVED 1952	
U-1-83	RESEARCH BUILDING	REMOVED 1952	
U-1-84	RESEARCH BUILDING	REMOVED 1952	
U-1-85	RESEARCH BUILDING	REMOVED 1952	
U-1-86	RESEARCH BUILDING	REMOVED 1952	
U-1-87	RESEARCH BUILDING	REMOVED 1952	
U-1-88	RESEARCH BUILDING	REMOVED 1952	
U-1-89	RESEARCH BUILDING	REMOVED 1952	
U-1-90	RESEARCH BUILDING	REMOVED 1952	
U-1-91	RESEARCH BUILDING	REMOVED 1952	
U-1-92	RESEARCH BUILDING	REMOVED 1952	
U-1-93	RESEARCH BUILDING	REMOVED 1952	
U-1-94	RESEARCH BUILDING	REMOVED 1952	
U-1-95	RESEARCH BUILDING	REMOVED 1952	
U-1-96	RESEARCH BUILDING	REMOVED 1952	
U-1-97	RESEARCH BUILDING	REMOVED 1952	
U-1-98	RESEARCH BUILDING	REMOVED 1952	
U-1-99	RESEARCH BUILDING	REMOVED 1952	
U-1-100	RESEARCH BUILDING	REMOVED 1952	

UNCLASSIFIED

FIGURE 1-4
TA-1 STRUCTURE LOCATION INDEX
(2 OF 2)

REVISIONS TO STATUS OF 1-20-70	DATE	BY
1. 1-20-70	1-20-70	1-20-70
2. 1-20-70	1-20-70	1-20-70
3. 1-20-70	1-20-70	1-20-70
4. 1-20-70	1-20-70	1-20-70

UNIVERSITY OF CALIFORNIA - LOS ANGELES

LOS ANGELES SCIENTIFIC LABORATORY

INDEX SHEET

STRUCTURE LOCATION PLAN

TA-1 FORMER MAIN TECHNICAL AREA

DATE: 8-10-81

SCALE: 1" = 20' 0"

ENGINEER: ENG-R 2406

APPROVED FOR: [Signature]

STRUCTURE NUMBER	DESIGNATION	APPROXIMATE GRID LOCATION	REMARKS	STRUCTURE NUMBER	DESIGNATION	APPROXIMATE GRID LOCATION	REMARKS	STRUCTURE NUMBER	DESIGNATION	APPROXIMATE GRID LOCATION	REMARKS
A-1-1	BUILDING 1	N 91-50 E 71-50	(REMOVED) 1933	A-1-21	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-41	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-2	BUILDING 2	N 91-50 E 71-50	(REMOVED) 1933	A-1-22	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-42	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-3	BUILDING 3	N 91-50 E 71-50	(REMOVED) 1933	A-1-23	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-43	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-4	BUILDING 4	N 91-50 E 71-50	(REMOVED) 1933	A-1-24	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-44	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-5	BUILDING 5	N 91-50 E 71-50	(REMOVED) 1933	A-1-25	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-45	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-6	BUILDING 6	N 91-50 E 71-50	(REMOVED) 1933	A-1-26	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-46	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-7	BUILDING 7	N 91-50 E 71-50	(REMOVED) 1933	A-1-27	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-47	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-8	BUILDING 8	N 91-50 E 71-50	(REMOVED) 1933	A-1-28	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-48	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-9	BUILDING 9	N 91-50 E 71-50	(REMOVED) 1933	A-1-29	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-49	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-10	BUILDING 10	N 91-50 E 71-50	(REMOVED) 1933	A-1-30	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-50	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-11	BUILDING 11	N 91-50 E 71-50	(REMOVED) 1933	A-1-31	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-51	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-12	BUILDING 12	N 91-50 E 71-50	(REMOVED) 1933	A-1-32	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-52	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-13	BUILDING 13	N 91-50 E 71-50	(REMOVED) 1933	A-1-33	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-53	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-14	BUILDING 14	N 91-50 E 71-50	(REMOVED) 1933	A-1-34	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-54	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-15	BUILDING 15	N 91-50 E 71-50	(REMOVED) 1933	A-1-35	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-55	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-16	BUILDING 16	N 91-50 E 71-50	(REMOVED) 1933	A-1-36	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-56	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-17	BUILDING 17	N 91-50 E 71-50	(REMOVED) 1933	A-1-37	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-57	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-18	BUILDING 18	N 91-50 E 71-50	(REMOVED) 1933	A-1-38	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-58	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-19	BUILDING 19	N 91-50 E 71-50	(REMOVED) 1933	A-1-39	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-59	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933
A-1-20	BUILDING 20	N 91-50 E 71-50	(REMOVED) 1933	A-1-40	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933	A-1-60	MANHOLE SAN SEWER	N 91-50 E 71-50	(REMOVED) 1933

UNCLASSIFIED

FIGURE 15

TA-1 STRUCTURE LOCATION INDEX

OFFICIAL USE ONLY

7	REVISION TO STATUS OF 7-11-55	BY	DATE
8	REVISION TO STATUS OF 7-11-55	BY	DATE
9	REVISION TO STATUS OF 7-11-55	BY	DATE
10	REVISION TO STATUS OF 7-11-55	BY	DATE
11	REVISION TO STATUS OF 7-11-55	BY	DATE
12	REVISION TO STATUS OF 7-11-55	BY	DATE
13	REVISION TO STATUS OF 7-11-55	BY	DATE
14	REVISION TO STATUS OF 7-11-55	BY	DATE
15	REVISION TO STATUS OF 7-11-55	BY	DATE
16	REVISION TO STATUS OF 7-11-55	BY	DATE
17	REVISION TO STATUS OF 7-11-55	BY	DATE
18	REVISION TO STATUS OF 7-11-55	BY	DATE
19	REVISION TO STATUS OF 7-11-55	BY	DATE
20	REVISION TO STATUS OF 7-11-55	BY	DATE

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

STRUCTURE LOCATION PLAN
TA-1
MAIN TECHNICAL AREA

APPROVED FOR: [Signature]
DATE: 8-17-54
BY: [Signature]

HEALTH
SAFETY
FIRE PROT.
E.E.C.

ENG-R 112

TA-2 OPERATIONS AND ENVIRONMENTAL SETTING

Technical Area (TA) 2 operations include experimental science and center around the Omega West Reactor, a water-cooled research nuclear reactor fueled by highly enriched uranium. The Omega West Reactor has been proposed for decontamination and decommissioning, and a replacement reactor has been proposed (DOE, 1987a). Also included within the present boundaries of TA-2 is the location of a former trailer court used for housing in the 1940s. The former location of Area No. 2 of TA-2, now lies within the boundaries of TA-61, on the south rim of Los Alamos Canyon.

Elevation in the TA ranges from 6,850 to 7,250 feet asl. TA-2 includes a portion of Los Alamos Canyon and an area on the north rim of the canyon. The technical area is underlain by Bandelier Tuff and, on the bottom of Los Alamos Canyon, by alluvium. The soil around the Omega West Reactor consists of Typic Ustorthents-Rock outcrop complex, thick, well-drained soils that are moderately to very rapidly permeable and have low water holding capacity. Soil in the rest of the Technical Area consists primarily of steep rock outcrop, with small areas of Hackroy-Rock outcrop complex, Nyjack loam, frigid rock outcrop, and Pogna fine sandy loam near the north and south edges of the TA. Vegetation is in the Pinon-Juniper and Ponderosa Pine/Pinon-Juniper overstory vegetation zones (Nyhan et al., 1978).

The potentiometric surface of the main aquifer in the Los Alamos area lies between 5975 and 6010 feet asl under TA-2 (IT, 1987a). Thus, over 800 feet of unsaturated tuff and volcanic rock separate the surface from the aquifer. There is little potential for downward flow from the surface because of the low moisture conditions of the tuff (IT, 1987a).

Los Alamos Canyon receives treated industrial effluents and some sanitary effluents from TA -2 as well as TA-21, -41, and -53. There are also occasional releases of cooling water from the Omega West Reactor at TA-2. On the flanks of the mountains, Los Alamos Reservoir impounds run-off from snowmelt and rainfall. Stream flow from this impoundment into the canyon is intermittent, dependent on precipitation, and may reach the Laboratory's eastern boundary. Infiltration of treated effluents and natural run-off maintains a shallow body of water in the alluvium of Los Alamos Canyon.

Because TA-2 structures lie within the Canyon itself, flooding has been investigated as a potential environmental problem. The characteristics of the drainage basin indicate that a 100-year flood would result in a flow of 25 cubic meters per second (870 cubic feet per second). A 500-year flood event would produce about 37 cubic meters per second (1,290 cubic feet per second). The channel at TA-2 is capable of carrying a maximum flow of 46 cubic meters per second (1,600 cubic feet per second). Flooding of parking lots and roadways may occur in such an event only if the channel were to become clogged with debris. Flooding of permanent buildings is unlikely. (DOE, 1979a). Flooding of TA-2 by failure of the Los Alamos Canyon Reservoir Dam is unlikely assuming complete drainage in 45 minutes (15 minutes to crest, and 30 minutes recession).

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-2

2-001	BURN SITE
2-002	INACTIVE CONTAINER STORAGE AREA
2-003	DECOMMISSIONED REACTOR WASTE UNITS
2-004	STORAGE PITS AND TANKS OF THE OMEGA WEST REACTOR
2-005	COOLING TOWER DRIFT LOSS
2-006	DRAINS
2-007	DECOMMISSIONED SEPTIC SYSTEM
2-008	OUTFALLS
2-009	OPERATIONAL RELEASES
2-010	CHEMICAL SHACK WASTE UNITS
2-011	STORM DRAINS AND OUTFALLS
2-012	POTENTIAL SOIL CONTAMINATION UNDER FORMER TANKS
2-013	ACTIVE HAZARDOUS WASTE CONTAINER STORAGE AREAS

SUMMARY

LOCATION : TA-2
 TYPE OF UNIT(s) : PIT
 UNIT USE : TREATMENT/DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : EST. 1940s
 HAZARDOUS RELEASE : NONE
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SOLID WASTE

UNIT INFORMATION

A burn pit was used for disposing of combustible materials from TA-2. A 1945 memo recommended that drums be provided at this pit for trash that could not be burned. Information about the pit, including the location, is lacking.

WASTE INFORMATION

The waste handled by this unit was probably noncontaminated combustible trash and noncombustible material.

RELEASE INFORMATION

There was no known hazardous release from this pit.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
2-001	TA2-7-CA-1-HW/RW			TA-2

SUMMARY

LOCATION	: TA-2	MATERIALS MANAGED	: HAZARDOUS WASTE
TYPE OF UNIT(S)	: CONTAINER STORAGE AREA		PCBs
UNIT USE	: STORAGE		
OPERATIONAL STATUS	: INACTIVE		
PERIOD OF USE	: 1980s		
HAZARDOUS RELEASE	: KNOWN		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

Oil-filled equipment was stored outside of TA-2-1 for several years. Leaking oil from the equipment ran onto the pavement and into the storm-drain. In 1985, the oil was found to contain PCBs. The area was decontaminated to the point where the concentration of PCBs was reduced to 1 ppm.

WASTE INFORMATION

The equipment stored in this area was filled with oil containing PCBs.

RELEASE INFORMATION

Although there was a known release, the area has been cleaned up, and decontamination efforts have been verified.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
2-002	TA2-B-CA-1-HW			NEAR TA-2-1

SUMMARY

LOCATION	: TA-2	MATERIALS MANAGED	: RADIOACTIVE WASTE
TYPE OF UNIT(s)	: WASTE HANDLING		SUSPECTED HAZARDOUS WASTE
UNIT USE	: TREATMENT/DISPOSAL		
OPERATIONAL STATUS	: DECOMMISSIONED		
PERIOD OF USE	: 1944 - 1974		
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: KNOWN		

UNIT INFORMATION

From its establishment in 1944, TA-2 has had several types of reactors that were operated on site. 1) A decommissioned reactor, known as Clementine, was a plutonium-fueled, mercury-cooled reactor. The reactor system was self-contained and reportedly operated from 1946 to 1953. There are no known SWMUs associated with this reactor. 2) Another reactor was constructed in 1944, and subsequently underwent systems modifications. This modified reactor, the "Water Boiler", was in operation for a number of years. It was a liquid uranyl compound fueled reactor. The following units were associated with the "Water Boiler" for off-gas handling. a) The stack gas valve house, TA-2-19, and a 3" stainless steel gaseous effluent line (part of line 119) under TA-2-19 [2-003(a)] were decommissioned in 1986. The pipe and building were contaminated with radioactivity, but the soil beneath them was clean. b) 205 ft of transport line 119 and condensing trap TA-2-48 [2-003(b)] were removed in 1986, along with soil beneath them. c) A delay system [2-003(c)] (location unknown) consisted of two stainless steel tanks in series (each 1 ft dia and 20 ft long). No radioactivity was detected beneath the delay system when it was removed in 1986. d) A gaseous effluent transport line to the mesa top to the south [2-003(d)] consisted of one section of 2" diameter pipe and another section of pipe that was 1/2" diameter. There are low levels of residual activity where these lines used to be. e) A holding tank, TA-2-62 [2-003(e)] was located near the "Water Boiler" for holding any reactor fluid if necessary. All waste handling equipment for the "Water Boiler" has been removed, with the exception of 40 feet of line which remains inside TA-2-1.

WASTE INFORMATION

The off-gases from the "Water Boiler" contained low levels of argon and other gaseous fission products. The cooling water contained small amounts of short-lived activation products including sodium-24 and manganese-56.

RELEASE INFORMATION

The off-gases from the "Water Boiler" discharged through the "mast", TA-2-9. The cooling water discharged to a stream bed in Los Alamos Canyon. Final radioactivity concentration in the soil at 2-003(b) was 1000 pCi/g left at a depth greater than 5 ft (much of the area was left under 7 ft of clean fill). When removed in 1986, holding tank TA-2-62 [2-003(e)] was uncontaminated, but soil beneath it was slightly contaminated. This soil was removed to establish de minimus surface levels (less than 25 pCi/g). There was no soil contamination documented beneath 2-003(a) and (c). There is no information on residual soil contamination at 2-003(d).

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
2-003(a)	TA2-1-CA-A/I-HW/RW TA2-2-CA/A/UST-A/I-HW/RW			TA-2-19, LINE 119
2-003(b)	TA2-1-CA-A/I-HW/RW TA2-2-CA/A/UST-A/I-HW/RW			TA-2-48, LINE 119
2-003(c)	TA2-1-CA-A/I-HW/RW TA2-2-CA/S/UST-A/I-HW/RW			DELAY SYSTEM
2-003(d)	TA2-1-CA-A/I-HW/RW TA2-2-CA/S/UST-A/I-HW/RW			TA-2-9
2-003(e)	TA2-1-CA-A/I-HW/RW TA2-2-CA/S/UST-A/I-HW/RW			TA-2-62

SUMMARY

LOCATION : TA-2
 TYPE OF UNIT(s) : PITS/TANKS
 UNIT USE : STORAGE
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : 1956 - PRESENT
 HAZARDOUS RELEASE : NONE
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : RADIOACTIVE WASTE

UNIT INFORMATION

The Omega West Reactor (OWR) is housed in the main building, TA-2-1 [2-004(a)]. It is an enriched uranium plate type reactor contained in an 8' diameter closed vessel. There are two spent fuel rod holders also contained in the OWR vessel where spent fuel rods are held in 4" square holders for decay. The holders are constructed in two sets one on either side of the vessel. A total of 53 fuel rods can be held in the two sets of spent fuel rod holders. The spent fuel elements are 42 5/8" long each. A concrete tank filled with water is used to hold "hot" fuel rods when the operator transfers rods between containers. The transfer pool has inner dimensions of approximately 6' x 10' x 8' deep with an offset (3' x 6' x 4' deep). The transfer pool is operated as a closed system. In the event of necessary discharge, the liquid passes through a filter. The off-gas system includes a small, stainless steel tank. Off gases are routed through the tank and vapor condenses in the tank before the gases are discharged to the line running from TA-2 to the discharge stack or "mast" (TA-2-9) on the mesa top to the south of TA-2. The liquid from the tank is periodically pumped into a bottle and transferred to the main TA-2 liquid waste holding tank prior to the transfer to TA-50 for treatment. There are two ion exchange systems for the removal of contaminants from the OWR cooling water. Each system consists of resin beads housed in a column approximately 30" in diameter and 6' tall. Three 1200-gallon tanks store OWR system radioactive wastes prior to pumping them through the acid waste lines to TA-50 for treatment. The tanks are designated TA-2-54, -55, and -56 [2-004(b), (c), and (d)] and are constructed of stainless steel. An underground concrete pit contains the pumps and valve system. The acid pit, TA-2-53 [2-004(e)] is constructed of reinforced concrete and is 7' x 11' x 7' deep. The equipment building, TA-2-44 [2-004(f)], contains the main circulating pump, several other pumps, and tanks for the deionizers. A 300-gallon portable tank [2-004(g)] was located on a platform near the guard station. The tank was inactive for three years before it was removed, however. When active, the tank was used to store liquids from the other tanks in an emergency. A hoist lifted the platform and tank onto a truck for transport to TA-50.

WASTE INFORMATION

The wastes include water that stored spent fuel rods and any activation products, radionuclides sorbed on the resins, and off-gases containing radionuclides.

RELEASE INFORMATION

There have been no known leaks in the tanks, pits, etc.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
2-004(a)	TA2-1-CA-A/I-HW/RW			TA-2-1
2-004(b)	TA2-2-CA/S/UST-A/I-HW/RW	? 2.001		TA-2-54
2-004(c)	TA2-2-CA/S/UST-A/I-HW/RW	? 2.001		TA-2-55
2-004(d)	TA2-2-CA/S/UST-A/I-HW/RW	? 2.001		TA-2-56
2-004(e)	TA2-2-CA/S/UST-A/I-HW/RW			TA-2-53
2-004(f)	TA2-2-CA/S/UST-A/I-HW/RW			TA-2-44
2-004(g)	TA2-2-CA/S/UST-A/I-HW/RW			NEAR GUARD STATION

? Indicates uncertainty with RFA Unit correlation.

SUMMARY

LOCATION : TA-2
 TYPE OF UNIT(S) : SOIL CONTAMINATION
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : EST. 1940s - 1970s
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

Potassium dichromate was used to treat cooling water for the Omega cooling tower in the early days of operation. During the 1987 CEARP field survey, an employee recalled that the drift loss of potassium dichromate turned the hillside green. Potassium dichromate is no longer used.

WASTE INFORMATION

Measurements in 1971 indicate that 0.05 lb of hexavalent chromium per hour of operation was being lost.

RELEASE INFORMATION

In May, 1990, HSE discovered that this site was partially excavated for a utility trench. Most of the soil was replaced in the excavation, but approximately 7 cubic yards of material that could not be used as backfill is being stored on-site pending analytical results.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
2-005	TA2-5-CA-1-WJ			TA-2-49

SUMMARY

LOCATION	: TA-2	MATERIALS MANAGED	: SUSPECTED RADIOACTIVE WASTE
TYPE OF UNIT(S)	: DRAIN		HAZARDOUS WASTE
UNIT USE	: DISPOSAL		SANITARY WASTE
OPERATIONAL STATUS	: ACTIVE		
PERIOD OF USE	: 7 - PRESENT		
HAZARDOUS RELEASE	: NONE		
RADIOACTIVE RELEASE	: SUSPECTED		

UNIT INFORMATION

Condensate in the Omega stack or "mast" (TA-2-9) will flow down the stack and into a French drain [2-006(a)]. The French drain associated with the "mast" is located on the mesa top south of Los Alamos Canyon. There was an acid waste line [2-006(b)] from TA-2-1 that discharged to the creek. It was abandoned in place at least 25 years ago. Building drains from the chemical room and several laboratories in TA-21 discharge to the creek via a combined drainline [2-006(c)]. This drain system is currently active and has been active since building TA-2-1 has been in use. Drains from the TA-2-1 reactor control room air conditioner, sink, backflow preventer valve, and water fountain also discharge to the creek via a drainline [2-006(d)]. The TA-2-1 reactor room floor drains and mezzanine discharge to a sump [2-006(e)] that overflows to the creek.

WASTE INFORMATION

The condensate in the French drain may contain radionuclides. The acid waste line managed chemical waste. Building drains from the chemical room and laboratories discharge chemical waste and sanitary waste. Drains from the reactor control room discharge radioactive liquids.

RELEASE INFORMATION

The liquid is subsequently released to the soil through the French drain. Radionuclides may be released in the discharge. All other drains described discharge to the creek.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
2-006(a)	TA2-1-CA-A/I-HW/RW			TA-2-9
2-006(b)	**			TA-2-1
2-006(c)	**			TA-2-1
2-006(d)	**			TA-2-1
2-006(e)	**			TA-2-1

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-2	MATERIALS MANAGED	: SANITARY WASTE
TYPE OF UNIT(S)	: SEPTIC SYSTEM		RADIOACTIVE WASTE
UNIT USE	: TREATMENT/DISPOSAL		SUSPECTED HAZARDOUS WASTE
OPERATIONAL STATUS	: DECOMMISSIONED		
PERIOD OF USE	: 1944 - 1970s		
HAZARDOUS RELEASE	: SUSPECTED		
RADIOACTIVE RELEASE	: KNOWN		

UNIT INFORMATION

Engineering drawing ENG-R393 shows that septic tank TA-2-43 received wastes from Building 1. The septic tank was constructed of reinforced concrete and was approximately 13' x 8' x 6' deep. The overflow from the tank went to a 6" clay pipe drain-line with a canyon outfall. A 1957 memo indicated that the effluent was contaminated, and in 1967 the septic tank sludge was reported to have activity. In the mid-1970s, the Omega building sanitary system was connected to the TA-41 treatment plant. Septic tank TA-2-43 and its associated clay line were removed in 1985. At that time no contamination was detected in the tank. However, soil near the outfall area was found to have radioactivity and some of the soil was removed.

WASTE INFORMATION

The sludge in the tank was reported to contain strontium-90, cesium-137 and uranium in 1967. The tank may have received industrial liquids in addition to sanitary wastes.

RELEASE INFORMATION

Areas that were contaminated with radionuclides were excavated in 1985 to where the soil had a level of 74 pCi/g gamma and 68 pCi/g alpha; the areas were then backfilled. The extent of releases of hazardous constituents is unknown.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
2-007	TA2-4-CA/ST-1-HW/RW	? 2.003- 2.005		TA-2-43

? Indicates uncertainty with RFA Unit correlation.

SUMMARY

LOCATION	: TA-2	MATERIALS MANAGED	: HAZARDOUS WASTE
TYPE OF UNIT(S)	: OPERATIONAL RELEASE		RADIOACTIVE WASTE
UNIT USE	: DISPOSAL		
OPERATIONAL STATUS	: INACTIVE/ACTIVE		
PERIOD OF USE	: EST. 1940s - PRESENT		
HAZARDOUS RELEASE	: KNOWN		
RADIOACTIVE RELEASE	: SUSPECTED		

UNIT INFORMATION

The cooling tower blowdown in early days of operations discharged through an outfall to Los Alamos Canyon [2-008(a)]. The 1987 CEARP indicates that coolant water containing radioisotopes of chromium, zinc, and antimony were discharged into the creek bed periodically until 1963, when the liquid waste storage system was added. The site of these releases may have been outfall 2-008(a). The RFA notes a photo processing outfall from building TA-2-4 [2-008(b)]; this outfall has been inactive, however, for at least 10 years. During the Phase I decommissioning effort at TA-2 in 1985 and 1986, a 6" clay pipe from the basement of TA-2-1 was disconnected from the septic tank being removed (TA-2-43) and joined to a 6" PVC pipe from a sump discharging into the stream a few feet downstream from the concrete debris catcher TA-3-29 [2-008(c)]. The new line became plugged in 1988 and was abandoned in place. A new line was installed from the sump that discharges to the creek just to the west of the East Bridge. An NPDES permit application was issued for this site at that time. None of these sites are current NPDES-permitted outfalls.

WASTE INFORMATION

The blowdown from the cooling tower [2-008(a)] contained chromium. The discharge may also have included radioisotopes of chromium, zinc, and antimony. The photo processing outfall [2-008(b)] discharged solutions containing hazardous wastes. The waste reportedly being discharged from TA-2-1 [2-008(c)] was spring water that was infiltrating the basement and being pumped out. There is no indication of additional wastes that may have been included in the discharge from 2-008(c).

RELEASE INFORMATION

In 1969, hexavalent chromium discharged from 2-008(a) was found to exceed the chemical limit downstream from TA-2. Since that time dilution has occurred. Photo processing chemicals were released into the stream from 2-008(b). No information is available indicating hazardous or radioactive releases from 2-008(c).

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
2-008(a)	TA2-3-CA/O-A/1-HW/RW			SOUTH OF TA-2-1
2-008(b)	**	2.002		TA-2-4
2-008(c)	TA2-3-CA/O-A/1-HW/RW			TA-2-1

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-2
 TYPE OF UNIT(S) : SOIL CONTAMINATION
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : ?
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : KNOWN

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE
 RADIOACTIVE WASTE

UNIT INFORMATION

In 1985 and 1986, decommissioning of several of the structures associated with operations at TA-2 was undertaken. While removing the structures, areas of above background levels of radioactivity were detected. Most of the soil was removed and taken to the radioactive waste disposal area at TA-54. Areas of residual contamination remain in: 1) the subsurface soil behind TA-2-50 [2-009(a)], 2) the subsurface soil at a truck staging area and a fenced area north of TA-2-19 [2-009(b)], and 3) sites on both sides of the stream south of the former location of TA-2-48 and extending east [2-009(c)]. An additional area of known contamination [2-009(d)] is near the east end of building TA-2-1. Vegetation from a tree in this area was analyzed and found to be radioactive.

WASTE INFORMATION

The subsurface low level residual activity remaining is due to small amounts of radionuclides in the soil. As far as is known, sampling for non-radioactive contamination was not undertaken. Radionuclides are present in vegetation near TA-2-1.

RELEASE INFORMATION

It is not known whether mobilization from these small areas of residual contamination has occurred.

NOTES

SWMU Nos. 2-009(c), 2-009(d), and 2-009(i) were deleted because they were the same sites as 2-003(e), 2-003(b), and 2-003(d), respectively. SWMU No. 2-009(c) has been created to include the following renumbered units: 2-009(e), (f), (g), and (h).

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
2-009(a)	TA2-2-CA/S/UST-A/I-HW/RW	? 2.003- 2.005		BEHIND TA-2-50
2-009(b)	TA2-2-CA/S/UST-A/I-HW/RW	? 2.003- 2.005		NORTH OF TA-2-19
2-009(c)	TA2-2-CA/S/UST-A/I-HW/RW	? 2.003- 2.005		STREAMSIDE SOUTH OF TA-2-48
2-009(d)	**			EAST END OF TA-2-1

? Indicates uncertainty with RFA Unit correlation.
 ** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-2
 TYPE OF UNIT(s) : WASTE HANDLING
 UNIT USE : TREATMENT
 OPERATIONAL STATUS : DECOMMISSIONED/INACTIVE
 PERIOD OF USE : 1940s - 1971
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : SUSPECTED

MATERIALS MANAGED : MIXED WASTE

UNIT INFORMATION

A small chemical shack, TA-2-3, was located to the east of the main reactor building at the site now occupied by boiler house TA-2-63. The work in this shack did not involve any reactor activities. It was used for a variety of purposes, involving radioactive material and chemicals. Ducts, an off gas stack, and industrial drains were associated with the shack. The building was removed in 1971 after portions of the structure were declared to be radioactively contaminated. During the Phase I decommissioning at TA-2 in 1985, two contaminated lengths of 6" vitrified clay pipe (54 ft total length) were uncovered below the route of the TA-2-43 septic tank drain pipe (see 2-007). The arrangement of rock, sand, and pipe indicated that a leach field may have existed when the Water Boiler was present. A veteran operator recalled a chemical waste treatment shack east of the reactor building as a possible source of material disposed of in the leach field. The contamination in the pipe segments was a mixture of alpha and beta/gamma emitters, U-235 fuel being the primary alpha emitter. The pipe segments were probably the remnants of an earlier removal operation. Initial activity at this location was 2-4 nCi/g detected in a spotty array over an area 83 ft x 22 ft. At its nearest point, the stream was about 10 ft away. After removal of soil down to groundwater level, the remaining concentration of beta/gamma emitters was measured at 53-67 pCi/g, with no alpha emitter remaining. The area was backfilled. At the same time that the chemical shack was declared contaminated by radioactivity, the associated pipe trench, TA-2-33, was also reported as radioactively contaminated. This pipe trench was abandoned in 1973.

WASTE INFORMATION

The wastes probably included residuals of uranyl nitrate, perchloric and other acids, and solvents. Radioactive waste was also present.

RELEASE INFORMATION

Portions of the chemical shack and all of the pipe trench were reported as radioactively contaminated in 1971. Alpha and beta/gamma activity were found in TA-2-3 (some probably from Cs-137 or old fission products). No information is available on whether any residual contamination remained after the chemical shack was removed. Beta/gamma contamination was present at TA-2-33, and a soil sample indicated Cs-137. No decommissioning activities have been done on TA-2-33.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
2-010	TA2-1-CA-A/1-HW/RW TA2-2-CA/S/UST-A/1-HW/RW	? 2.003- 2.005		TA-2-3, -33

? Indicates uncertainty with RFA Unit correlation.

SUMMARY

LOCATION	: TA-2	MATERIALS MANAGED :	SOLID WASTE
TYPE OF UNIT(S)	: DRAINS		RADIOACTIVE WASTE
UNIT USE	: DISPOSAL		SUSPECTED HAZARDOUS WASTE
OPERATIONAL STATUS	: ACTIVE		
PERIOD OF USE	: ? - PRESENT		
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: SUSPECTED		

UNIT INFORMATION

LASL Drawing No. ENG-R391 (9/18/58) includes storm drains at TA-2:

SWMU NO.	STRUCTURE	DESCRIPTION	APPROXIMATE LENGTH
2-011(a)	TA-2-1	concrete drain northwest of TA-2-1 that drains into TA-2-36 (drop inlet)	50 ft
		24" CMP between TA-2-36 and TA-2-27 (drop inlet)	8 ft
		concrete drain northwest of TA-2-1 that drains into TA-2-27	85 ft
		15" concrete drain west of TA-2-1 that drains into TA-2-28 (surface inlet)	15 ft
		24" concrete drain between TA-2-27 and TA-2-28	10 ft
		30" CMP between TA-2-28 and creek	30 ft
		6" pipe between TA-2-1, TA-2-26 (salvage basin), and creek	18 ft
		18" CMP between TA-2-1 catch basin and creek	18 ft
		3" pipe between TA-2-1 and creek	25 ft
		12" concrete drain northeast of TA-2-1 and discharging east of TA-2-1	12 ft
		4" pipe between TA-2-1 and the creek	13 ft
2-011(b)	TA-2-19	15" CMP between TA-2-19 and TA-2-35 (drainage basin)	9 ft
		24" CMP from TA-2-35 that drains outside of east fence	9 ft
2-011(c)	TA-2-44	4" VCT from TA-2-44 that drains outside of west fence	12 ft

The 1987 CEARP indicated that salvage basin TA-2-26 [2-011(a)] was abandoned in 1953. The CEARP text is unclear as to whether the salvage basin is contaminated. TA-2-19 was removed in the 1985-86 Phase I Decommissioning [see 2-003(a)]. One of the concrete drains of 2-011(a) was reportedly used to carry cooling water between the fuel handling pit of the Omega West Reactor and the stream when the pit needs to be drained. The drain was decontaminated in 1970 or before. In 1987, a tiny amount of radioactivity of unknown origin was discovered near the outlet of this drain. The drain was again decontaminated. Two outfalls are currently permitted: TA-2-44 has an outfall [2-011(d)] with NPDES serial number 019, and TA-2-49 has an outfall [2-011(e)] with NPDES serial number 020. Both discharge treated cooling water.

WASTE INFORMATION

Radioactively contaminated water was discharged down one of the 2-011(a) concrete drains. The wastewater contained Sodium-24, Manganese-56, and Copper-64. There is no information to indicate that the other drains and discharge points [2-011(a), (b), and (c)] handled anything but storm water. Outfalls 2-011(d) and (e) discharged treated cooling water to the creek.

RELEASE INFORMATION

It is not known if radioactivity released down one of the concrete drains [2-011(a)] reached the discharge area. There are no known releases of hazardous materials from the other sites in 2-011(a), (b), and (c). Outfalls 2-011(d) and (e) may have released hazardous materials associated with treating coolant waters.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
2-011(a)	TA2-2-CA/S/UST-A/I-HW/RW TA2-3-CA/O-A/I-HW/RW	? 2.003- 2.005		TA-2-1
2-011(b)	**			TA-2-19
2-011(c)	**			TA-2-44
2-011(d)	**			TA-2-44
2-011(e)	**			TA-2-49

? Indicates uncertainty with RFA Unit correlation.
** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-2
TYPE OF UNIT(S) : SOIL CONTAMINATION
UNIT USE : DISPOSAL
OPERATIONAL STATUS : INACTIVE
PERIOD OF USE : 1940s - 1959
HAZARDOUS RELEASE : UNKNOWN
RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE

UNIT INFORMATION

The 1987 CEARP indicates that a 1,000-gallon fuel oil tank, TA-2-29, was removed in 1959 and that TA-2-67, also an underground fuel tank, was removed in 1950. The locations are unknown, and there is no information available regarding the removal efforts.

WASTE INFORMATION

Both tanks stored petroleum products.

RELEASE INFORMATION

No documented releases from these tanks have been recorded. However, operational practices at underground storage tanks during this time period were such that releases are expected to have occurred.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
2-012	TA2-6-UST-A/1-PP			TA-2-29, -67

SUMMARY

LOCATION : TA-2
 TYPE OF UNIT(s) : STORAGE
 UNIT USE : STORAGE
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

There are 3 satellite container storage areas in various locations in TA-2-1.

WASTE INFORMATION

Two of the areas contain solvents from parts cleaning. The other area contains solvents and metals from experiments.

RELEASE INFORMATION

There is no information on releases from these areas. However, past operations at most container storage areas have resulted in systematic releases of solid wastes, including RCRA-regulated constituents.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
2-013	**			TA-2-1

** No corresponding E. R. Program unit.

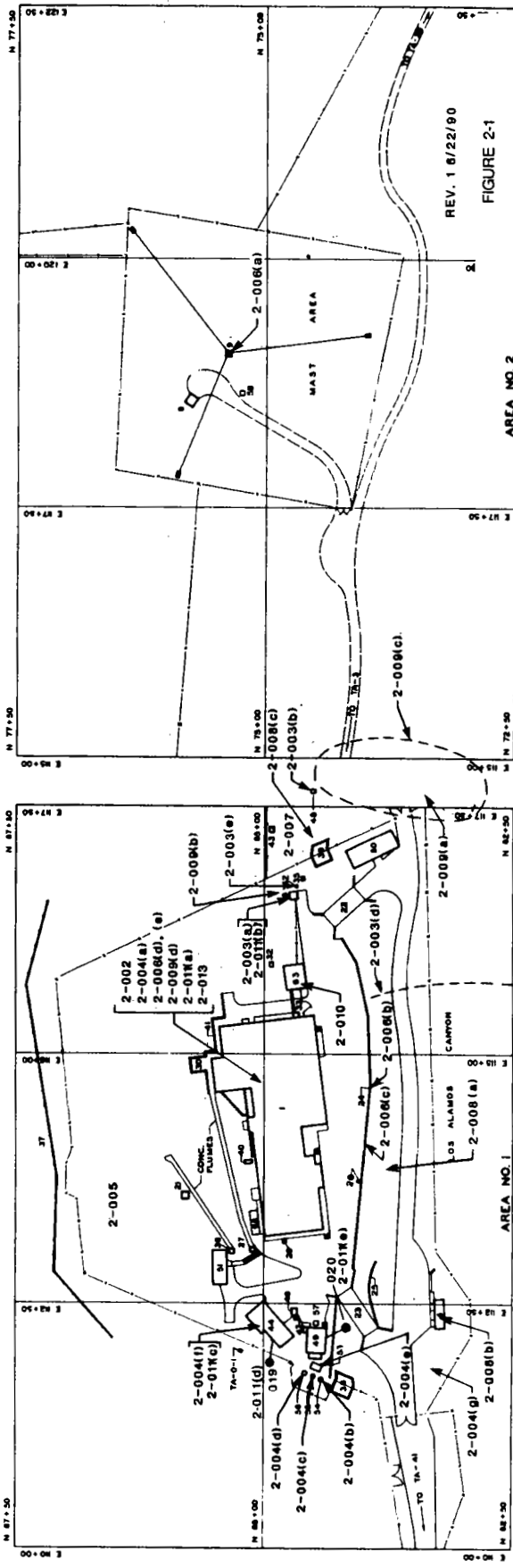
**TA-2 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX**

SWMU	FIGURE NUMBER
2-001	Not shown, location unknown
2-002	2-1
2-003(a)	2-1
2-003(b)	2-1
2-003(c)	Not shown, location unknown
2-003(d)	2-1
2-003(e)	2-1
2-004(a)	2-1
2-004(b)	2-1
2-004(c)	2-1
2-004(d)	2-1
2-004(e)	2-1
2-004(f)	2-1
2-004(g)	2-1
2-005	2-1
2-006(a)	2-1
2-006(b)	2-1
2-006(c)	2-1
2-006(d)	2-1
2-006(e)	2-1
2-007	2-1
2-008(a)	2-1
2-008(b)	2-1
2-008(c)	2-1
2-009(a)	2-1
2-009(b)	2-1
2-009(c)	2-1
2-009(d)	2-1
2-010	2-1
2-011(a)	2-1
2-011(b)	2-1
2-011(c)	2-1
2-011(d)	2-1
2-011(e)	2-1
2-012	Not shown, location unknown
2-013	2-1

NOTE: Some structure locations contain more than one SWMU.

Rev. 1, 6/22/90

LAN:TA-Units/4



UNCLASSIFIED

REVISION HISTORY
REV. 1 2/22/89
LA 624-000000. TOTAL BUCKS TO BE PAID TO STATE OF CALIFORNIA
BY (REV.)

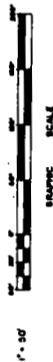
UNIVERSITY OF CALIFORNIA		FACILITIES ENGINEERING DIVISION	
Los Alamos National Laboratory		STRUCTURE LOCATION PLAN	
Los Alamos, New Mexico 87545		TA-2 OMEGA SITE	
DATE	BY	DATE	BY
11/11/88	W. J. L.	11/11/88	W. J. L.
01/21/89	W. J. L.	01/21/89	W. J. L.
02/22/89	W. J. L.	02/22/89	W. J. L.

FIGURE 2-1
SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-2

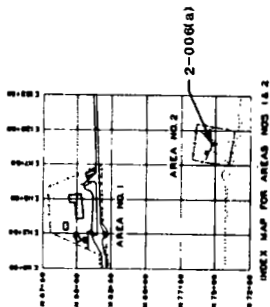
EXPLANATION

2-001 SWMU LOCATION

010 LOCATION OF OUTFALL INDICATING
ASSOCIATED PIPING AND NPDES
SERIAL NUMBERS (SEE APPENDIX A)



- NOTES:**
- THE LOCATION FOR 2-001, 2-003(c)
AND 2-012 ARE UNKNOWN
 - UNIT 2-005 DRIFT LOSS EXTENDS
ACROSS WESTERN EDGE OF TA-2



STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-1	OMEGA-1	MAIN BUILDING	REMOVED 1949	NE3-50 E11-50
TA-2	OMEGA-2	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-3	OMEGA-3	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-4	OMEGA-4	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-5	OMEGA-5	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-6	OMEGA-6	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-7	OMEGA-7	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-8	OMEGA-8	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-9	OMEGA-9	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-10	OMEGA-10	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-11	OMEGA-11	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-12	OMEGA-12	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-13	OMEGA-13	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-14	OMEGA-14	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-15	OMEGA-15	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-16	OMEGA-16	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-17	OMEGA-17	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-18	OMEGA-18	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-19	OMEGA-19	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-20	OMEGA-20	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-21	OMEGA-21	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-22	OMEGA-22	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-23	OMEGA-23	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-24	OMEGA-24	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-25	OMEGA-25	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-26	OMEGA-26	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-27	OMEGA-27	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-28	OMEGA-28	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-29	OMEGA-29	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-30	OMEGA-30	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-31	OMEGA-31	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-32	OMEGA-32	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-33	OMEGA-33	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-34	OMEGA-34	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-35	OMEGA-35	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-36	OMEGA-36	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-37	OMEGA-37	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-38	OMEGA-38	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-39	OMEGA-39	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-40	OMEGA-40	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-41	OMEGA-41	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-42	OMEGA-42	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-43	OMEGA-43	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-44	OMEGA-44	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-45	OMEGA-45	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-46	OMEGA-46	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-47	OMEGA-47	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-48	OMEGA-48	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-49	OMEGA-49	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-50	OMEGA-50	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-51	OMEGA-51	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-52	OMEGA-52	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-53	OMEGA-53	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-54	OMEGA-54	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-55	OMEGA-55	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-56	OMEGA-56	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-57	OMEGA-57	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-58	OMEGA-58	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50

STRUCTURE NUMBER	STRUCTURE DESIGNATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-59	OMEGA-59	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-60	OMEGA-60	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-61	OMEGA-61	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-62	OMEGA-62	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-63	OMEGA-63	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-64	OMEGA-64	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-65	OMEGA-65	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-66	OMEGA-66	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-67	OMEGA-67	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-68	OMEGA-68	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-69	OMEGA-69	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-70	OMEGA-70	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-71	OMEGA-71	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-72	OMEGA-72	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-73	OMEGA-73	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-74	OMEGA-74	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-75	OMEGA-75	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-76	OMEGA-76	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-77	OMEGA-77	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-78	OMEGA-78	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-79	OMEGA-79	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-80	OMEGA-80	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-81	OMEGA-81	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-82	OMEGA-82	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-83	OMEGA-83	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-84	OMEGA-84	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-85	OMEGA-85	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-86	OMEGA-86	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-87	OMEGA-87	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-88	OMEGA-88	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-89	OMEGA-89	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-90	OMEGA-90	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-91	OMEGA-91	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-92	OMEGA-92	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-93	OMEGA-93	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-94	OMEGA-94	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-95	OMEGA-95	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-96	OMEGA-96	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-97	OMEGA-97	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-98	OMEGA-98	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-99	OMEGA-99	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50
TA-100	OMEGA-100	LABORATORY BUILDING	REMOVED 1949	NE3-50 E11-50

UNCLASSIFIED

FIGURE 2-2
TA-2 STRUCTURE LOCATION INDEX

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

FACILITIES ENGINEERING DIVISION

INDEX SHEET
STRUCTURE LOCATION PLAN
OMEGA SITE
TA-2

DATE: 8-19-60
DRAWN BY: [Signature]
CHECKED BY: [Signature]

REVISIONS: [Table with columns for NO., DATE, DESCRIPTION]

SCALE: 1" = 100'

PROJECT NO.: [Blank]
SHEET NO.: 1 OF 2
JOB NO.: [Blank]

DATE: 8-19-60
DRAWN BY: [Signature]
CHECKED BY: [Signature]

PROJECT NO.: [Blank]
SHEET NO.: 1 OF 2
JOB NO.: [Blank]

DATE: 8-19-60
DRAWN BY: [Signature]
CHECKED BY: [Signature]

TA-3

OPERATIONS AND ENVIRONMENTAL SETTING

Numerous operations currently performed at Technical Area (TA) 3 include the following:

- Gas-fired power plant
- Irradiated fuel examination facility
- Metallurgical research
- Analytical chemistry services
- MEC shops
- Printing, reproduction, and photographic services
- Controlled thermonuclear research
- Telecommunication management
- Development and fabrication of materials
- Center for Materials Science
- Van de Graaff Accelerator and Ion Beam Facility
- Computing
- Garage, gas station, shops, cafeteria, warehouse, and support facilities
- Engineering
- Geosciences

Laboratory administration, personnel services, health services, and a museum are also housed at TA-3 (DOE, 1987a). TA-3 also includes the location of former TA-30. Sigma Mesa and South Mesa, once part of TA-3 have been assigned the new technical area numbers of TA-60 and TA-61, respectively. SWMUs reassigned to new technical areas are shown on Table I-1 in the introduction to this report.

The elevation of TA-3 ranges from 7,100 to 7,500 feet asl. The technical area is located on South Mesa between Los Alamos Canyon on the north and Two Mile Canyon on the south. In addition, Sandia and Mortandad Canyons head on the east margin of TA-3 forming steep cliffs at the top of the canyon walls. The area is underlain by a welded member of the Bandelier Tuff. TA-3 is located in the Ponderosa Pine/Pinon-Juniper and Ponderosa Pine-fir vegetation overstory vegetation zones. The soil at TA-3 is primarily Carjo loam. The soil is moderately deep (51-102 cm), well-drained and typical of nearly level to moderately sloping mesa tops. The water holding capacity is medium, permeability is slow (0.15 to 0.5 cm/h), run-off is medium (0.14 to 0.51 cm, measured as soil lost

during a 2-year, 30-minute event on bare soil), and soil erosion is moderate. Areas of Pogona fine sandy loam and rock outcrop also exist in this TA (Nyhan et al., 1978).

The potentiometric surface of the main aquifer lies at about 6,200 to 6,300 feet asl at TA-3. Over 900 feet of unsaturated tuff and volcanic rock separate the surface from the aquifer. There is little potential for downward flow from the surface because of the low moisture conditions of the tuff (IT, 1987a).

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-3

3-001	ACTIVE CONTAINER STORAGE AREAS
3-002	INACTIVE CONTAINER STORAGE AREAS
3-003	EQUIPMENT STORAGE AREAS
3-004	RADIOACTIVE WASTE STORAGE AREAS
3-005	SIGMA MESA CONTAINER STORAGE AREA (renumbered)
3-006	BURN SITE
3-007	FIRING CHAMBER
3-008	DECOMMISSIONED FIRING SITES
3-009	LANDFILL / SURFACE DISPOSAL
3-010	VACUUM PUMP OIL / SURFACE DISPOSAL
3-011	WASHING PLATFORM OPERATIONAL RELEASE
3-012	CHILLED WATER OPERATIONAL RELEASE
3-013	OPERATIONAL RELEASES
3-014	WASTEWATER TREATMENT PLANT
3-015	ROLLING MILL OUTFALL REGION
3-016	ACTIVE SEPTIC SYSTEMS
3-017	INACTIVE SEPTIC SYSTEMS (renumbered)
3-018	CESSPOOL
3-019	DECOMMISSIONED SEPTIC SYSTEM
3-020	PITS
3-021	CAUSTIC WASTE SUMP
3-022	MARX GENERATOR SUMP
3-023	INACTIVE OIL SUMP
3-024	PROCESS WATER PUMP PIT
3-025	SUMPS AND OIL TRAP
3-026	SUMPS
3-027	VEHICLE MAINTENANCE SUMPS
3-028	ACTIVE SURFACE IMPOUNDMENTS
3-029	INACTIVE LANDFILL
3-030	INACTIVE SURFACE IMPOUNDMENTS
3-031	BUILDING 29 DISPOSAL COMPLEX
3-032	SCRUBBER TANK
3-033	PRINTED CIRCUIT SHOP TANKS AND SUMPS
3-034	RADIOACTIVE WASTE STORAGE TANKS
3-035	LEAKING UNDERGROUND FUEL TANKS
3-036	POTENTIAL SOIL CONTAMINATION ASSOCIATED WITH TANKS
3-037	WASTE UNDERGROUND STORAGE TANKS
3-038	INACTIVE AND DECOMMISSIONED INDUSTRIAL WASTE LINES
3-039	SILVER RECOVERY
3-040	PHOTOGRAPHIC FILM STORAGE / TREATMENT
3-041	SIGMA COMPLEX TANK
3-042	DECOMMISSIONED SUMP
3-043	DECOMMISSIONED PRODUCT TANK
3-044	DECOMMISSIONED CONTAINER STORAGE AREA
3-045	SOIL CONTAMINATION FROM OUTFALLS IN SANDIA CANYON
3-046	WASTE TREATMENT TANK
3-047	SOIL CONTAMINATION FROM PRODUCT STORAGE AREAS
3-048	RADIOACTIVE CONTAINER STORAGE AREA
3-049	SOIL CONTAMINATION FROM MORTANDAD CANYON OUTFALLS
3-050	SOIL CONTAMINATION FROM STACK EMISSIONS
3-051	SOIL CONTAMINATION FROM LEAKING COMPRESSORS

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-3
(Continued)

3-052	STORM DRAINAGE SYSTEMS
3-053	ROLLING MILL BUILDING / SOIL CONTAMINATION
3-054	COOLING TOWERS AND ASSOCIATED OUTFALLS
3-055	OUTFALLS
3-056	WASTE STORAGE FACILITIES
3-057	CAFETERIA GREASE TRAPS
3-058	TRU CONTAINER STORAGE AREAS
3-059	BONEYARD

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED :	HAZARDOUS WASTE
TYPE OF UNIT(s)	: CONTAINER STORAGE AREA		RADIOACTIVE WASTE
UNIT USE	: STORAGE		SUSPECTED MIXED WASTE
OPERATIONAL STATUS	: ACTIVE		PCBs
PERIOD OF USE	: EST. 1970s - PRESENT		SOLID WASTE
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: UNKNOWN		

UNIT INFORMATION

The following are active container storage areas based on the 10/88 and 1/90 LANL databases and operating group reports:

SWMU NO.	LOCATION	UNIT TYPE	SETTING	SWMU NO.	LOCATION	UNIT TYPE	SETTING
3-001(a)	TA-3-39	<90 day	loading dock	3-001(f)	TA-3-38	<90 day	15' sq concrete pad
3-001(a)	TA-3-39	satellite	Room 16	3-001(g)	TA-3-673	satellite	
3-001(a)	TA-3-39	satellite	Room 42	3-001(h)	TA-3-66	satellite	basement/loading dock
3-001(b)	TA-3-40	<90 day	loading dock	3-001(i)	TA-3-70	satellite	
3-001(b)	TA-3-40	satellite	Room N121	3-001(j)	TA-3-34	satellite	loading dock
3-001(b)	TA-3-40	satellite	Room S106	3-001(k)	TA-3-16	<90 day	
3-001(b)	TA-3-40	satellite	Room S12	3-001(k)	TA-3-16	satellite	
3-001(b)	TA-3-40	satellite	Room S123	3-001(l)	TA-3-316	<90 day	
3-001(b)	TA-3-40	satellite	Room S130	3-001(m)	TA-3-41	satellite	
3-001(b)	TA-3-40	satellite	Room S31	3-001(n)	TA-3-32	satellite	south dock
3-001(b)	TA-3-40	satellite	Room W112	3-001(o)	TA-3-35	satellite	Room 100
3-001(b)	TA-3-40	satellite	Room W116	3-001(p)	TA-3-37	satellite	carpenter's shed
3-001(b)	TA-3-40	satellite	Room W122	3-001(q)	TA-3-43	satellite	photographic lab
3-001(b)	TA-3-40	satellite	Room W123	3-001(q)	TA-3-43	satellite	Room 108A
3-001(b)	TA-3-40	satellite	Room W130	3-001(r)	TA-3-409	satellite	Room 101
3-001(b)	TA-3-40	satellite	photo lab	3-001(s)	TA-3-494	satellite	Room 101, 107
3-001(b)	TA-3-40	satellite	Room S2	3-001(t)	TA-3-502	satellite	Room N111
3-001(c)	TA-3-102	<90 day	corner of shop	3-001(u)	TA-3-1485	satellite	
3-001(d)	TA-3-170	satellite		3-001(v)	TA-3-1486	satellite	pesticide shed
3-001(e)	TA-3-30	<90 day	west side	3-001(w)	TA-3-1888	satellite	Room 110
3-001(f)	TA-3-38	satellite	4 areas, including 1 in the tool room	3-001(x)	TA-3-22	satellite	southwest corner inside building

A 1989 field survey noted the following active container storage areas inside the CMR Building, TA-3-29. These areas were also listed in the 1/90 LANL database:

SWMU NO.	UNIT TYPE	SETTING
3-001(y)	satellite	machine shop
3-001(y)	satellite	outside Room 5121
3-001(y)	satellite	Room 7148
3-001(y)	satellite	Room 3118

The waste stored in the machine shop, located between Wing 3 and the administrative wing, is contained in a 55-gallon drum. In the three other areas, wastes are accumulated in small bottles prior to disposal by HSE-7. Bottles of spent solvent, generated as a result of laboratory analytical tasks or glassware cleaning, are present throughout TA-3-29. Due to the dynamic nature of operations in the building, virtually any laboratory sink in the research areas may be associated with the storage of spent solvents upon occasion. The active container storage areas are inspected regularly. The schedule is dependent on the type of material stored. The storage area in building TA-3-102 [3-001(c)] consists of a Shields Manufacturing Company, Inc. hazardous materials containment shed, which can hold eight 55-gallon drums of radioactive waste.

(continued)

WASTE INFORMATION

The following table describes the waste stored at these container storage areas.

LOCATION	WASTE	LOCATION	WASTE
TA-3-39	waste coolants, solvents, oils, acids, scrap metals, catalysts, and drums of beryllium wastes submerged in mineral oil	TA-3-41	unknown
TA-3-40	solvents, photo processing waste, and unknown	TA-3-32	solvents, pump oil, acids, asbestos scraps
TA-3-102	radioactive machined chips and diesel oil	TA-3-35	solvent contaminated rags
TA-3-170	vacuum pump oil/suspected radioactive, gas cylinders	TA-3-37	solvents
TA-3-30	solvents, radioactive oil	TA-3-43	photographic chemicals, solvents
TA-3-38	paints, solvents, and rags	TA-3-409	solvents
TA-3-473	solvent-contaminated lab trash	TA-3-494	solvents
TA-3-66	solvents and chemicals	TA-3-502	solvents
TA-3-70	kerosene, waste oil, capacitors, unknown	TA-3-1485	solvents
TA-3-34	unknown waste	TA-3-1486	pesticides
TA-3-16	radioactive oil and solvents	TA-3-1888	solvents, metals
TA-3-316	solvents, oil	TA-3-22	solvents, oils, rags
		TA-3-29	waste cutting oil, solvents, laboratory chemicals

RELEASE INFORMATION

Some of the drums are noted to be leaking. There have been no hazardous releases reported from the storage facilities within TA-3-29. Leaks and spills have been observed near several of the other storage facilities. The storage area at TA-3-22 consists of a 35-gallon drum within a 55-gallon drum; no releases have occurred from this unit. However, past operations at most container storage areas have resulted in systematic releases of solid wastes, including RCRA-regulated constituents.

NOTES

Active container storage areas in and near TA-3-382 [3-001(g)] and -383 [3-001(h)] are now in the new TA-60; see 60-001. Active container storage area near TA-3-282 [3-001(q)] is now in the new TA-61; see 61-001. SWMU Nos. 3-001(k), (n), (p), (r), (s), (t), and (u) have been renumbered to SWMU Nos. 3-056(b), (f), (a), (c), (d), (e), and (h), respectively.

SWMU CROSS-REFERENCE LIST

SWMU NUMBER	CEARP IDENTIFICATION NUMBER(S)	RFA UNIT	E.R. RELEASE SITE INFO.	ASSOCIATED STRUCTURES
3-001(a)	**	3.068	Tsk 20 : 64 73	TA-3-39
3-001(b)	TA3-1-CA-A/1-HW/RW	3.064	Tsk 21 : 1147-1157 1177 1178 1125	TA-3-40
3-001(c)	**	3.095 3.096	Tsk 20 : 48 67	TA-3-102
3-001(d)	**		Tsk 20 : 70	TA-3-170
3-001(e)	TA3-1-CA-A/1-HW/RW		Tsk 21 : 1175	TA-3-30
3-001(f)	TA3-1-CA-A/1-HW/RW		Tsk 19 : 108 69 75 76	TA-3-38
3-001(g)	**			TA-3-473
3-001(h)	**		Tsk 20 : 65	TA-3-66
3-001(i)	**			TA-3-70
3-001(j)	**		Tsk 20 : 63	TA-3-34
3-001(k)	**	3.001	Tsk 21 : 1174	TA-3-16
3-001(l)	**		Tsk 21 : 1167	TA-3-316
3-001(m)	**		Tsk 21 : 1159	TA-3-41
3-001(n)	**			TA-3-32
3-001(o)	**			TA-3-35
3-001(p)	**			TA-3-37
3-001(q)	**			TA-3-43
3-001(r)	**			TA-3-409
3-001(s)	**			TA-3-494
3-001(t)	**			TA-3-502
3-001(u)	**			TA-3-1485
3-001(v)	**			TA-3-1486

(continued)

SWMU CROSS-REFERENCE LIST
(continued)

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-001(w)	**			TA-3-1888
3-001(x)	**			TA-3-22
3-001(y)	TA3-1-CA-A/1-HW/RW			TA-3-29

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : CONTAINER STORAGE AREA
 UNIT USE : STORAGE
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : ? - 1987
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

Several container storage areas identified during the VSI are currently inactive. A satellite drum and tank storage area located outside of Room P-100 in the Sigma Building, TA-3-66, consisted of two 250-gallon plastic tanks for acid and caustic waste and several 55-gallon drums [3-002(a)]. The containers were stored on an asphalt pad for 3 days. Steel drums containing waste solvents, epoxy resins, possibly paints, and oils were stored at the sand blast shed [3-002(b)]. A pesticide storage area [3-002(c)] was located at the batch plant, TA-3-73. Building TA-3-1494 was used to store all types of pesticides from the early 1960s until 1984. At that time, the pesticides were moved to two metal sheds, TA-3-1977 and -1978, which were also located at the batch plant. The sheds were 12' x 16' and were used for <90 day storage of pesticides and possibly other hazardous liquids. These two sheds were used continuously for four years. In 1987, all the pesticides in the sheds were moved to a new storage facility, TA-60-29, located on Sigma Mesa. Other currently inactive container storage areas were noted during the CEARP field survey. A 1989 E.R. Program site reconnaissance survey noted that a former drum storage area [3-002(d)] located on the east side of TA-3-40 was no longer active. Drums of used oil were stored at the site for 5-6 years, but were removed in 1986.

WASTE INFORMATION

The TA-3-66 unit contained waste liquids from electroplating processes that may have contained lead, cyanide, and acids. The drums in the sand blast shed contained waste solvents. Pesticides and other hazardous liquids were stored in the two metal sheds. Other storage areas contained waste oil, caustics, empty drums, and spent batteries.

RELEASE INFORMATION

The drums seen during the VSI at the sand blast shed appeared to be leaking. During the VSI, lack of secondary containment and spills on the floor of the pesticide storage shed were noted. Later analysis found that the wood floors of both sheds were contaminated with pesticides. In the fall of 1988, the wood floors were sawed up, drummed, and taken to TA-54 for disposal. No soil samples were taken beneath the wood floors of the sheds. It is unknown whether releases occurred from the other inactive storage areas. However, past operations at most container storage areas have resulted in systematic releases of solid wastes, including RCRA-regulated constituents.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-002(a)	**		Tsk 20 : 66	TA-3-66
3-002(b)	**	3.038	Tsk 19 : 70	TA-3-1966
3-002(c)	TA3-18-CA-A/I-HW/RW	3.073	Tsk 19 : 71 73	TA-3-73, -1977, -1978, -1494
3-002(d)	**		Tsk 21 : 1170 1172	TA-3-40

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED	: HAZARDOUS WASTE
TYPE OF UNIT(s)	: SOIL CONTAMINATION		PCBs
UNIT USE	: DISPOSAL		
OPERATIONAL STATUS	: ACTIVE/INACTIVE/DECOMMISSIONED		
PERIOD OF USE	: ? - 1988		
HAZARDOUS RELEASE	: KNOWN		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

Stained soil was observed at some electrical equipment storage areas in TA-3 during the E.R. site reconnaissance visits:

SWMU NO.	LOCATION	DESCRIPTION	STATUS
3-003(a)	TA-3-218	capacitors, transformers, and batteries; stored outside the building	inactive since 1986
3-003(b)	TA-3-253	capacitors; stored outside the building	inactive
3-003(c)	TA-3-287	drums, capacitors; stored south of the building	decommissioned
3-003(d)	TA-3-141	transformers; stored southeast of the building	active
3-003(e)	TA-3-29	10 transformers in the basement	active
3-003(f)	TA-3-66	9 transformers in the basement	active
3-003(g)	TA-3-35	PCB oil spilled from transformer in the basement	spill occurred in 1984
3-003(h)	TA-3-39	4 PCB transformers	active
3-003(i)	TA-3-32	PCB transformers stored in the vault	active
3-003(j)	TA-3-40	drum and capacitor storage; south of building	active 1977-1987
3-003(k)	TA-3-40	4 transformers stored in the basement	active
3-003(l)	TA-3-316	east of the building	active
3-003(l)	TA-3-16	2 PCB transformers in the basement	inactive since 1988
3-003(m)	TA-3-22	capacitor bank located north of the building; transformers and capacitors located inside the building	active
3-003(n)	TA-3-271	PCB transformer storage area	inactive
3-003(o)	TA-3-287	capacitor storage and maintenance	active
3-003(p)	TA-3-142	PCB-containing transformer and capacitor storage	active approx. 1979-86

WASTE INFORMATION

The capacitors, transformers and other electrical equipment contained oil, some containing PCBs. Many of the drums in these areas were unmarked.

RELEASE INFORMATION

Documentation on the decommissioning of inactive container storage areas including the removal of soil has not been obtained. Visible soil contamination from leaks and spills is apparent at all of the sites, with the exception of the storage area south of TA-3-40. A large rupture of three capacitors in the bank at TA-3-22 occurred in 1983, releasing PCB-contaminated oil. In 1977, a large spill occurred during the removal of a transformer from the TA-3-271 salvage yard.

NOTES

A PCB storage area outside of TA-3-282 [3-003(c)] is now in TA-61. See 61-002.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-003(a)	TA3-1-CA-A/I-HW/RW	3.067	Tsk 21 : 1162	TA-3-218
3-003(b)	TA3-1-CA-A/I-HW/RW	3.067	Tsk 21 : 1163	TA-3-253
3-003(c)	**			TA-3-287
3-003(d)	**		Tsk 20 : 84	TA-3-141

(continued)

SWMU CROSS-REFERENCE LIST
(continued)

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-003(e)	**		Tsk 20 : 99	TA-3-29
3-003(f)	**		Tsk 20 : 101	TA-3-66
3-003(g)	**		Tsk 20 : 103	TA-3-35
3-003(h)	**		Tsk 20 : 104	TA-3-39
3-003(i)	**		Tsk 20 : 105	TA-3-32
3-003(j)	**		Tsk 21 : 1171 1210	TA-3-40
3-003(k)	**		Tsk 21 : 1202	TA-3-316
3-003(l)	**		Tsk 21 : 1211	TA-3-16
3-003(m)	**		Tsk 19 : 130 137	TA-3-22
3-003(n)	**		Tsk 19 : 72 179	TA-3-271
3-003(o)	TA3-1-CA-A/I-HW/RW		Tsk 21 : 1145	TA-3-287
3-003(p)	**		Tsk 21 : 1161	TA-3-142

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED :	HAZARDOUS WASTE
TYPE OF UNIT(S)	: CONTAINER STORAGE AREA		MIXED WASTE
UNIT USE	: STORAGE		RADIOACTIVE WASTE
OPERATIONAL STATUS	: ACTIVE/INACTIVE		
PERIOD OF USE	: 1951 - PRESENT		
HAZARDOUS RELEASE	: NONE		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

An area [3-004(a)] has been used for temporary storage of drums in a hallway along the walls of the basement in TA-3-29, Wing 2, outside of Room 4041. At the time of the RFA inspection, there were eighteen 55-gallon steel drums stored on a concrete pad. The unit managed radioactive waste, including contaminated paper and glass from the lab. Wastes were scheduled to go to TA-54 (MDA-G) once the 18-drum capacity was reached (generally 30 to 45 days). Drums stored on a concrete pad [3-004(b)] in Room 2005 adjacent to the extension of the hallway storage area within the same wing of the basement were also found to manage radioactive waste. These drums were also taken to TA-54 (MDA-G) once the 13-drum capacity was reached. The status of these storage areas is unknown. Two dumpsters [3-004(c)] in the CMR Service Area receive boxed Multiple Energy Gamma Assay Spectrometer (MEGAS) waste (waste with greater than 50 nCi/g TRU but less than 100 nCi/g TRU) from TA-3-29. One dumpster receives the compactable waste and one receives the non-compactable waste. It is unlikely that the waste is kept for more than 90 days. An additional dumpster [3-004(d)] is used to accumulate contact-handled waste from the operations of Wing 9 hot cells in TA-3-29. The bagged and boxed materials are placed in the dumpster. In Wing 4 of TA-3-29, there is a drum [3-004(e)] for the storage of enriched uranium processing operations. A vault [3-004(f)] in the basement of TA-3-29 stores calcium fluoride slag. Six to eight 4"-dia, 3" high slag cylinders are stored in paint cans awaiting disposal or recovery.

WASTE INFORMATION

The drums outside of Room 4041 contained radioactive contaminated paper and glass. The drums in Room 2005 contained solids, flammables, inorganics, metals, and radioactive waste, including contaminated paper and glass from the lab. The dumpsters in the CMR Service Area contain office waste from the wings and laboratory waste from radioactive material handling areas. The material is generally not from glove box operations. It consists of gloves, paper products, glass, plastic, and metal separated into compactable and non-compactable packages. All packages have been surveyed to assure that the waste is less than 100 nCi/g TRU. Hazardous metal and solvent waste is not common, but is possible. The Wing 9 dumpster waste consists of general building waste with an occasional decontaminated hot cell item. It consists of rags, paper, small hardware, machine shop waste, and cleaning materials. There are no hazardous materials included. The Wing 4 waste consists of glovebox wastes, such as rags, paper, rubber gloves, and similar items. The calcium fluoride slag is generated by reducing uranium fluoride with calcium metal using an iodine booster. The reactants contain radionuclides, metals, and acid.

RELEASE INFORMATION

There have been no known releases from these storage areas.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-004(a)	**	3.026	Tsk 20 : 61	TA-3-29
3-004(b)	**	3.027		TA-3-29
3-004(c)	**	3.008		TA-3-29
3-004(d)	**			TA-3-29
3-004(e)	**			TA-3-29
3-004(f)	**			TA-3-29

** No corresponding E. R. Program unit.

NOTES

This SWMU has been renumbered to SWMU No. 60-004.

SUMMARY

LOCATION : TA-3
TYPE OF UNIT(s) : PIT
UNIT USE : TREATMENT/DISPOSAL
OPERATIONAL STATUS : DECOMMISSIONED
PERIOD OF USE : 1945 - 1949
HAZARDOUS RELEASE : NONE
RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

A burn facility was located at TA-3-12. This burning area was built in 1945 and was constructed of reinforced concrete. It was 4'4" x 8'10" x 9'11" high with a steel charging door, and it had an ash pit. The facility was removed in 1949.

WASTE INFORMATION

HE and other combustible materials are believed to have been burned in these pits.

RELEASE INFORMATION

It is believed that no releases of hazardous materials occurred.

NOTES

SWMU No. 3-006(a) is now in TA-61. See 61-003.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-006	TA3-12-CA-1-HW/RW	3.092	Tsk 20 : 112	TA-3-12

SUMMARY

LOCATION : TA-3
TYPE OF UNIT(S) : FIRING SITE
UNIT USE : TESTING
OPERATIONAL STATUS : INACTIVE
PERIOD OF USE : 1960s
HAZARDOUS RELEASE : UNKNOWN
RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE
SUSPECTED RADIOACTIVE WASTE

UNIT INFORMATION

Building TA-3-160 was used as the firing chamber for Building TA-3-159 experiments. Chamber TA-3-160 is no longer in use as a firing chamber. This unit was completed in 1964 and is constructed of prefabricated concrete wall sections consisting of two 8' high x 4' x 6" thick sections set on a 8' x 7' x 6" thick concrete slab. A magazine used to store the explosives for the TA-3-160 firing chamber was located southeast of TA-3-141.

WASTE INFORMATION

The waste probably consisted of HE and metal firing residues that may have included depleted uranium.

RELEASE INFORMATION

It is unknown whether the firing areas have caused a hazardous release, but it appears unlikely.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-007	TA3-7-CA-1-HW	3.072	Tsk 20 : 107 108	TA-3-160, -159

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : FIRING SITE
 UNIT USE : TESTING
 OPERATIONAL STATUS : DECOMMISSIONED
 PERIOD OF USE : SEE BELOW
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : HAZARDOUS WASTE
 RADIOACTIVE WASTE

UNIT INFORMATION

The original South Mesa site [3-008(a)] consisted of: the main building, TA-3-1; a production shop, TA-3-2; a storage building, TA-3-3; four hutments, TA-3-4, -5, -6, and -7; and four magazines, TA-3-8, -9, -10, and -11. This area was used to manufacture and test detonators. Less than a half pound of HE was involved in any one firing. Explosives included PETN and azide. PETN was tested under various temperature conditions. Memos in the CEARP files document what appears to be several firing areas on South Mesa that were in use in 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 lab on Two-Mile Mesa. A small, indoor, high-pressure test area firing chamber was located in Room A-3J of TA-3-43 [3-008(b)] during the 1960s. This chamber has been decommissioned. CEARP noted that off-gases were probably vented by a fan to the atmosphere. The exact locations of the old TA-3 firing areas are not known. The testing may have been performed in laboratory buildings.

WASTE INFORMATION

Detonators containing HE, metals, depleted uranium, and other unknown substances were tested on the original TA-3 firing sites.

RELEASE INFORMATION

The area has been decommissioned; it is unknown, however, if any residual contamination remains.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-008(a)	TA3-11-CA-1-HW/RW		Tsk 20 : 111	TA-3-1, -2, -3, -4, -5, -6, -7, -8, -9, -10, -11
3-008(b)	TA3-11-CA-1-HW/W		Tsk 19 : 180	TA-3-43

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED	: SOLID WASTE
TYPE OF UNIT(s)	: SURFACE DISPOSAL		SUSPECTED HAZARDOUS WASTE
UNIT USE	: DISPOSAL		
OPERATIONAL STATUS	: INACTIVE		
PERIOD OF USE	: ?		
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

- 3-009(a) Concrete, building material and approximately 20 feet of asbestos-coated pipe were disposed of in an estimated 30' x 300' area on the north rim of Sandia Canyon south of TA-3-70 and -271. A soil disturbance is also visible upcanyon, near the asphalt plant TA-3-73. It appeared to consist mainly of soil fill with minor amounts of concrete.
- 3-009(b) Concrete and building debris are located in an approximately 1/2 acre fill area adjacent to the South Mesa fire station (TA-3-41). The debris may be decommissioned buildings from the former TA-3.
- 3-009(c) A disturbed area has been noted south of TA-3-66, and concrete and building debris are visible.
- 3-009(d) A building fill area is located along the north rim of Two-Mile Canyon between TA-3-40 and TA-3-16.
- 3-009(e) A soil fill area is located in Upper Mortandad Canyon, southeast of TA-3-29.
- 3-009(f) There have been reports of a landfill north of TA-3-16.
- 3-009(g) A large soil fill area is located south of Two-Mile Canyon Bridge.
- 3-009(h) Asphalt piles are located near the salvage yard and on Sigma Mesa. Also on Sigma Mesa there is concrete debris near the test rack.
- 3-009(i) A debris area is located east of TA-3-170; concrete, asphalt, electrical cable, metal, VCP and large mound of soil were visible.
- 3-009(j) A soil fill area is reported to be located west of TA-3-142. An old water tank, pieces of wire, and assorted debris are reported to comprise the fill material.

WASTE INFORMATION

The fill areas appear to contain fill and building debris.

RELEASE INFORMATION

It is unknown whether a hazardous release has occurred.

NOTES

Asphalt piles near TA-3-381, part of 3-009(h), are now in TA-60. See 60-002.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-009(a)	TA3-10-OL/L-A/I-HW		Tsk 19 : 65 66	TA-3-70, -73, -271
3-009(b)	**		Tsk 21 : 1160 1173 1193	NEAR TA-3-41
3-009(c)	**		Tsk 20 : 56	SOUTH OF TA-3-66
3-009(d)	TA3-10-OL/L-A/I-HW		Tsk 21 : 1190	NEAR TA-3-40, -16
3-009(e)	**		Tsk 20 : 55	SOUTHEAST OF TA-3-29
3-009(f)	TA3-10-OL/L-A/I-HW		Tsk 21 : 1191	NORTH OF TA-3-16
3-009(g)	TA3-10-OL/L-A/I-HW		Tsk 21 : 1189	TWO-MILE CANYON
3-009(h)	**			NEAR SALVAGE YARD, SIGMA MESA
3-009(i)	**		Tsk 20 : 60	EAST OF TA-3-170
3-009(j)	**		Tsk 21 : 1192	WEST OF TA-3-142

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : OPERATIONAL RELEASE
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1950s - ?
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : SUSPECTED

MATERIALS MANAGED : HAZARDOUS WASTE
 SUSPECTED MIXED WASTE

UNIT INFORMATION

A vacuum repair shop is located at TA-3-30. In the 1950s, it was the practice to dispose of contaminated vacuum pump oil over a bank [3-010(a)] at the back of the building. Later, a pipe draining to the same location was installed. It has been estimated that 150-200 pounds of mercury were disposed with the oil. The area on the west end of the building was paved several years ago. The pipe is still in place but is inactive. A vacuum pump [3-010(b)] is located on the north side of Wing 5 of TA-3-29. The pump is housed in a metal shed. A hydraulic pump [3-010(c)] is housed in a metal shed north of TA-3-216. The pump is noted to be leaking. Two vacuum pumps [3-010(d)] for the beryllium processing system in TA-3-141 are located on the east side of the building.

WASTE INFORMATION

The vacuum pump oil from the repair shop contained mercury, and possibly beryllium, tritium, and transuranics. The vacuum pump oil from TA-3-29 could have contained small amounts of alpha contamination. The oil from the processing system at TA-3-141 may have contained beryllium.

RELEASE INFORMATION

The oil was dumped over the bank, and the pipeline carried waste oil to the canyon. Sampling has been undertaken, but results are not available. The areal extent of contamination from this practice is unknown. The floor of the vacuum pump house near TA-3-29 was noted, during an E.R. Program site visit, to be stained with oil. During an E.R. Program site survey, the pump near TA-3-216 was observed to be leaking. Stains were noticed both inside and outside the pump house. The vacuum pumps for beryllium processing were noted to have leaked in the past.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-010(a)	TA3-1-CA-A/1-HW/RW	3.090	Tsk 21 : 1115	TA-3-30
3-010(b)	**		Tsk 20 : 37	TA-3-29
3-010(c)	**		Tsk 20 : 51	TA-3-216
3-010(d)	**		Tsk 20 : 50	TA-3-141

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3 MATERIALS MANAGED : UNKNOWN
 TYPE OF UNIT(s) : OPERATIONAL RELEASE
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : EST. 1956 - 1980
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

UNIT INFORMATION

Carboy washing platform TA-3-101 was built in 1956. It was used for the purpose of washing out drums that were to be reused. It was a reinforced concrete 10' x 10' x 6" thick pad approximately 1'6" above the ground. The platform has been inactive since 1980, but is still in place. The outfall from the platform is located southwest of TA-3-31, near the Two Mile Canyon edge.

WASTE INFORMATION

The waste released from the platform consisted of carboy wash waste liquids; the constituents of this waste are unknown.

RELEASE INFORMATION

The liquid from the washing operations discharged to a drainage channel south of the platform and flowed downgradient about 200 ft, where it entered Two Mile Canyon. It is unknown whether the liquids released from the platform contained hazardous constituents.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-011	TA3-1-CA-A/1-HW/RW		Task 21 : 1141 1122	TA-3-101

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : OPERATIONAL RELEASE
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : SEE BELOW
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

In 1972, the chilled water system at TA-3-66 was scheduled for scale removal using an ammonium bifluoride solution. Leaks in the system resulted in discharge to the sewer which ultimately led to release of 600-700 pounds of soluble fluoride [3-012(a)] into Mortandad Canyon. Between 1950 and the 1970s, chromates were used to treat cooling water from the steam/electric generating plant, TA-3-22. Drift loss and the cooling water discharge to Sandia Canyon [3-012(b)] contributed to elevated hexavalent chromium in the surrounding area.

WASTE INFORMATION

The chilled water system discharged fluorine and, possibly, ammonium bifluoride to the sewer. The cooling water contained chromates.

RELEASE INFORMATION

The highest measured fluorine concentration in the Mortandad Canyon stream was 48 ppm. Drift loss from the cooling tower and discharges to an outfall resulted in a release of hexavalent chromium. Up to 34 ppm has been reported in the outfall. This liquid sank into the alluvium in Sandia Canyon within four miles of the outfall.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-012(a)	**			TA-3-66
3-012(b)	TA3-1-CA-A/1-HW/RW	3.089	Tsk 19 : 42	TA-3-22

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : OPERATIONAL RELEASE
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : ACTIVE/INACTIVE
 PERIOD OF USE : EST. 1960s - PRESENT
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : HAZARDOUS WASTE
 SUSPECTED RADIOACTIVE WASTE

UNIT INFORMATION

During 1968, Stoddard solvent from the Laboratory maintenance contractor's maintenance shop, drycid, and caustic materials from the fitters operation in TA-3-38 were being disposed of in the storm drain [3-013(a)] that traversed the main parking lot of the Administration Building, TA-3-43, and daylighted northwest of TA-3-207. During the 1960s and 1970s (estimated) spent paint solvents may have been poured into the floor drains [3-013(b)] of TA-3-38, which are also connected to the storm drain. According to CEARP, steps were taken to discontinue these practices. Also at TA-3-38, a small asphalt pad [3-013(c)] is present outdoors for cable wash down. The wash area is composed of a 4"-deep bed of sand, underlain by plastic and surrounded by a 1'-high sand berm. A 1200-gal tank containing kerosene is placed on the sand by a crane. 3" steel cable is then placed in the tank and allowed to soak. During the washing process, kerosene spills do occur from the tank to the sand bed. A hydraulic bender and a shearer [3-013(d)] are operated in an area west of TA-3-38. The hydraulic bender is mounted on a 15 sq ft cement pad, while the shearer, which is located nearby, sits on soil. Hydraulic oil has leaked from both pieces of equipment. In March 1989, a large spill of antifreeze [3-013(e)] occurred at TA-3-36. The spill occurred in the fenced yard west of the garages. It discharged downgradient and entered a storm drain located in the spill area. It was estimated that 60 gallons of 50-50 mix antifreeze was released. An area of stained soil [3-013(f)] is located on the east side of TA-3-66. The area is believed to be the location of a tar melting pot and hopper used by roofers from approximately 1975 to 1979. Soil stains [3-013(g)] are present around a dumpster at the northeast corner of TA-3-316. It has been common practice to dispose of oil-soaked absorbent in the dumpster, which has then leaked onto the surrounding soil. Old equipment containing oil and grease [3-013(h)] is stored on asphalt south of TA-3-39. Routine leaks appear to have occurred in the area.

WASTE INFORMATION

The wastewater from the maintenance shop may contain small quantities of lead, chromium, zinc, tin, copper, and nickel. Solvents, metals, drycid, caustics, spent paint solvents, and cutting oils were discharged to the TA-3-38 floor drains. There was machining of activated beryllium in one of the shops. The cable is washed down with kerosene in the vat. The kerosene is recycled. The hydraulic bender and shearer contain hydraulic oil. The spill at TA-3-36 consisted of 50-50 mix containing ethylene glycol.

RELEASE INFORMATION

The extent of possible contamination from the shop and TA-3-38 is not known. Stains have been noted on the sand, but not on the surrounding asphalt, as a result of cable cleaning activities. When necessary, kerosene is drummed and handled as hazardous waste. Hydraulic oil has leaked from the bender and shearer and has stained the surrounding soil. There is evidence that rainwater runoff has spread the oil downgradient. An E.R. Program site reconnaissance survey noted that oil and grease had leaked from the equipment stored near TA-3-39.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-013(a)	TA3-1-CA-A/1-MW/RW		Tsk 19 : 41	TA-3-38
3-013(b)	TA3-1-CA-A/1-MW/RW		Tsk 19 : 22	TA-3-38
3-013(c)	**		Tsk 19 : 50 62	TA-3-38
3-013(d)	**		Tsk 19 : 49	TA-3-38
3-013(e)	**		Tsk 19 : 48	TA-3-36
3-013(f)	**		Tsk 20 : 115	TA-3-66
3-013(g)	**		Tsk 21 : 1146	TA-3-316
3-013(h)	**		Tsk 20 : 74	TA-3-39

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED :	HAZARDOUS WASTE
TYPE OF UNIT(s)	: WASTEWATER TREATMENT PLANT		SANITARY WASTE
UNIT USE	: TREATMENT		RADIOACTIVE WASTE
OPERATIONAL STATUS	: ACTIVE		
PERIOD OF USE	: SEE BELOW		
HAZARDOUS RELEASE	: SUSPECTED		
RADIOACTIVE RELEASE	: UNKNOWN		

UNIT INFORMATION

The TA-3 wastewater treatment plant is a large operation, and it consists of many separate components. The two main plants are designated 1 and 2. The following tables list the components in each plant.

----- PLANT 1 -----				----- PLANT 2 -----			
SWMU NO.	STRUCTURE	STRUCTURE TYPE	BUILT	SWMU NO.	STRUCTURE	STRUCTURE TYPE	BUILT
3-014(a)	TA-3-49	Imhoff Tank	1951	3-014(e)	TA-3-192	Imhoff Tank	1965
3-014(b)	TA-3-48	Dosing Siphon	1951	3-014(f)	TA-3-193	Dosing Siphon	1965
3-014(c)	TA-3-47	Trickling Filter	1951	3-014(g)	TA-3-194	Trickling Filter	1965
3-014(d)	TA-3-46	Secondary Clarifier	1951	3-014(h)	TA-3-195	Secondary Clarifier	1965

A concrete splitter box, bar screen and comminutor were built in 1951 and are located at TA-3-677 [3-014(i)]. The chlorination system is located at TA-3-166 [3-014(j)] and consists of a dosing chamber, a contact chamber and a pump pit. The contact chamber is a 15' x 15' x 6' concrete pit with a flow weir, 225 feet square, also made of concrete. The pump pit contains the effluent pump. It was built in 1957 of reinforced concrete. The pit is 9'4" x 11'4" x 10'10" deep and has a steel grating cover. The following table describes the sludge drying beds adjacent to the plant.

SWMU NO.	STRUCTURE	DIMENSIONS	COMPLETED
3-014(k)	TA-3-196	35' x 10'	1965
3-014(l)	TA-3-197	40' x 20'	1965
3-014(m)	TA-3-198	40' x 20'	1965
3-014(n)	TA-3-199	40' x 20'	1965
3-014(o)	TA-3-1871		1987

Note: Structures TA-3-51 and -52 were sludge drying beds built in 1951 and removed in 1965.

Auxiliary facilities associated with the wastewater treatment plant are as follows:

SWMU NO.	STRUCTURE	STRUCTURE TYPE	BUILT	CONSTRUCTION
3-014(p)	TA-3-265	sewage lift station	1966	reinforced concrete 6' x 10' x 5'4" deep over a 42" dia cast iron basin
3-014(q)	TA-3-336	effluent sewage storage tank	1967	steel, 500,000 gallons
3-014(r)	TA-3-693	sewage pump station	1970s	2-7 1/2 hp pumps
3-014(s)	TA-3-1693	lift station		5' dia, 11' deep, 2 pumps
3-014(t)	TA-3-1869	lift station	1987	
3-014(u)	TA-3-1901	sanitary liquid holding tank	1988	1500 gallons

The plant components are used for the biological treatment of wastewater. All sanitary sewer lines from the TA-3 area join at the sewage treatment plant. In some cases, floor drains and sink drains from industrial areas are connected to the sanitary sewer. Numerous floor drains [3-014(v)] from the garage area of TA-3-36 connect to the sewer. Photographic waste from darkroom operations [3-014(w)] in Wing 9 of the CMR Building, TA-3-29, were found to go directly to the sanitary sewer line. In addition, spent photo processing solutions [3-014(x)] were discharged to the sanitary sewer from TA-3-66, the Sigma Building. Floor drains [3-014(y)] from the basement of TA-3-35 drain to the sanitary sewer, as do floor drains from the printer circuit board shop [3-014(z)] in TA-3-40 and the equipment shop [3-014(a2)] in TA-3-316. The effluent shop [3-014(q)], located east of the steam plant TA-3-22, receives and stores effluent from the sewage treatment plant to be used as cooling water for the towers TA-3-25 and -58. The plant has an outfall [3-014(b2)] to Sandia Canyon (see Appendix A) with NPDES No. EPASSS01S. The effluent from the treatment plant can be sent to either this outfall or to effluent storage tank TA-3-336 at the steam plant, to be used as cooling water for the towers. Prior to construction of the active chlorination system, effluent from the treatment plant was stored in the pump pit and discharged to an outfall [3-014(c2)] directly north of the present contact chamber. That outfall was abandoned in 1985 and effluent was routed to the current outfall, approximately 150 ft to the northeast.

(continued)

Page 2

WASTE INFORMATION

The treatment plant manages sanitary waste from TA-3 and TA-43. At times the liquids removed from Laboratory septic tanks are taken to TA-3. Unknown quantities of industrial liquids may have been included in the waste in previous years. In a 1985 memo, it was noted that 167,000 gal/day of non-sanitary waste was being diverted to the sewage treatment plant. This non-sanitary waste apparently included plating rinse water from TA-3-66, laser cooling water commingled with administratively controlled radioactive/toxic contaminated process water from TA-43-1, and cooling water from TA-41 and TA-3-29. It was proposed to eliminate these waste streams in order to be able to obtain an NPDES permit for the treatment plant. In the past, Stoddard solvent was used in the TA-3-36 garage area and it is possible that solvent was washed or spilled down the floor drains. Photographic wastes from TA-3-29, -66, and other photo processing units in TA-3 may have contained acetic acid, silver, and hydroquinone. The printed wire board shop in TA-3-40 manages various plating operation chemicals and acids. It is known that mercury was released to the treatment plant during the change-out of seals containing mercury at the trickling filters.

RELEASE INFORMATION

The treated effluent is used either as cooling water for the electric generating plant or is discharged in the NPDES outfall. Recently, the piping in the sludge drying bed TA-3-199 became clogged and required replacement. During repair, it was noted that no oil had seeped through the sand, which makes up the upper layer of the bed, to the layer of gravel below. It is known that a few years ago, a drum of freon was spilled in the basement of TA-3-35 and entered the sanitary sewer system. There was evidence of significant spills in the printed circuit board shop in TA-3-40. The concrete floor and steel grate covering the drain were heavily stained and corroded from acid stains. The piping is visible in a crawl space below the floor of the shop. The pipes are corroded, causing large spills on the soils in the crawl space. Occasional historical releases of untreated effluent to Sandia Canyon occurred prior to 1988, when a holding tank with a chlorinator station (TA-3-1901) was built.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-014(a)	**	3.032	Tsk 19 : 10	TA-3-49
3-014(a2)	**		Tsk 21 : 1136	TA-3-316
3-014(b)	**	3.031	Tsk 19 : 10	TA-3-48
3-014(b2)	TA3-6-CA/O-A/I-HW/RW		Tsk 19 : 1	TA-3 WASTEWATER TREATMENT PLANT
			Tsk 20 : 28 29 30 34	
3-014(c)	**	3.030	Tsk 19 : 10	TA-3-47
3-014(c2)	TA3-6-CA/O-A/I-HW/RW		Tsk 19 : 2	
3-014(d)	**	3.029	Tsk 19 : 10	TA-3-46
3-014(e)	**	3.042	Tsk 19 : 10	TA-3-192
3-014(f)	**	3.043	Tsk 19 : 10	TA-3-193
3-014(g)	**	3.045	Tsk 19 : 10	TA-3-194
3-014(h)	**	3.044	Tsk 19 : 10	TA-3-195
3-014(i)	**	3.033	Tsk 19 : 10	TA-3-677
3-014(j)	**	3.039-	Tsk 19 : 10 13	TA-3-166
		3.041		
3-014(k)	**	3.046	Tsk 19 : 10 33	TA-3-196
3-014(l)	**	3.047	Tsk 19 : 10 33	TA-3-197
3-014(m)	**	3.047	Tsk 19 : 10 33	TA-3-198
3-014(n)	**	3.047	Tsk 19 : 10 33	TA-3-199
3-014(o)	**		Tsk 19 : 10 34	TA-3-1871
3-014(p)	**		Tsk 19 : 11	TA-3-265
3-014(q)	**		Tsk 19 : 61 150	TA-3-336
3-014(r)	**		Tsk 19 : 11	TA-3-693
3-014(s)	**		Tsk 19 : 11	TA-3-1693
3-014(t)	**		Tsk 19 : 11	TA-3-1869
3-014(u)	**		Tsk 19 : 17	TA-3-1901
3-014(v)	**		Tsk 19 : 19	TA-3-36
3-014(w)	**		Tsk 19 : 23	TA-3-29
3-014(x)	**		Tsk 20 : 11	TA-3-66
3-014(y)	**		Tsk 20 : 13	TA-3-35
3-014(z)	**		Tsk 21 : 1134 1142	TA-3-40

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : OPERATIONAL RELEASE
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : ?
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : SUSPECTED RADIOACTIVE WASTE
 SUSPECTED HAZARDOUS WASTE

UNIT INFORMATION

There is an outfall area northeast of TA-3-141 which received wastes from a floor drain, a roof drain, and possibly other drains. It is probable that prior to the NPDES permit program the soils in the outfall area received uranium. Uranium is no longer discharged to the outfall, and TA-3-141 currently discharges to a NPDES outfall. The outfall has EPA No. 04A and NPDES Serial No. 140.

WASTE INFORMATION

The outfall area probably contains uranium, metals, and other constituents which had been used in TA-3-141.

RELEASE INFORMATION

No sampling has been conducted to assess the extent of radioactive contamination, if any.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-015	TA3-6-CA/0-A/1-HW/RW	3.088	Tsk 20 : 2	TA-3-141

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : SEPTIC SYSTEM
 UNIT USE : DISPOSAL/TREATMENT
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : SEE BELOW
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE
 SANITARY WASTE

UNIT INFORMATION

The following septic tanks at TA-3 are either active or their status is unknown:

SWMU NO.	STRUCTURE	USE PERIOD	CAPACITY/CONSTRUCTION	OVERFLOW	EID NO.
3-016(a)	TA-3-1484	1984-present	1000 gal, precast fiberglass	seepage pit TA-3-1667	LA-11
3-016(b)	TA-3-272	1960s-present	1000 gal		
3-016(c)	TA-3-79	1954-present	500 gal		

Seepage pit TA-3-1667 is believed to have been constructed in 1986 and located east of TA-3-130, the building it serves. Tank TA-3-272 is located 20 ft southwest of TA-3-271, serving the bathrooms in the building. Tank TA-3-79 is located approximately 10 ft south of TA-3-70, also serving the building bathroom. The CEARP identifies tanks TA-3-272 and -79 as being inactive; however, an E.R. Program site reconnaissance survey in 1989 found both tanks to be active. A septic pit [3-016(d)] is located southwest of TA-3-443, the building it serves. It receives sanitary waste, which is subsequently pumped to the TA-3 sanitary sewer line. Another septic pit [3-016(e)] is located northwest of TA-3-1617. It serves TA-3-1616 and -1617, also receiving only sanitary waste, which is pumped to the sanitary sewer.

WASTE INFORMATION

The primary waste managed by the septic systems is assumed to be sanitary. It is not known if the systems may have received hazardous materials.

RELEASE INFORMATION

There have been no known hazardous releases from any of these septic systems. Detailed sampling has not been performed.

NOTES

Former SWMU Nos. 3-016(c) and 3-016(d) are now located in TA-60; see 60-006(a). SWMU Nos. 3-016(b) and (c) were formerly 3-017(c) and (a), respectively; seepage pit TA-3-1667 [formerly 3-016(b)] is addressed as part of septic system 3-016(a).

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-016(a)	**		Tsk 21 : 1127 1128	TA-3-1484
3-016(b)	**		Tsk 21 : 1127 1128	TA-3-1667
3-016(c)	TA3-2-CA/ST-A/I-HW/RW		Tsk 19 : 14	TA-3-272
3-016(d)	TA3-2-CA/ST-A/I-HW/RW		Tsk 19 : 12	TA-3-79
3-016(e)	**		Tsk 21 : 1130	TA-3-443
3-016(f)	**		Tsk 21 : 1131	TA-3-1616, -1617

** No corresponding E. R. Program unit.

NOTES

SWMU Nos. 3-017(a) and (c) have been renumbered to 3-016(c) and (b), respectively. SWMU No. 3-017(b) has been renumbered to 61-004(a).

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : SEPTIC SYSTEM
 UNIT USE : TREATMENT/DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : EST. 1950 - 1964
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : SUSPECTED

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE
 SUSPECTED MIXED WASTE

UNIT INFORMATION

This cesspool was constructed of concrete block and is 4' in diameter. Its height is unknown. It served TA-3-16, the Van de Graeff facility. It was abandoned and filled with earth in 1964.

WASTE INFORMATION

The wastes are believed to have been spent laboratory liquids from the TA-3-16 facility and may have included mixed waste.

RELEASE INFORMATION

The cesspool released liquids to the surrounding soil. It is suspected that hazardous constituents were released.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-018	TA3-2-CA/ST-A/1-HW/RW		Tsk 21 : 1224	TA-3-16

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED :	SUSPECTED MIXED WASTE
TYPE OF UNIT(s)	: SEPTIC SYSTEM		SUSPECTED HAZARDOUS WASTE
UNIT USE	: TREATMENT/DISPOSAL		SUSPECTED RADIOACTIVE WASTE
OPERATIONAL STATUS	: DECOMMISSIONED		SANITARY WASTE
PERIOD OF USE	: 1950 - 1964		
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: UNKNOWN		

UNIT INFORMATION

Tank TA-3-15 served the Van de Graeff facility. The facility included a darkroom 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; the drains probably discharged to this tank in previous years. It was built in 1950, was made of concrete, and had the dimensions of 4' x 9' x 5'. It is believed to have been abandoned in 1951 when the sewer line was completed. It was removed in 1964 according to engineering drawings; however, another report indicates that the tank was included as a component of a waste line. Before septic tank TA-3-15 was tied into the industrial waste line, the tank may have discharged into Two Mile Canyon. The outfall pipe has not been located.

WASTE INFORMATION

The waste is expected to have been sanitary but may have included industrial type wastes containing small quantities of chemicals, solvents, and possibly radionuclides.

RELEASE INFORMATION

It is unknown whether a hazardous release occurred from this tank.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-019	TA3-2-CA/ST-A/I-HW/RW	3.091	Tsk 21 : 1223 1113	TA-3-15

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED	: SOLID WASTE
TYPE OF UNIT(S)	: PIT		SUSPECTED HAZARDOUS WASTE
UNIT USE	: DISPOSAL		
OPERATIONAL STATUS	: ACTIVE/INACTIVE		
PERIOD OF USE	: ? - PRESENT		
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

On the east side of TA-3-287 is a covered pit [3-020(a)]. The pit consists of a buried 32-gal drum filled with gravel and with a screen. There is a pipe running into the pit with the screen and pebbles below it. The area around the pit appeared oily. An employee indicated that the pit was used to discharge liquids from the air compression system at TA-3-287. This pit has been inactive since 1989, when the drum, pebbles, and surrounding soil was removed by the user group. A steam cleaning pit [3-020(b)] is located on the east side of TA-3-70. The pit consists of a sand-filled metal box and a steel grate positioned over the top of the box. Small gas-powered and electric engines, chain saws, and other types of equipment are serviced in the small equipment repair shop nearby.

WASTE INFORMATION

The waste in the covered pit probably consists of air compressor oil. The steam cleaning pit may receive oils, solvents, grease, and gasoline.

RELEASE INFORMATION

It is unknown whether releases have occurred from these units. The sand in the steam cleaning pit, when it needs to be changed, is drummed and stored in an area southwest of the salvage yard, TA-3-271, until pickup by Pan Am.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-020(a)	TA3-5-CA/S/UST/SST-A/1-HW/RW		Tsk 21 : 1139	NEAR TA-3-287
3-020(b)	**		Tsk 19 : 35	NEAR TA-3-70, -271

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : SUMP
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE/DECOMMISSIONED
 PERIOD OF USE : EST. 1960s
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : UNKNOWN

UNIT INFORMATION

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 the 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." All that remains is a hole in the floor covered by a board. The area where some of the liquid drained is the site of a new building addition.

WASTE INFORMATION

The waste consisted of caustic soda and residues removed from the bottles. The pH of the discharge liquid is not known.

RELEASE INFORMATION

The sump discharged to a drainage area; it is unknown, however, whether the effluent contained hazardous constituents.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-021	TA3-5-CA/S/UST/SST-A/1-HW/RW		Task 20 : 3 22	TA-3-170

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : SUMP
 UNIT USE : STORAGE
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : 1979 - PRESENT
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE

UNIT INFORMATION

Since the high voltage test facility TA-3-316 uses a Marx generator, oil storage for the machine is necessary. The oil is stored in two 20,000-gal sieve tanks south of the facility. A large underground sump, TA-3-550, is located under the tanks. According to engineering records the tanks are 84' x 17', although a field inspection indicated the tanks are less than 17' wide. Oily water was observed in the sump during a November 1988 survey. Additionally, oil spills near the sump were noted. The sump is concrete, open to the atmosphere, and covered with a metal screen. The sump is pumped, if necessary, although pumping is an infrequent occurrence, according to LANL staff.

WASTE INFORMATION

The sump handles oil and water, including water from natural precipitation into the sump.

RELEASE INFORMATION

Although spills were noted around the sump, no leaks from the sump are believed to have occurred. It is unknown whether there have been releases of hazardous constituents from the sump.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-022	TA3-4-S-A/I-PP		Tsk 21 : 1140 1168	TA-3-550

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : SUMP
 UNIT USE : STORAGE
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1959 - 1978
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : UNKNOWN

UNIT INFORMATION

TA-3-148 is listed in engineering records as a manhole oil sump pit. It was completed in 1959 and abandoned in place in 1978. The sump's use is not known; it may have been used, however, in conjunction with experiments in the Sherwood Building, TA-3-105.

WASTE INFORMATION

The sump reportedly handled oil, whether the oil was waste oil is not known.

RELEASE INFORMATION

It is unknown whether a hazardous release from this sump has occurred.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-023	**		Tsk 21 : 1133	TA-3-148

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : SUMP
 UNIT USE : TREATMENT
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : 1962 - PRESENT
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : UNKNOWN

UNIT INFORMATION

TA-3-174 is a pump pit connected to Building TA-3-141, the rolling mill building. The pump pit is built of reinforced concrete, about 13'8" x 19'8" x 11'10" average depth, with steel and concrete cover. The pump is used for process water.

WASTE INFORMATION

The pump pit receives process water.

RELEASE INFORMATION

It is unknown whether there have been hazardous releases from this unit.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-024	**			TA-3-174, -141

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED	: SOLID WASTE
TYPE OF UNIT(s)	: SUMP		RADIOACTIVE WASTE
UNIT USE	: TREATMENT		SUSPECTED HAZARDOUS WASTE
OPERATIONAL STATUS	: ACTIVE		
PERIOD OF USE	: ? - PRESENT		
HAZARDOUS RELEASE	: NONE		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

In the shops of Building TA-3-34 [3-025(a)], the steam cleaning drain connects via an oil trap sump to the industrial waste line sewer to TA-50. In Building TA-3-102 [3-025(b)], the industrial drains connect via an oil trap into the industrial drain to TA-50. Since radioactive materials are handled in TA-3-102, the oil trap residues are absorbed in vermiculite and sent to the radioactive disposal site (MDA-G). Another sump [3-025(c)] receives waste from the steam cleaning room in the south end of TA-3-39. The sump is no longer used. This sump feeds into the sump in TA-3-102.

WASTE INFORMATION

The waste managed by the traps is radionuclide-contaminated oil and grease.

RELEASE INFORMATION

The sump in TA-3-39 is known to have overflowed in the past. The other units have had no known releases of hazardous constituents.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-025(a)	TA3-4-S-A/I-PP		Tsk 20 : 16	TA-3-34
3-025(b)	TA3-4-S-A/I-PP		Tsk 20 : 19	TA-3-102
3-025(c)	**		Tsk 20 : 31	TA-3-39

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : SUMP
 UNIT USE : STORAGE
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : SANITARY WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

A sump pump [3-026(a)] is located in the secondary containment area adjacent to two storage tanks in TA-3-66. The purpose of the sump is to collect liquids in the event of pump failure. The pumps are used to pump the liquid in the tanks to the TA-50 wastewater treatment plant. The tanks had electroplating fluids and are described in SWMU No. 3-037. The liquid from the sumps is pumped into 55-gallon drums. Four sumps [3-026(b)] are located in TA-3-132. The building has four quadrants, each of which has a sump located in the basement. The sumps receive waste from toilets, sink drains, and floor drains from the whole quadrant. All four sumps are connected to the TA-3 sanitary sewer line. Blowdown from 11 cooling towers at TA-3-29 is released to a sump located at the base of each tower [3-026(c)]. The sumps are pumped to the industrial waste line. A sump [3-026(d)] is located in Room 50 of the Van de Graaff facility, TA-3-16. The sump receives domestic waste from the bathrooms in the building, and in the past, received liquids from floor drains. Wastes in the sump are pumped into the TA-3 sanitary sewer line.

WASTE INFORMATION

The spent electroplating fluids in TA-3-66 are considered EP Toxic. Two photo processing labs are present in TA-3-132. Spent photo processing solutions are routed to floor drains in the photo processing labs and then to the associated sump.

RELEASE INFORMATION

There have been no known releases from these sumps to the outside environment.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-026(a)	**	3.077- 3.079	Tsk 20 : 18	TA-3-66
3-026(b)	**		Tsk 19 : 20	TA-3-132
3-026(c)	**		Tsk 20 : 27	TA-3-29
3-026(d)	**		Tsk 21 : 1129	TA-3-16

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : SUMP
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SOLID WASTE

UNIT INFORMATION

The motor vehicle station at TA-3, TA-3-36 has two lift wells in the floor. When the floors are washed down, the water and oil drain into the lift wells, which have cinderblock walls located below the hydraulic lift units. The motor vehicle station does not use oil/water separators. In 1976, this building was used for a bottle-washing operation involving acid wash followed by deionized water rinse. All liquids discharged directly to the floor drains in the vehicle maintenance bay. The floor drains discharge to the TA-3 wastewater treatment plant (see 3-014).

WASTE INFORMATION

The waste consists of oil and grease. The bottle-washing operation included dilute acids.

RELEASE INFORMATION

There have been no known hazardous releases from these units.

NOTES

The other motor repair shop, TA-3-382 [3-027(a)], is now in TA-60. See 60-003.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-027	TA3-4-S-A/I-PP		Task 19 : 155	TA-3-36

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : SURFACE IMPOUNDMENT
 UNIT USE : STORAGE/DISPOSAL
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SOLID WASTE

UNIT INFORMATION

A LANL contractor directs scrubber water from the asphalt plant, TA-3-73, into two concrete holding ponds. Water is recycled to the scrubber. In the past, some of the water was diverted to wash down vehicles and equipment. The outfall is now permitted and has NPDES Serial No. 109.

WASTE INFORMATION

The ponds serve as settling ponds to trap fine mineral dust and particulates.

RELEASE INFORMATION

Prior to NPDES permitting, hazardous constituents were present in washwater that discharged to Sandia Canyon. Analysis of samples of the stream sediments below the outfall indicated the presence of organic compounds.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-028	TA3-8-S1-A/I-HW/RW/PP	3.037	Tsk 19 : 38	TA-3-73

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : LANDFILL
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 7
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : SOLID WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

One inactive landfill is present in TA-3. South of TA-3-271 near Sandia Canyon, a pit marked "asphalt and sealer accumulation point" was found by the 1986 CEARP field survey. Several inches of free standing liquid were in the bottom of this unlined pit. The pit was used as a dump site for excess asphalt, as well as an asphalt cleanout area. The unhardened asphalt that was dumped or washed out in the pit was covered with sand and allowed to remain. Evidence indicates that this operational practice had gone on for some time. The pit has now been covered with soil. It is possible that similar pits line the edge of Sandia Canyon, because when one pit was full, a new pit was constructed.

WASTE INFORMATION

The accumulation ponds contain asphalt emulsion, sealant, and other petroleum products.

RELEASE INFORMATION

No releases have been reported from the impoundment. No sampling has been undertaken in the area near Sandia Canyon.

NOTES

SWMU No. 3-029(a) is now in TA-60. See 60-005(a).

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-029	TA3-8-SI-A/I-HW/RW/PP		Tsk 19 : 39 163	TA-3-271

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : SURFACE IMPOUNDMENT
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1972
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE

UNIT INFORMATION

At TA-3-66, an earthen pit with a capacity of approximately 200,000 gallons was constructed in 1972. This was an emergency measure to contain water flushed from the chilled water system. The pit received water containing dilute amounts of fluoride. The solution was neutralized to precipitate the fluoride. The water in the pit evaporated within a few weeks, and the berms of the pit were leveled.

WASTE INFORMATION

The pond contained precipitated fluoride compounds.

RELEASE INFORMATION

It is unknown whether hazardous releases have occurred.

NOTES

SWMU No. 3-030(a) is now in TA-60; see SWMU No. 60-005(b).

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-030	TA3-8-SI-A/1-HW/RW/PP		Tsk 20 : 114	SOUTH OF TA-3-66

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED	: HAZARDOUS WASTE
TYPE OF UNIT(S)	: SUMP		RADIOACTIVE WASTE
UNIT USE	: STORAGE/DISPOSAL		MIXED WASTE
OPERATIONAL STATUS	: ACTIVE/INACTIVE		
PERIOD OF USE	: 1950s - PRESENT		
HAZARDOUS RELEASE	: NONE		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

The industrial sewer system within TA-3-29 (CMR) consists of double encased stainless steel sewer vaults, tanks, sumps, and drainlines which discharge to the industrial waste line for treatment at TA-50. Liquid radioactive waste from operations at the CMR building either drain directly to this waste line or through the sumps and/or tanks and then to the waste line. In addition, floor drains, air duct washwater, and in some cases, the perchloric acid scrubber were serviced by two 10,800-gallon concrete tanks in the basement of each wing of the building. These tanks are currently on stand-by and, if used, would also drain to the industrial waste line. The present TA-3-29 system has been in operation since 1982.

WASTE INFORMATION

The waste discharged to the sumps and tanks contains radioactive and mixed waste constituents. The vaults are expected to handle solids, liquids, gases, and sludges containing corrosives, flammables, reactives, EP toxics, inorganics, and metals.

RELEASE INFORMATION

A computerized leak detection and valve control system at TA-50 monitors the sewer lines for leaks. No releases from the sewer vaults were observed during the VSI or have been reported in the past. The tanks and sumps have leaked, but the releases have been contained within the building.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-031	TA3-5-CA/S/UST/SST-A/I-HW/RW	3.002- 3.007 3.013- 3.024 3.065- 3.066 3.069- 3.070	Tsk 20 : 14 15	TA-3-29

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : ABOVEGROUND TANK
 UNIT USE : RECYCLING/DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : ? - 1987
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

According to the CEARP, a spray booth in TA-3-38 has off-gases treated by a wet scrubber. The tank is approximately 3' x 2' x 3' deep. The scrubber water drains to the tank for recycling. Periodically, the tank liquid was drained to the floor drain. Prior to installation of the recycling tank, the scrubber water drained directly to the floor drains. The drain connects to the sanitary system; it is not, however, presently used, and wastes are drummed.

WASTE INFORMATION

The waste liquid probably contains solvents and metals. Sampling has shown low levels of solvents on occasion.

RELEASE INFORMATION

In 1987, the practice of discharging spray booth wastes into the floor drains was discontinued.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-032	TA3-5-CA/S/UST/SST-A/I-HW/RW		Tsk 19 : 25	TA-3-38

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : TANK
 UNIT USE : STORAGE
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

For many years a printed circuit shop has operated at TA-3-40, the physics building. The liquid wastes generated by the printed circuit facility are discharged to a 200-gallon underground storage tank and then to aboveground drums. The drums are removed from the site by MSE-7. The aboveground drum storage area has a concrete sump below it. A November 1988 field survey observed liquid in this sump. In previous years, an 800-gallon aboveground tank was used instead of the drums. Both the underground storage tank and the aboveground tank have been removed.

WASTE INFORMATION

The liquid wastes held by the storage tanks include hydrochloric acid, ferric chloride, nickel, copper, gold, pyrophosphate solutions, fluoroborate, and lead-tin fluoroborates.

RELEASE INFORMATION

The waste is removed from the site by MSE-7. The integrity of the sump has not been verified. There is evidence that liquids from the storage tank overflowed into an adjacent culvert. It is unknown whether hazardous releases have occurred from this unit.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-033	TA3-1-CA-A/1-HW/RW	3.094	Tsk 21 : 1132	TA-3-40

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : UNDERGROUND TANK
 UNIT USE : STORAGE
 OPERATIONAL STATUS : INACTIVE/ACTIVE
 PERIOD OF USE : 1960s - PRESENT
 HAZARDOUS RELEASE : NONE
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SUSPECTED MIXED WASTE

UNIT INFORMATION

A special building, TA-3-154, was constructed in 1961 to serve TA-3-29, Wing 9. This building contains four tanks [3-034(a)] that store radioactive waste. Two of the tanks are constructed of stainless steel, underlain by concrete, and were used to store radioactive waste. The CEARP field survey observed that the tanks are no longer in use, but they are operational. Two concrete underground storage tanks were used to store low-level radioactive waste. The four tanks comprise a system that drained the hot cell area. All four tanks are on standby status. An active transfer tank [3-034(b)], located on the west side of TA-3-141, receives process water and acid waste from the building. The drainline from the tank ties into the industrial waste line exiting TA-3-66.

WASTE INFORMATION

The waste handled by the stainless steel tanks was radioactive waste liquids. The concrete tanks handled low-level radioactive waste liquid. Wastes stored at the transfer tank may have contained radionuclides, metals, acids, and solvents.

RELEASE INFORMATION

The stainless steel waste tanks are in vaults for secondary containment. While in operation, the waste storage tanks had no unexplained changes in liquid levels that might indicate leakage. Minor amounts of contamination exist around the transfer tank.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-034(a)	TA3-5-CA/UST/SST-A/I-HW/RW	3.009- 3.012	Tsk 20 : 20 21	TA-3-154
3-034(b)	**		Tsk 20 : 33	TA-3-141

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : UNDERGROUND TANK
 UNIT USE : STORAGE
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : SEE BELOW
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : PRODUCT

UNIT INFORMATION

Possible leakage from the following product tanks was indicated during volumetric tests that were performed in 1986.

SWMU NO.	TANK	CAPACITY	DATE INSTALLED
3-035(a)	TA-3-36-3	2,961 gal.	1973
3-035(b)	TA-3-1255	4,030 gal.	1979

WASTE INFORMATION

The tanks contain diesel fuel.

RELEASE INFORMATION

Testing indicated that the tanks have leaked. However, investigation of tank TA-3-36-3 indicated that leakage was from the fill lines and leakage only occurred when the tanks were overfilled. Tank TA-3-1255 was also investigated and found to have no leaks; the leakage indicated by test results is attributed to inadequate testing procedures. Until site characterization yields information that indicates there were no releases, it must be assumed, based on historic information, that old underground storage tanks have leaked.

NOTES

Tank TA-3-36-1 [3-035(a)] is now SWMU No. 3-043(e). Tank TA-3-382-2 [3-035(c)] has been deleted because no visible signs of contamination were apparent at the time of decommissioning in 1989.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-035(a)	TA3-3-CA/UST/SST-A/1-PP	3.076		TA-3-36-3
3-035(b)	TA3-3-CA/UST/SST-A/1-PP		Tsk 20 : 110	TA-3-1255

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED	: SOLID WASTE
TYPE OF UNIT(S)	: OPERATIONAL RELEASE		HAZARDOUS WASTE
UNIT USE	: DISPOSAL		
OPERATIONAL STATUS	: ACTIVE		
PERIOD OF USE	: ? - PRESENT		
HAZARDOUS RELEASE	: KNOWN		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

Soil contamination is possible from leaks and spills from several aboveground product storage tanks that are present in TA-3. Several of the tanks have been associated with leaks or spills into the surrounding soils. In some cases, secondary containment has been constructed around the tanks to contain leaks, should they occur.

SWMU NO.	TANK TYPE	ASSOCIATED STRUCTURE	SECONDARY CONTAINMENT
3-036(a)	asphalt storage tanks TA-3-75 and -76 (6 ft dia, 20 ft long)	TA-3-73	soil berms
3-036(b)	kerosene storage tanks	south of TA-3-73	soil berms
3-036(c)	2 tanks for cooled asphalt storage	TA-3-70	soil pad; no release controls
3-036(d)	2 insulated tanks for hot asphalt emulsion	TA-3-70	no release controls
3-036(e)	inactive 5,000-gal tank for reclaimite storage	TA-3-73	secondary containment is present; type unknown
3-036(f)	500-gal unleaded gasoline tank	TA-3-73	no release controls
3-036(g)	4,000-gal sulfuric acid storage tank	south of TA-3-22	release controls
3-036(h)	2 4,000-gal storage tanks for cooling water inhibitors	east of TA-3-22	release controls
3-036(i)	250-gal emergency diesel fuel tank	east of TA-3-22	concrete secondary containment
3-036(j)	2 150,000-gal emergency diesel fuel tanks	northeast of TA-3-22	soil berms; lines from the two tanks meet at pump house TA-3-57, where a single line continues to the steam plant

WASTE INFORMATION

The products stored in the tanks are asphalt emulsion, asphalt kerosene, reclaimite (thick oil used to rejuvenate asphalt), gasoline, sulfuric acid, cooling water inhibitors (562C, an organic copper compound, and 20-20, an organic phosphate compound), and diesel.

RELEASE INFORMATION

Within the bermed area surrounding tanks TA-3-75 and -76, the soil is oily in spots, indicating that the tanks have been overfilled on occasion, resulting in spills. Soil surrounding the asphalt emulsion tanks in the containment area was oily due to overfilling and uncontrolled surface drainage. It is unknown whether kerosene has leaked from the tanks in the containment area. The RFA noted discolored soil and uncontrolled surface drainage around both the cooled asphalt tanks and the insulated tanks. Spills or leaks from other product storage tanks could result in releases of gasoline or 93% sulfuric acid to the soil in the area. In 1987, the reclaimite storage tank ruptured, spilling about 1,500 gallons of oil emulsion to the secondary confinement. None was discharged off site. Spills have occurred from the gasoline storage tanks in the past, as evidenced by stains in the area. In addition, during an E.R. Program site survey, stained areas were noticed on the soil near the sulfuric acid tank. Spills and leaks did occur in the past from the 250-gal diesel fuel tank. An asphalt berm was constructed around the tank in 1989 to contain any releases in the future. In 1990, the emergency diesel tank was moved to a concrete secondary containment area. The contaminated soil from spills and leaks and the asphalt berms were removed and, in the summer of 1990, were being landfilled. In 1988, the line running from TA-3-57 to the steam plant was ruptured, releasing about 150 gallons of emergency diesel fuel into the soil. The contaminated soil was removed and landfarmed at TA-54. The line was repaired.

(continued)

NOTES

The catchment basin [formerly 3-036(c)] has been deleted because it was never used.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-036(a)	TA3-3-CA/UST/SST-A/I-PP	3.080 3.081		TA-3-75, -76, -73
3-036(b)	TA3-3-CA/UST/SST-A/I-PP			SOUTH OF TA-3-73
3-036(c)	TA3-3-CA/UST/SST-A/I-PP	3.082 3.083		TA-3-70
3-036(d)	TA3-3-CA/UST/SST-A/I-PP	3.084 3.085		TA-3-70
3-036(e)	**		Tsk 19 : 60	TA-3-73
3-036(f)	TA3-3-CA/UST/SST-A/I-PP		Tsk 19 : 59	TA-3-73
3-036(g)	**		Tsk 19 : 29	SOUTH OF TA-3-22
3-036(h)	**		Tsk 19 : 55	EAST OF TA-3-22
3-036(i)	TA3-3-CA/UST/SST-A/I-PP		Tsk 19 : 56	EAST OF TA-3-22
3-036(j)	TA3-3-CA/UST/SST-A/I-PP		Tsk 19 : 57 148	NORTHEAST OF TA-3-22, TA-3-26, -27, -57

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : UNDERGROUND TANK
 UNIT USE : STORAGE
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1960 - PRESENT
 HAZARDOUS RELEASE : NONE
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE
 SOLID WASTE

UNIT INFORMATION

Two 4,500-gal underground storage tanks at TA-3-66 can be used for storage of spent cyanide and acid from electroplating operations. The tanks are constructed of concrete and are underlain by concrete. Both tanks discharge to the industrial waste line.

WASTE INFORMATION

The two tanks in TA-3-66 can handle spent electroplating liquids that contain acid, cyanide, and EP toxic metals.

RELEASE INFORMATION

No hazardous releases are known to have occurred from the tanks at TA-3-66. Until site characterization yields information that indicates there were no releases, it must be assumed, based on historic information, that old underground storage tanks have leaked.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-037	TA3-6-CA/0-A/1-HW/RW	3.034 3.035	Tsk 20 : 17	TA-3-66

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED :	SANITARY WASTE
TYPE OF UNIT(s)	: WASTE LINE		MIXED WASTE
UNIT USE	: TREATMENT		HAZARDOUS WASTE
OPERATIONAL STATUS	: DECOMMISSIONED/INACTIVE		RADIOACTIVE WASTE
PERIOD OF USE	: EST. 1950s - 1970s		
HAZARDOUS RELEASE	: KNOWN		
RADIOACTIVE RELEASE	: KNOWN		

UNIT INFORMATION

Industrial waste lines and associated facilities connected TA-3 to the liquid waste treatment system in use at that time. In addition to numerous underground pipes, the system included TA-3-700 [3-038(a)], an acid neutralizing and pumping building. The neutralizing building was completed in 1952 and was removed in 1982. TA-3-738 [3-038(b)] was a retention tank that also was removed in 1982. The industrial waste line which tied into TA-3-28 [3-038(c)] was removed. However, it is not known whether a section of drainline which connected an electroplating bath in Room 46 with the industrial line was also removed. Rinse solution from the 230-liter copper electroplating bath had flowed into the industrial waste system for transport to TA-50, and that particular section of line may still be in place. In the past, the industrial drains from TA-3-32 and -34 [3-038(d)] connected to the old industrial waste line. The old waste line was replaced with a new line, which connected TA-3-34 to TA-50, while the drains in TA-3-32 were connected to the sanitary sewer. From 1987-88, a sink drain [3-038(e)] was used for the disposal of chemicals in a room in TA-3-65. The sink drain is connected to the industrial waste line. A drainline [3-038(f)] connected the shower, sink, and toilet drains of trailer TA-3-1502 to the industrial waste line. The trailer was used as a change out location for individuals involved in removal of the old industrial waste line. Trailer TA-3-1502 was later removed, but the drainlines remain in place.

WASTE INFORMATION

The industrial waste line managed liquids containing mixed waste generated in TA-3 operations. The drainline at TA-3-65 received sodium and potassium hydroxides and phosphoric acid from etching of polymer plastic experiments. Drainlines from trailer TA-3-1502 may have received radionuclides.

RELEASE INFORMATION

The area around TA-3-700 was contaminated from leaks in the lines as were several other areas. It is believed that these areas have been cleaned up, although minor residuals may remain.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-038(a)	**		Tsk 19 : 162	TA-3-700
			Tsk 21 : 1220	
3-038(b)	**		Tsk 21 : 1221	TA-3-738
3-038(c)	TA3-6-CA/0-A/1-HW/RW		Tsk 19 : 24	TA-3-28
3-038(d)	**		Tsk 20 : 26	TA-3-32, -34
3-038(e)	**		Tsk 21 : 1135	TA-3-65
3-038(f)	**		Tsk 21 : 1137	TA-3-1502

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : RECYCLING UNIT
 UNIT USE : TREATMENT
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

There are several photo processing operations in TA-3-43 [3-039(a)]. These operations use silver recovery units. The silver recovery units consist of resin in canisters. A 1990 LANL database of photo waste generators also lists several other silver recovery units in TA-3. The additional units are located in TA-3-28 [3-039(b)], TA-3-40 [3-039(c)], TA-3-132 [3-039(d)], and TA-3-409 [3-039(e)].

WASTE INFORMATION

The units manage spent photo processing solutions that contain silver.

RELEASE INFORMATION

The loaded resin is transported off site for silver recovery. The discharge liquid is routed to the TA-3 sanitary sewer. It is unknown if hazardous constituents have been released from these units.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-039(a)	**		Tsk 19 : 30	TA-3-43
3-039(b)	**			TA-3-28
3-039(c)	**			TA-3-40
3-039(d)	**			TA-3-132
3-039(e)	**			TA-3-409

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : PHOTO FILM STORAGE
 UNIT USE : STORAGE/TREATMENT
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : NONE
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE

UNIT INFORMATION

Some photographic film and small amounts of photographic chemicals are stored in a vault at TA-3-30 [3-040(a)]. When sufficient quantity is in storage, it is taken to Sandia National Laboratories-Albuquerque, where the film is incinerated and the silver is recovered. Other film is stored in the basement of TA-3-43 [3-040(b)]. The film is chopped into small pieces in a film disintegrator. When sufficient film volume is collected, the film is sent to Phoenix, Arizona for silver recovery.

WASTE INFORMATION

The waste stored/treated in these units is photographic film which contains silver.

RELEASE INFORMATION

No hazardous releases are known from these units. However, past operations at most container storage areas have resulted in systematic releases of solid wastes, including RCRA-regulated constituents.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-040(a)	**		Tsk 21 : 1176	TA-3-30
3-040(b)	**			TA-3-43

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : UNDERGROUND TANK
 UNIT USE : STORAGE
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : NONE
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SUSPECTED MIXED WASTE

UNIT INFORMATION

Near the Sigma Complex, a wash down station, TA-3-1264, is designed to collect wastewater from radioactive decontamination operations. Liquids discharge to a holding tank located in a below grade concrete-lined vault. The holding tank connects into the acid line to TA-50. So far as is known, the station has never been used.

WASTE INFORMATION

The tank would have received mixed wastes if it had been used.

RELEASE INFORMATION

There have been no releases of any kind from the tank.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-041	**		Tsk 20 : 24	TA-3-1264

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
TYPE OF UNIT(s) : SUMP
UNIT USE : STORAGE/DISPOSAL
OPERATIONAL STATUS : DECOMMISSIONED
PERIOD OF USE : EST. 1960s - 1988
HAZARDOUS RELEASE : UNKNOWN
RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE

UNIT INFORMATION

A sump/containment area was located below tanks TA-3-63 and TA-3-64. The tanks were removed in 1967. During several field surveys between 1986 and 1988, oil was noted to remain in the sump. In the fall of 1988, the sump was removed.

WASTE INFORMATION

The waste contained oil. Sampling was not done, however, to determine whether hazardous constituents were present.

RELEASE INFORMATION

There were no known releases from the sump. The fate of the liquid removed during decommissioning is not known.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-042	TA3-4-S-A/I-PP		Tsk 21 : 1225	TA-3-63, -64

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : TANK
 UNIT USE : TREATMENT/STORAGE
 OPERATIONAL STATUS : DECOMMISSIONED
 PERIOD OF USE : EST. 1953 - 1989
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : MIXED WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

Several tanks have been decommissioned at TA-3.

SWMU NO.	STRUCTURE	CAPACITY (GAL.)	DATE REMOVED	ASSOCIATED STRUCTURE
3-043(a)	TA-3-74	20,000	1963	TA-3-73
3-043(b)	TA-3-77	10,000	1980	TA-3-73
3-043(c)	TA-3-718	unknown	1983	TA-3-40
3-043(d)	TA-3-76	20,000	1988	TA-3-73
3-043(e)	TA-3-36-1	10,000	1989	TA-3-36
3-043(f)	TA-3-178	30,000	1989	TA-3-73
3-043(g)	TA-3-335	10,000	1989	TA-3-73
3-043(h)	TA-3-75	20,000	1989	TA-3-73
3-043(i)	TA-3-93	unknown	1966	TA-3-40

Tank TA-3-36-1 was removed in 1989; it was replaced by a 10,000-gallon, double-wall tank.

WASTE INFORMATION

The substances stored in the tanks, prior to decommissioning, are described below.

SWMU NO.	STRUCTURE	SUBSTANCE STORED
3-043(a)	TA-3-74	asphalt emulsion
3-043(b)	TA-3-77	asphalt emulsion
3-043(c)	TA-3-718	mixed, corrosive wastes
3-043(d)	TA-3-76	asphalt emulsion
3-043(e)	TA-3-36-1	unleaded gasoline
3-043(f)	TA-3-178	asphalt emulsion
3-043(g)	TA-3-335	85-100 oil
3-043(h)	TA-3-75	asphalt emulsion
3-043(i)	TA-3-93	oil

RELEASE INFORMATION

Information on past releases and decommissioning is lacking for most of the tanks. During an E.R. Program site survey, stains and discolored soil were observed in the areas that tanks TA-3-75 and -76 had occupied. It is believed that leaks did occur from those two tanks during their years of operation. Testing indicated that tank TA-3-36-1 was leaking at a rate greater than 4.0 gal/hr while it was in commission. It is not known how long the tank leaked.

NOTES

SWMU No. 3-043(e) was formerly SWMU No. 3-035(a).

SWMU CROSS-REFERENCE LIST

SWMU NUMBER	CEARP IDENTIFICATION NUMBER(S)	RFA UNIT	E.R. RELEASE SITE INFO.	ASSOCIATED STRUCTURES
3-043(a)	**		Tsk 19 : 165	TA-3-74, -73
3-043(b)	**		Tsk 19 : 165	TA-3-77, -73
3-043(c)	**		Tsk 21 : 1226	TA-3-718, -40
3-043(d)	**		Tsk 19 : 166	TA-3-76, -73

(continued)

SWMU CROSS-REFERENCE LIST
(continued)

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-043(e)	**		Tsk 19 : 181	TA-3-36-1, -36
3-043(f)	**		Tsk 19 : 182	TA-3-178, -73
3-043(g)	**		Tsk 19 : 182	TA-3-335, -73
3-043(h)	**		Tsk 19 : 166	TA-3-75, -73
3-043(i)	TA3-3-CA/UST/SST-A/I-PP		Tsk 21 : 1231	TA-3-93, -40

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED	: HAZARDOUS WASTE
TYPE OF UNIT(S)	: CONTAINER STORAGE AREA		SOLID WASTE
UNIT USE	: STORAGE		
OPERATIONAL STATUS	: DECOMMISSIONED		
PERIOD OF USE	: ? - 1987		
HAZARDOUS RELEASE	: NONE		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

The RFA noted a container storage area near the asphalt batch plant, TA-3-70 [3-044(a)]. The area contained 15 to 20 drums stored on pallets in an area about 20 square feet underlain by soil. The storage area has been decommissioned. A storage area for waste lithium hydride was present in building TA-3-102 [3-044(b)]. This area was closed in 1987 under the auspices of HSE-8.

WASTE INFORMATION

The drums reportedly contained sand/asphalt mixtures. The RFA also notes that solvents may have been present. The storage area at TA-3-102 contained lithium hydride.

RELEASE INFORMATION

The RFA noted a lack of release controls, stressed vegetation, and an oily sheen on damp soil. The unit has been decommissioned. During a recent field survey it was observed that all drums and pallets had been removed and no soil discoloration was present. No known releases occurred from the storage area at TA-3-102; however, past operations at most container storage areas have resulted in systematic releases of solid wastes, including RCRA-regulated constituents.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-044(a)	**			TA-3-70
3-044(b)	**			TA-3-102

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED	: SUSPECTED SOLID WASTE
TYPE OF UNIT(S)	: OUTFALL		HAZARDOUS WASTE
UNIT USE	: DISPOSAL		SUSPECTED RADIOACTIVE WASTE
OPERATIONAL STATUS	: INACTIVE/ACTIVE		
PERIOD OF USE	: 1950s - PRESENT		
HAZARDOUS RELEASE	: KNOWN		
RADIOACTIVE RELEASE	: SUSPECTED		

UNIT INFORMATION

Several outfalls serve as points of release for liquids into or near Sandia Canyon. Some of the outfalls are permitted and have been assigned NPDES numbers.

SWMU NO.	NPDES NO.	ASSOCIATED STRUCTURE	STATUS
3-045(a)	01A	floor drains in steam plant, TA-3-22	active
3-045(b)	EPA01A001	cooling towers TA-3-25 and -58	active
3-045(c)		cooling tower TA-3-285	active
3-045(d)		storage tank TA-3-336	active
3-045(e)		tanks TA-3-26 and -27 and pump building TA-3-57	active
3-045(f)		sink drains from machine shop in TA-3-223	active
3-045(g)	EPA04A109	storm drain at asphalt plant TA-3-73	active
3-045(h)		cooling tower TA-3-187	active
3-045(i)		floor and sink drains in TA-3-34	not known

The liquids from floor drains in the steam plant, TA-3-22, are routed to an oil/water separator prior to discharge to the outfall. An overflow pipe from effluent storage tank TA-3-336, east of the steam plant, discharges to a drainage area that trends toward Sandia Canyon. Two sludge drainlines from diesel storage tanks TA-3-26 and -27 connect with a floor drainline from the pump building TA-3-57, and together they discharge through a 4" cast iron pipe into Sandia Canyon. An outfall pipe from a sink drain in the machine shop in TA-3-223 discharges into a drainage area on the north side of the building. This drainage area also trends toward Sandia Canyon. The outfall from the cooling tower TA-3-187 discharges into a storm drain directly north of the cooling tower. The storm drain daylights just south of Eniwetok Drive, north of TA-3-66, in a discharge area that trends toward Sandia Canyon. The outfall from TA-3-34 serves floor drains in the basement and a sink in the radio-chemical room.

WASTE INFORMATION

The outfall from the steam plant, TA-3-22, is reported to have received, in the past, all wastes discharged from the building. The wastes included diesel oil from drains, turbine oil, and continuous blowdown from the boilers (associated solvents, oils, caustics, acids, and polymers). The outfall from the steam plant cooling towers may have received various chemicals prior to being NPDES permitted. Chemicals were used to inhibit corrosion, and algae growth and for cleaning purposes. Before the use of inhibitors for controlling pH, a line from a sulfuric tank was run to the water treatment house TA-3-24 for use in the cooling water in the towers. When inhibitors began to be used, this line was removed. The outfall associated with tanks TA-3-26 and -27 and the floor drain from the pump in TA-3-57 may have received wastes from blowdown or small spills, particularly from the pump house. The tanks contain No. 2 diesel fuel. After metal is machined in the shop in TA-3-223, the parts are rinsed off in a sink which discharges through the outfall nearby. The outfall area potential receives oils, solvents, and trace amounts of metals. The outfall near the asphalt plant TA-3-73 receives washwater from the cleaning of oil distributor trucks, washwater from a bleed stream at the two filter ponds, and may receive runoff from the area around TA-3-73. The effluent at the outfall has contained kerosene, asphalt, oil, and water. Effluent from TA-3-34 is anticipated to contain tritium, metals, oil, and grease, based on reported operational practices.

RELEASE INFORMATION

During construction activities in 1989, Pan Am personnel observed contamination of the soil in the canyon bottom near the outfall [3-045(a)] from the steam plant. The contamination became visible at a depth of 12 to 18 inches below the soil surface, and analyses of the soil indicated the presence of petroleum hydrocarbons. The extent of contamination is unknown. During a site visit, the area around the outfall from the effluent storage tank TA-3-336 was noticed to be scoured out, indicating past discharge from the pipe. If overflow has occurred, the liquid discharged would have been non-chlorinated effluent from the sewage treatment plant. The concrete and soil at the discharge point from the outfall associated with tanks TA-3-26 and -27 and the pump house were noted during a site survey to be stained with what appeared to be oil. In addition, it is thought that in the past, a significantly large quantity of kerosene was used to wash down the trucks at the asphalt plant. Through the years, this operation has led to a substantial quantity of kerosene and asphalt being released through the associated outfall [3-034(g)] to the canyon.

(continued)

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-045(a)	TA3-6-CA/O-A/I-HW/RW		Tsk 19 : 3	TA-3-22
3-045(b)	TA3-6-CA/O-A/I-HW/RW	3.089	Tsk 19 : 4	TA-3-25, -58
3-045(c)	TA3-6-CA/O-A/I-HW/RW		Tsk 19 : 5	TA-3-285
3-045(d)	TA3-6-CA/O-A/I-HW/RW		Tsk 19 : 6	TA-3-336
3-045(e)	TA3-CA/UST/SST-A/I-PP		Tsk 19 : 7	TA-3-26, -27, -57
3-045(f)	**	3.093	Tsk 19 : 8	TA-3-223
3-045(g)	**	3.082	Tsk 19 : 9 44 51 52	TA-3-73
		3.083		
3-045(h)	**		Tsk 20 : 4	TA-3-187
3-045(i)	**		Tsk 20 : 5	TA-3-34

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : TANK
 UNIT USE : TREATMENT
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : 1980 - PRESENT
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE

UNIT INFORMATION

A treatment tank is located southeast of the steam plant, TA-3-22. The tank receives continuous blowdown from steam plant boilers, the No. 1 and No. 2 softeners, and the No. 1 and No. 2 demineralizer tanks. The function of the environmental tank is to control the pH of the incoming wastes, which are treated with sulfuric acid or sodium hydroxide before release to the cooling tower outfall in Sandia Canyon [see SWMU No. 3-045(d)].

WASTE INFORMATION

The tank receives blowdown from boilers, softeners, and demineralizers. Prior to treatment, the incoming waste typically has a pH in the range of 10 to 11.

RELEASE INFORMATION

The treatment tank sits in a large concrete containment area. There is no evidence of releases from this tank. The extent of releases from this tank to the cooling tower outfall in Sandia Canyon is unknown.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-046	**		Tsk 19 : 28	TA-3-22

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED	: SOLID WASTE
TYPE OF UNIT(S)	: SOIL CONTAMINATION		HAZARDOUS WASTE
UNIT USE	: DISPOSAL		
OPERATIONAL STATUS	: ACTIVE/INACTIVE		
PERIOD OF USE	: ? - PRESENT		
HAZARDOUS RELEASE	: KNOWN		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

Evidence of leaks or spills onto the surrounding soil have been observed near several supply storage areas in TA-3.

SWMU NO.	STRUCTURE	SETTING
3-047(a)	TA-3-236	iron workers supply shed
3-047(b)	TA-3-1501	storage shed
3-047(c)	TA-3-70	east of TA-3-70
3-047(d)	TA-3-22	south of TA-3-22, concrete containment area
3-047(e)	TA-3-1963	storage building located east of TA-3-70
3-047(f)	TA-3-1976	small storage shed
3-047(g)	TA-3-141	drum storage, north side of building
3-047(h)	TA-3-170	northeast corner of TA-3-170
3-047(i)	TA-3-216	drum storage, loading dock on south side of building
3-047(j)	TA-3-16	drum storage on east loading dock; inactive since 1987
3-047(k)	TA-3-374	drum storage shed

WASTE INFORMATION

The following table describes the types of products stored at these locations.

SWMU NO.	STRUCTURE	PRODUCTS STORED
3-047(a)	TA-3-236	scrap iron, sheet metal, tools, lead pigs used in the lead pouring shop
3-047(b)	TA-3-1501	sealant, plaster, deicer, latex
3-047(c)	TA-3-70	drums of form oil
3-047(d)	TA-3-22	solvents, oil
3-047(e)	TA-3-1963	resin solutions, flammable liquids, paints, flashing compounds, roofing cement
3-047(f)	TA-3-1976	gasoline, gas engines, batteries
3-047(g)	TA-3-141	oil, solvents
3-047(h)	TA-3-170	oil, solvents
3-047(i)	TA-3-216	unknown
3-047(j)	TA-3-16	unknown
3-047(k)	TA-3-374	oil

RELEASE INFORMATION

Leaks and spills have occurred from these supply storage areas. Although no liquids are presently stored in TA-3-236, stains on the wooden floor indicate that spills may have occurred there in the past, potentially contaminating the soil below. Similarly, stains are present on the floors of storage sheds TA-3-1501, -1963, and -1976. Soil stains are also present at the other units.

SWMU CROSS-REFERENCE LIST

SWMU NUMBER	CEARP IDENTIFICATION NUMBER(S)	RFA UNIT	E.R. RELEASE SITE INFO.	ASSOCIATED STRUCTURES
3-047(a)	**		Tsk 19 : 81	TA-3-236
3-047(b)	**		Tsk 19 : 90	TA-3-1501
3-047(c)	**		Tsk 19 : 92	EAST OF TA-3-70
3-047(d)	**		Tsk 19 : 96	EAST OF TA-3-22
3-047(e)	**		Tsk 19 : 101	TA-3-1963

(continued)

SWMU CROSS-REFERENCE LIST
(continued)

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-047(f)	**		Tsk 19 : 114	TA-3-1976
3-047(g)	**		Tsk 20 : 76	TA-3-141
3-047(h)	**		Tsk 20 : 78	TA-3-170
3-047(i)	**		Tsk 20 : 79	TA-3-216
3-047(j)	**		Tsk 21 : 1169	TA-3-16
3-047(k)	**		Tsk 21 : 1181	TA-3-374

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : CONTAINER STORAGE AREA
 UNIT USE : STORAGE
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : MIXED WASTE

UNIT INFORMATION

Hot Cell 10 in Wing 9 of the CMR Building, TA-3-29, contains approximately 25 remote handled (RH) transuranic (TRU) waste canisters. This waste was generated by experiments in the hot cells of TA-3-29. The waste is stored in the hot cell, pending shipment to WIPP.

WASTE INFORMATION

Each canister contains primarily plastic and metal TRU waste, some of which may also be hazardous.

RELEASE INFORMATION

There has been no reported release of hazardous or radioactive waste from the hot cell.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-048	**		Tsk 20 : 54	TA-3-29

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : OUTFALL
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : ACTIVE/INACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : SOLID WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

Several outfalls serve as points of release for liquids into or near Mortandad Canyon.

SWMU NO.	STRUCTURES	ASSOCIATED PROCESS	STATUS
3-049(a)	TA-3-66	rinse water from 8 electroplating tanks in Room P-100 and effluent from the industrial chill water pit	active
3-049(b)	TA-3-127	effluent from cooling tower; surface discharge	active
3-049(c)	TA-3-35	discharge from a vacuum oil pump to south side of TA-3-35	active
3-049(d)	TA-3-66	discharge from condensate system	inactive since 1987
3-049(e)	TA-3-66	discharge of condensate from flash tanks	active
3-049(e)	TA-3-66 (?)	outfall pipe located south of TA-3-66; origin unknown	unknown

The outfall that is associated with TA-3-127 is permitted and has NPDES serial number 022.

WASTE INFORMATION

Gold citrate and HCN are produced in the gold electroplating process. In addition, numerous metals, acids, and cyanide were used in the process of chromium plating. The cooling tower water was treated with organo-chelates. Oil and grease may have been discharged from the vacuum pump.

RELEASE INFORMATION

Oil stains are present below the outfall from the vacuum pump. Originally, the discharge went directly to the soil. In 1988, the outfall area was asphalted over. During an E.R. Program site survey, standing water was observed in the outfall area near both flash tank outfalls. No noticeable stains were present in the soil near the other outfalls.

SWMU CROSS-REFERENCE LIST

SWMU NUMBER	CEARP IDENTIFICATION NUMBER(S)	RFA UNIT	E.R. RELEASE SITE INFO.	ASSOCIATED STRUCTURES
3-049(a)	**		Tsk 20 : 1	TA-3-66, -127
3-049(b)	**		Tsk 20 : 6	TA-3-35
3-049(c)	**		Tsk 20 : 7	TA-3-66
3-049(d)	**		Tsk 20 : 8 9	TA-3-66
3-049(e)	**		Tsk 20 : 10	SOUTH OF TA-3-66

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : SOIL CONTAMINATION
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : 1952 - PRESENT
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : KNOWN

MATERIALS MANAGED : RADIOACTIVE WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

Surface soil contamination [3-050(a)] may have occurred as a result of emissions released from the stacks on the roof of the CMR Building, TA-3-29. HEPA and charcoal filters are used to filter the exhaust from the stacks, but releases have been documented. Tritium was released through stacks on the roof of TA-3-34 [3-050(b)]. No decontamination of the stacks has been performed. Radioactive emissions [3-050(c)] may have occurred from TA-3-35. The work with fuel element production in the building has resulted in contamination of the building exhaust system and ventilation stack. A lithium hydride exhaust system [3-050(d)] is located on the south end of TA-3-102. A filter system [3-050(e)] is located on the east side of TA-3-39. Beryllium was vented directly to the atmosphere from the Physics Building, TA-3-40 [3-050(f)]. Exhaust was vented without filtration from stacks at TA-3-16 [3-050(g)].

WASTE INFORMATION

The emissions have contained various radionuclides, such as fission products, tritium, plutonium, uranium, and iodine. Mercury and beryllium have also been released. Laser experiments may have released both hazardous chemicals and radionuclides.

RELEASE INFORMATION

The extent of soil contamination from stack emissions is not known. Residues were noted on the ground around the filtration unit at TA-3-39.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-050(a)	TA3-1-CA-A/I-HW/RW		Tsk 20 : 35	TA-3-29
3-050(b)	**		Tsk 20 : 38	TA-3-34
3-050(c)	**		Tsk 20 : 39	TA-3-35
3-050(d)	**		Tsk 20 : 48	TA-3-102
3-050(e)	**		Tsk 20 : 106	TA-3-39
3-050(f)	**		Tsk 21 : 1213	TA-3-40
3-050(g)	**		Tsk 21 : 1214	TA-3-16

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : SOIL CONTAMINATION
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : 7 - PRESENT
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SOLID WASTE

UNIT INFORMATION

Several oil compressors were noted to be leaking in TA-3. A compressor [3-051(a)] housed in a metal shed on the southeast end of TA-3-39 was observed to be leaking. Two compressors [3-051(b)] housed in a metal shed on the southwest corner of TA-3-102 were observed to be leaking. Oil stains [3-051(c)] were noted from a leaking hydraulic compressor on the northeast side of TA-3-141. Drums located in the same area contained oil-soaked absorbent. The drums did not appear to be leaking. An air compressor [3-051(d)] on the south side of TA-3-40 appeared to be leaking at the time of an E.R. Program site survey.

WASTE INFORMATION

The compressors contain oil and grease.

RELEASE INFORMATION

Oil stains were observed within the housing sheds, on the soil, and on asphalt in the surrounding area near these compressors.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-051(a)	**		Tsk 20 : 42	TA-3-39
3-051(b)	**		Tsk 20 : 47	TA-3-102
3-051(c)	**		Tsk 20 : 49	TA-3-141
3-051(d)	**		Tsk 21 : 1144	TA-3-40

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED	: SOLID WASTE
TYPE OF UNIT(s)	: SOIL CONTAMINATION		SUSPECTED PCBs
UNIT USE	: DISPOSAL		HAZARDOUS WASTE
OPERATIONAL STATUS	: ACTIVE		SUSPECTED RADIOACTIVE WASTE
PERIOD OF USE	: 7 - PRESENT		
HAZARDOUS RELEASE	: KNOWN		
RADIOACTIVE RELEASE	: SUSPECTED		

UNIT INFORMATION

Soil contamination has been observed in areas of the storm drainage system in TA-3. The storm drain [3-052(a)] located at the north end of TA-3-39 was noted to be full of metal filings and stained with oil. The storm drain is near the scrap metal storage dumpsters at the main storage dock for TA-3-39. A storm drain [3-052(b)] located northeast of TA-3-66 receives runoff from the north side of the building. Runoff from construction in the area has also added other materials to the drainage channels. In 1986, oil entered the storm drain [3-052(c)] near TA-3-422. The oil flowed down the drain pipe and was noted to have daylighted southwest of TA-3-22. The spill occurred during the flushing of a hydraulic line from the bollards for the security gate on Mercury Road. Oil stains were observed on the pavement outside of the southeast corner of TA-3-287 and on downgradient slopes into a nearby storm drain [3-052(d)]. The stains appear to be from capacitor maintenance operations performed in the area. A storm drain [3-052(e)] located downgradient from the paint booth area of TA-3-39 may have received painting-related residues. Painted materials are set outside to dry in the natural drainage area. An outfall from a storm drain [3-052(f)] is located northeast of TA-3-207. The drain has received liquids from floor drains in buildings TA-3-38, -105, -287, and probably others through inactive NPDES outfall 010. The drain also discharges blowdown from cooling tower TA-3-156.

WASTE INFORMATION

The storm drain near TA-3-39 has received metal filings and, possibly, oil, solvents, and acids. The graphite that has entered the storm drain near TA-3-66 is reportedly contaminated with uranium-238. The drain may also have received paint, cement, and other materials from runoff through areas under construction. Oil entered the storm drain near TA-3-422. The oil that was released near TA-3-287 may have been contaminated with PCBs. Runoff from the paint booth area may have contained paint and/or solvents. Floor drains in buildings [3-052(f)] may have received oils, solvents, and chemicals.

RELEASE INFORMATION

Releases to storm drains have occurred from these units.

BWMU CROSS-REFERENCE LIST

<u>BWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-052(a)	**		Tsk 20 : 41	TA-3-39
3-052(b)	**		Tsk 20 : 46	TA-3-66
3-052(c)	**		Tsk 20 : 52	TA-3-422
3-052(d)	**		Tsk 21 : 1145	TA-3-287
3-052(e)	**		Tsk 20 : 44	TA-3-39

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : SUBSURFACE CONTAMINATION
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : SUSPECTED

MATERIALS MANAGED : RADIOACTIVE WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

Subsurface soil contamination may have occurred beneath the Rolling Mill Building, TA-3-141. The Rolling Mill Building is listed as a "contaminated facility currently in use", due to activities involving uranium.

WASTE INFORMATION

Materials utilized in TA-3-141 include various radionuclides, metals, and organic solvents.

RELEASE INFORMATION

It is not known whether releases have occurred to the soil surrounding the building.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-053	**		Tsk 20 : 53	TA-3-141

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED	: SOLID WASTE
TYPE OF UNIT(s)	: OUTFALL		SUSPECTED HAZARDOUS WASTE
UNIT USE	: DISPOSAL		SUSPECTED RADIOACTIVE WASTE
OPERATIONAL STATUS	: ACTIVE		
PERIOD OF USE	: ? - PRESENT		
HAZARDOUS RELEASE	: SUSPECTED		
RADIOACTIVE RELEASE	: SUSPECTED		

UNIT INFORMATION

An outfall [3-054(a)] from cooling tower TA-3-19 discharges to Two Mile Canyon. The tower was removed in 1966, at which time the outfall pipe was rerouted and connected to a chilled water system in TA-3-16. Since then, the outfall area has received liquids from the flushing of the chilled water system in that building. An outfall [3-054(b)] into Two Mile Canyon is located southwest of TA-3-316. The outfall receives discharge from cooling tower blowdown and once received cooling water from TA-3-102. The outfall is NPDES permitted with designator number EPA04A009. The outfall [3-054(c)] from cooling tower TA-3-156 enters the storm drainage system near TA-3-105. The associated outfall has NPDES serial number 023 and EPA outfall number 03A. An outfall [3-054(d)] that discharges blowdown from the cooling tower on the roof of TA-3-16 is located near the northwest corner of the building. The outfall also receives liquids from the floor drains in TA-3-208. NPDES designator for this outfall is EPA03A025. A 1/90 LANL database has also identified an additional outfall associated with treated cooling water. TA-3-29 has an outfall [3-054(e)] with NPDES serial number 021 and EPA outfall number 03A.

WASTE INFORMATION

Cooling tower discharges may have contained chromates. The outfall [3-054(d)] associated with the floor drains in TA-3-208 may have also received oil, grease, and solvents from machinery blowdown and spills. Because work with tritium was also conducted in the building, this is also a potential contaminant.

RELEASE INFORMATION

It is not known if hazardous releases have occurred from these units. During a 1989 E.R. Program site reconnaissance visit, the cooling tower TA-3-156 was noted to be leaking from several places onto the surrounding soil. If leaks occurred in the past, the soil surrounding the tower could contain some quantity of chromium.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-054(a)	**		Tsk 21 : 1114	TA-3-19, -16
3-054(b)	**		Tsk 21 : 1120	TA-3-102
3-054(c)	**		Tsk 21 : 1116	TA-3-156
3-054(d)	**		Tsk 21 : 1121	TA-3-208, -16
3-054(e)	**			TA-3-29

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : OUTFALL
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : ACTIVE/INACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : SUSPECTED

MATERIALS MANAGED : SANITARY WASTE
 SUSPECTED HAZARDOUS WASTE
 SUSPECTED RADIOACTIVE WASTE

UNIT INFORMATION

Several outfalls serve as points of release for liquids into the soil in TA-3. An outfall pipe [3-055(a)] is located south of TA-3-16 at the edge of Two Mile Canyon. The origin of the pipe is unknown, but it appears to have been inactive for some time. An outfall pipe [3-055(b)] is located west of TA-3-30. The outfall may be the discharge point for an emergency shower in TA-3-30. A battery charging and refilling operation was present in the northwest corner of the building from 1968-1975. A fume hood and emergency shower were installed for that operation, but have since been inactive. An outfall [3-055(c)] is located northeast of the fire station TA-3-41. The outfall is associated with floor drains in the fire station and discharges to a drainage area that trends toward Los Alamos Canyon. An outfall pipe [3-055(d)] is located directly north of TA-3-59. The origin of the pipe is not known, but it could be an overflow from the sewage lift station, TA-3-59. The outfall pipe was plugged with dirt and leaves and appeared to be inactive.

WASTE INFORMATION

If the outfall into Two Mile Canyon was originally a discharge point from an acid waste line, the canyon could have received radionuclides, organics, and metals during its period of use. The outfall associated with TA-3-30 may have received acids and organics. The outfall north of TA-3-59 may have discharged sanitary waste.

RELEASE INFORMATION

It is not known if hazardous releases have occurred from these units. During E.R. Program site surveys, stains were observed in the soil near the outfall into Two Mile Canyon. The outfall may be associated with an abandoned industrial waste line in the vicinity.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-055(a)	**		Tsk 21 : 1117	SOUTH OF TA-3-16
3-055(b)	**		Tsk 21 : 1118	TA-3-30
3-055(c)	**		Tsk 21 : 1119	TA-3-41
3-055(d)	**		Tsk 21 : 1123	NORTH OF TA-3-59

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-3	MATERIALS MANAGED	: HAZARDOUS WASTE
TYPE OF UNIT(s)	: STORAGE AREA		PCBs
UNIT USE	: STORAGE		RADIOACTIVE WASTE
OPERATIONAL STATUS	: ACTIVE/INACTIVE		
PERIOD OF USE	: 1970s - ?		
HAZARDOUS RELEASE	: SUSPECTED		
RADIOACTIVE RELEASE	: UNKNOWN		

UNIT INFORMATION

In 1986/1987, a used oil storage facility [3-056(a)] was built near the north side of TA-3-271. It has a concrete floor which is bermed on all sides and which slopes toward a sump. The structure has a roof but the sides of the structure are open. In 1988, a used battery storage facility was constructed adjacent to the oil storage area. The structure has a roof, open sides, and a concrete floor. In 1988, batteries were stored nearby. The batteries were shipped off-site for recycling. Drums containing lead are also stored outside the battery storage area. Asbestos cabinets are stored at the site as well. Field surveys have noted the following additional container storage areas in TA-3:

SUMU NO.	LOCATION	SUMU NO.	LOCATION
3-056(b)	TA-3-70	3-056(f)	TA-3-316
3-056(c)	TA-3-223	3-056(g)	TA-3-16
3-056(d)	TA-3-47	3-045(h)	TA-3-105, -287
3-056(e)	TA-3-34, -32		

Outside storage facilities have also been observed in the following locations:

SUMU NO.	LOCATION	SETTING
3-056(i)	TA-3-38	drum storage on the loading dock, east side
3-056(j)	TA-3-473	storage area west of the building
3-056(k)	TA-3-66	drum storage on north side
3-056(f)	TA-3-316	drum storage west of the building
3-056(l)	TA-3-141	drum storage on the east side
3-056(m)	TA-3-322	drum storage areas on the south and west sides and the northwest corner
3-056(n)	TA-3-271	drum storage of waste generated at the lead pourer's shop, TA-3-379

It is unknown whether any of these areas is currently active.

WASTE INFORMATION

The storage facilities contain waste oil, spent batteries, asbestos, and lead. The following table describes the waste stored at the remaining facilities, when known:

LOCATION	WASTE
TA-3-70	diesel waste, capacitors, unknown
TA-3-223	capacitors and transformers with PCB oils; unmarked drums that may contain waste oil and solvents
TA-3-47	waste oil, solvents, kerosene
TA-3-34, -32	vacuum pump oil, possibly contaminated with tritium; organic solvents; electrical parts
TA-3-316	unknown
TA-3-105, -287	capacitors, transformers, oil, unknown
TA-3-38	oil
TA-3-473	compressors, gasoline, scrap metal, electric cable
TA-3-66	oil, solvents, radioactively contaminated graphite
TA-3-141	beryllium contaminated trash
TA-3-322	kerosene, oil, solvents, unknown
TA-3-271	lead, slag

(continued)

RELEASE INFORMATION

Some of the drums are noted to be leaking. Leaks and spills have occurred at several of the facilities. An E.R. program site survey observed a drainage channel that is present on the north side of TA-3-223 storage area [3-056(c)]. The channel trends down a steep incline to Sandia Canyon. Stains were noticed on the rocks in the channel. The stains may be the result of runoff from leaky transformers stored in the area and may consist of PCB-contaminated oils.

NOTES

SWMU Nos. 3-056(a), (b), (c), (d), (e), (f), and (h) were formerly SWMU Nos. 3-001(p), (k), (r), (s), (t), (n), and (u), respectively.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-056(a)	**	3.051	Tsk 19 : 82	TA-3-271
3-056(b)	**		Tsk 19 : 94 102	TA-3-70
3-056(c)	TA3-1-CA-A/I-HW/RW	3.048	Tsk 19 : 53 78	TA-3-223
3-056(d)	**		Tsk 19 : 77	TA-3-47
3-056(e)	**		Tsk 20 : 62	TA-3-32, -34
3-056(f)	**		Tsk 21 : 1188	TA-3-316
3-056(g)	**	3.001	Tsk 21 : 1174	TA-3-16
3-056(h)	TA3-1-CA-A/I-HW/RW		Tsk 21 : 1166 1180	TA-3-287, -105
3-056(i)	TA3-1-CA-A/I-HW/RW		Tsk 19 : 97	TA-3-38
3-056(j)	**		Tsk 21 : 1187	TA-3-473
3-056(k)	**		Tsk 20 : 65 75	TA-3-66
3-056(l)	**		Tsk 20 : 77	TA-3-141
3-056(m)	**		Tsk 21 : 1186	TA-3-322
3-056(n)	**		Tsk 19 : 83	TA-3-271

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : TRAP
 UNIT USE : TREATMENT
 OPERATIONAL STATUS : ACTIVE/INACTIVE
 PERIOD OF USE : SEE BELOW
 HAZARDOUS RELEASE : NONE
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SANITARY WASTE

UNIT INFORMATION

Manhole/grease trap TA-3-668 is located near Building TA-3-100, formerly the cafeteria. The grease trap was installed in 1956 probably to trap grease from the cafeteria. TA-3-100 is no longer used as a cafeteria, so the status of TA-3-668 is unknown. An active, 1,500-gallon grease trap is located in the sanitary sewer line for the new cafeteria, TA-3-261. The location of the grease trap is listed as south of TA-3-261 at LANL coordinates N76 E13.

WASTE INFORMATION

The waste is probably grease from cafeteria drains.

RELEASE INFORMATION

The decant goes to the sanitary sewer. There have been no hazardous releases from these units.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-057	**		Tsk 21 : 1218 1219	TA-3-261, -668

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(s) : ACCUMULATION
 UNIT USE : STORAGE
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : NONE
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : RADIOACTIVE WASTE
 MIXED WASTE

UNIT INFORMATION

TRU waste drums are located in the corridors between the laboratories in wings 2, 3, 5, and 7 of TA-3-29. Several pairs of drums are kept in each wing. One drum for combustible waste and one drum for non-combustible waste make up a pair. Accumulation for greater than 90 days is possible. Wing 9 hot cell operations also generate a small amount of TRU waste, which is currently stored in a single lead-lined 55-gallon drum against the south wall of the shipping/ receiving area of Wing 9. The Wing 9 waste may be repackaged in the future.

WASTE INFORMATION

The TRU waste is bagged prior to placement in the drums. Typical materials include gloves, tissues, rags, laboratory plasticware, and broken laboratory equipment. All bagged waste is logged prior to placement in the drums. Obvious hazardous constituents would be logged and identified. Possible solvent contamination on rags and tissues would not be indicated on the logs. Laboratory personnel familiar with the waste have stated that the drummed Wing 9 hot cell items contain no hazardous constituents.

RELEASE INFORMATION

There have been no known releases in these areas.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
3-058	**			TA-3-29

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-3
 TYPE OF UNIT(S) : SOIL CONTAMINATION
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : 1960s - PRESENT
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : HAZARDOUS WASTE
 SOLID WASTE
 PCBs

UNIT INFORMATION

A salvage yard is located in a fenced area adjacent to the south side of building TA-3-271. The fenced area is about 320 ft x 150 ft and is underlain by soil. It is used for the storage of equipment, batteries, and scrap materials that can be sold or reused. The soil underlying the salvage yard has received leakage from equipment and batteries as well as scraps of metal that have been broken off or never salvaged.

WASTE INFORMATION

Soil at the salvage yard has received petroleum products (oil, diesel, gasoline), PCBs, acids, and metals (including steel, aluminum, nickel, lead, and mercury).

RELEASE INFORMATION

No release controls are present at the salvage yard. The extent of releases to the soil is unknown.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
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3-059

**

TA-3-271

** No corresponding E. R. Program unit.

**TA-3 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX**

SWMU	FIGURE NUMBER
3-001(a)	3-4
3-001(b)	3-4
3-001(c)	3-4
3-001(d)	3-6
3-001(e)	3-3
3-001(f)	3-3
3-001(g)	3-4
3-001(h)	3-6
3-001(i)	3-5
3-001(j)	3-6
3-001(k)	3-4
3-001(l)	3-4
3-001(m)	3-3
3-001(n)	3-6
3-001(o)	3-6
3-001(p)	3-3
3-001(q)	3-3
3-001(r)	3-4
3-001(s)	3-4
3-001(t)	3-1
3-001(u)	Not shown
3-001(v)	Not shown
3-001(w)	3-1
3-001(x)	3-9
3-001(y)	3-4
3-002(a)	3-6
3-002(b)	Not shown, location unknown
3-002(c)	3-5
3-002(d)	3-4
3-003(a)	3-4
3-003(b)	3-4
3-003(c)	3-3
3-003(d)	3-6
3-003(e)	3-4
3-003(f)	3-6
3-003(g)	3-6
3-003(h)	3-4
3-003(i)	3-6

**TA-3 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX
(CONTINUED)**

SWMU	FIGURE NUMBER
3-003(j)	3-4
3-003(k)	3-4
3-003(l)	3-4
3-003(m)	3-5
3-003(n)	3-5
3-003(o)	3-3
3-003(p)	3-3
3-004(a)	3-4
3-004(b)	3-4
3-004(c)	3-4
3-004(d)	3-4
3-004(e)	3-4
3-004(f)	3-4
3-006	3-13
3-007	3-6
3-008(a)	3-12
3-008(b)	3-14
3-009(a)	3-5
3-009(b)	3-3
3-009(c)	3-6
3-009(d)	3-4
3-009(e)	3-6
3-009(f)	Not shown, location unknown
3-009(g)	3-2
3-009(h)	3-3
3-009(i)	3-6
3-009(j)	3-3
3-010(a)	3-3
3-010(b)	3-4
3-010(c)	3-4
3-010(d)	3-6
3-011	3-2
3-012(a)	3-6
3-012(b)	3-5
3-013(a)	3-3
3-013(b)	3-3

**TA-3 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX
(CONTINUED)**

SWMU	FIGURE NUMBER
3-013(c)	3-3
3-013(d)	3-3
3-013(e)	3-3
3-013(f)	3-6
3-013(g)	3-4
3-013(h)	3-4
3-014(a)	3-6
3-014(b)	3-6
3-014(c)	3-6
3-014(d)	3-6
3-014(e)	3-6
3-014(f)	3-6
3-014(g)	3-6
3-014(h)	3-6
3-014(i)	3-10
3-014(j)	3-6
3-014(k)	3-6
3-014(l)	3-6
3-014(m)	3-6
3-014(n)	3-6
3-014(o)	Not shown
3-014(p)	3-10
3-014(q)	3-5
3-014(r)	3-9
3-014(s)	Not shown
3-014(t)	Not shown
3-014(u)	Not shown
3-014(v)	3-3
3-014(w)	3-4
3-014(x)	3-6
3-014(y)	3-6
3-014(z)	3-4
3-014(a2)	3-4
3-014(b2)	3-5
3-014(c2)	3-5
3-015	3-6

**TA-3 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX
(CONTINUED)**

SWMU	FIGURE NUMBER
3-016(a)	3-10
3-016(b)	3-9
3-016(c)	3-9
3-016(d)	3-3
3-016(e)	3-3
3-018	3-4
3-019	3-11
3-020(a)	3-3
3-020(b)	3-5
3-021	3-6
3-022	3-8
3-023	3-7
3-024	3-6
3-025(a)	3-6
3-025(b)	3-4
3-025(c)	3-4
3-026(a)	3-6
3-026(b)	3-3
3-026(c)	3-4
3-026(d)	3-4
3-027	3-3
3-028	3-9
3-029	3-5
3-030	3-6
3-031	3-4
3-032	3-3
3-033	3-4
3-034(a)	3-4
3-034(b)	3-6
3-035(a)	3-3
3-035(b)	3-8
3-036(a)	3-5
3-036(b)	3-5
3-036(c)	Not shown
3-036(d)	Not shown
3-036(e)	3-5
3-036(f)	3-5

**TA-3 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX
(CONTINUED)**

SWMU	FIGURE NUMBER
3-036(g)	3-5
3-036(h)	3-6
3-036(i)	3-6
3-036(j)	3-5
3-037	3-6
3-038(a)	Not shown
3-038(b)	Not shown
3-038(c)	3-3
3-038(d)	3-6
3-038(e)	3-4
3-038(f)	3-4
3-039(a)	3-3
3-039(b)	3-3
3-039(c)	3-4
3-039(d)	3-3
3-039(e)	3-4
3-040(a)	3-3
3-040(b)	3-3
3-041	3-6
3-042	3-11
3-043(a)	3-5
3-043(b)	3-5
3-043(c)	Not shown
3-043(d)	3-5
3-043(e)	3-3
3-043(f)	3-5
3-043(g)	3-5
3-043(h)	3-5
3-043(i)	3-4
3-044(a)	3-5
3-044(b)	3-4
3-045(a)	3-5
3-045(b)	3-5
3-045(c)	3-5
3-045(d)	3-5
3-045(e)	3-5
3-045(f)	3-6
3-045(g)	3-5
3-045(h)	3-6

**TA-3 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX
(CONTINUED)**

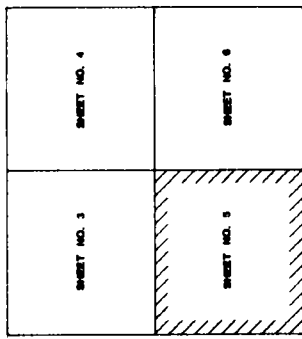
SWMU	FIGURE NUMBER
3-045(i)	3-6
3-046	3-5
3-047(a)	3-5
3-047(b)	3-5
3-047(c)	3-5
3-047(d)	3-5
3-047(e)	3-5
3-047(f)	3-5
3-047(g)	3-6
3-047(h)	3-6
3-047(i)	3-4
3-047(j)	3-4
3-047(k)	3-3
3-048	3-4
3-049(a)	3-6
3-049(b)	3-6
3-049(c)	3-6
3-049(d)	3-6
3-049(e)	3-6
3-050(a)	3-4
3-050(b)	3-6
3-050(c)	3-6
3-050(d)	3-4
3-050(e)	3-4
3-050(f)	3-4
3-050(g)	3-4
3-051(a)	3-4
3-051(b)	3-4
3-051(c)	3-6
3-051(d)	3-4
3-052(a)	3-4
3-052(b)	3-6
3-052(c)	3-4
3-052(d)	3-3
3-052(e)	3-4
3-052(f)	3-3
3-053	3-6

**TA-3 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX
(CONTINUED)**

SWMU	FIGURE NUMBER
3-054(a)	3-4
3-054(b)	3-4
3-054(c)	3-3
3-054(d)	3-4
3-054(e)	3-6
3-055(a)	3-4
3-055(b)	3-3
3-055(c)	3-3
3-055(d)	3-3
3-056(a)	3-5
3-056(b)	3-5
3-056(c)	3-6
3-056(d)	3-6
3-056(e)	3-6
3-056(f)	3-4
3-056(g)	3-4
3-056(h)	3-3
3-056(i)	3-3
3-056(j)	3-4
3-056(k)	3-6
3-056(l)	3-6
3-056(m)	3-4
3-056(n)	3-5
3-057	3-7
3-058	3-4
3-059	3-2, 3-9

NOTE: Some structure locations may contain more than one SWMU.

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EXPLANATION

3-001 SWMU LOCATION

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SCALE: 1" = 100'



FIGURE 3-1

SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-3

NO.	DATE	REVISION	BY	CHKD.
1	12/1/88	ISSUED FOR PERMITTING	J.P.	J.P.
2	12/1/88	ISSUED FOR PERMITTING	J.P.	J.P.
3	12/1/88	ISSUED FOR PERMITTING	J.P.	J.P.
4	12/1/88	ISSUED FOR PERMITTING	J.P.	J.P.
5	12/1/88	ISSUED FOR PERMITTING	J.P.	J.P.
6	12/1/88	ISSUED FOR PERMITTING	J.P.	J.P.
7	12/1/88	ISSUED FOR PERMITTING	J.P.	J.P.
8	12/1/88	ISSUED FOR PERMITTING	J.P.	J.P.
9	12/1/88	ISSUED FOR PERMITTING	J.P.	J.P.
10	12/1/88	ISSUED FOR PERMITTING	J.P.	J.P.

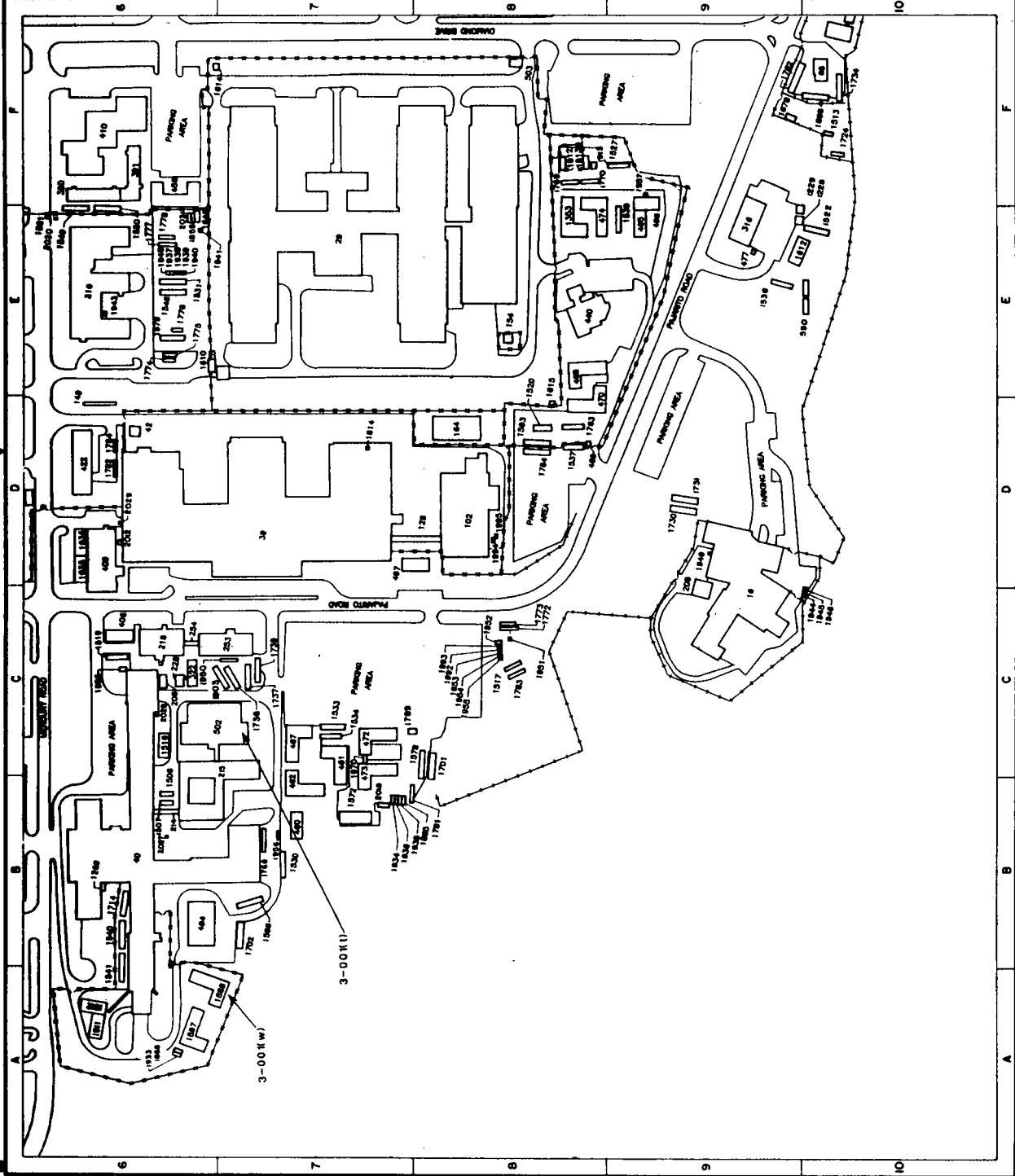
UNIVERSITY OF CALIFORNIA

Los Alamos National Laboratory

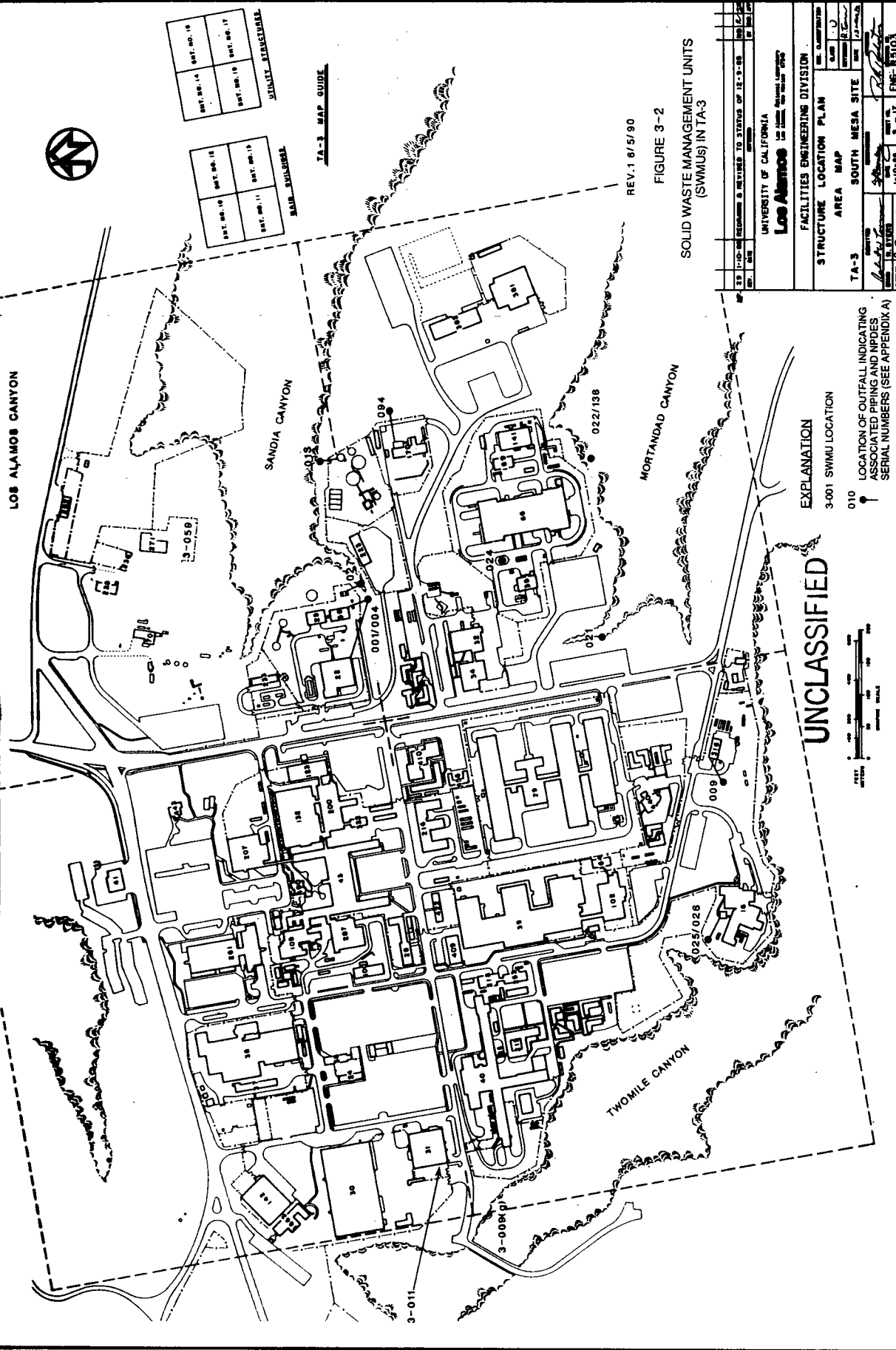
FACILITIES ENGINEERING DIVISION

STRUCTURE LOCATION MAP

PROJECT NO.	DATE	BY	CHKD.
TA-3	12/1/88	J.P.	J.P.
SITE		DATE	BY
SOUTH MESA SITE		12/1/88	J.P.
DRAWN BY		DATE	BY
J.P.		12/1/88	J.P.
CHECKED BY		DATE	BY
J.P.		12/1/88	J.P.
SCALE		DATE	BY
1" = 100'		12/1/88	J.P.
PROJECT NO.		DATE	BY
TA-3		12/1/88	J.P.
PROJECT TITLE		DATE	BY
SOUTH MESA SITE		12/1/88	J.P.
PROJECT NO.		DATE	BY
TA-3		12/1/88	J.P.
PROJECT TITLE		DATE	BY
SOUTH MESA SITE		12/1/88	J.P.
PROJECT NO.		DATE	BY
TA-3		12/1/88	J.P.
PROJECT TITLE		DATE	BY
SOUTH MESA SITE		12/1/88	J.P.



NU70613



SWMT. NO. 14	SWMT. NO. 16
SWMT. NO. 15	SWMT. NO. 17

STATUS: UNAVAILABLE

SWMT. NO. 10	SWMT. NO. 12
SWMT. NO. 11	SWMT. NO. 13

STATUS: AVAILABLE

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FIGURE 3-2
SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-3

UNIVERSITY OF CALIFORNIA	Los Alamos
FACILITIES ENGINEERING DIVISION	
STRUCTURE LOCATION PLAN	
AREA MAP	SOUTH MESA SITE
TA-3	
DATE: 1-10-88	BY: J. J. [Signature]
DATE: 1-10-88	CHKD: J. J. [Signature]
DATE: 1-10-88	ENG: J. J. [Signature]

EXPLANATION
3-001 SWMU LOCATION

010 LOCATION OF OUTFALL INDICATING ASSOCIATED PIPING AND NPDES SERIAL NUMBERS (SEE APPENDIX A)

UNCLASSIFIED





EXPLANATION

- 3-001 SWMU LOCATION 3-001 SWMU LOCATION
- 010 LOCATION OF OUTFALL ASSOCIATED PIPING AND NPDES SERIAL NUMBERS (S)
- 010 LOCATION OF OUTFALL INDICATING ASSOCIATED PIPING AND NPDES SERIAL NUMBERS (SEE APPENDIX A)

MAIN BUILDINGS		UTILITY STRUCTURES	
BWT. NO. 10	BWT. NO. 12	BWT. NO. 14	BWT. NO. 16
BWT. NO. 11	BWT. NO. 13	BWT. NO. 15	BWT. NO. 17

TA-3 MAP GUIDE

UNCLASSIFIED

REV. 1 8 / 5 / 90

FIGURE 3-3

SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-3

33	ISSUED FOR REVIEW & REVISION TO STATUS OF 11-18-93	DATE	BY
32	ISSUED FOR REVIEW & REVISION TO STATUS OF 11-18-93	DATE	BY
31	ISSUED FOR REVIEW & REVISION TO STATUS OF 11-18-93	DATE	BY

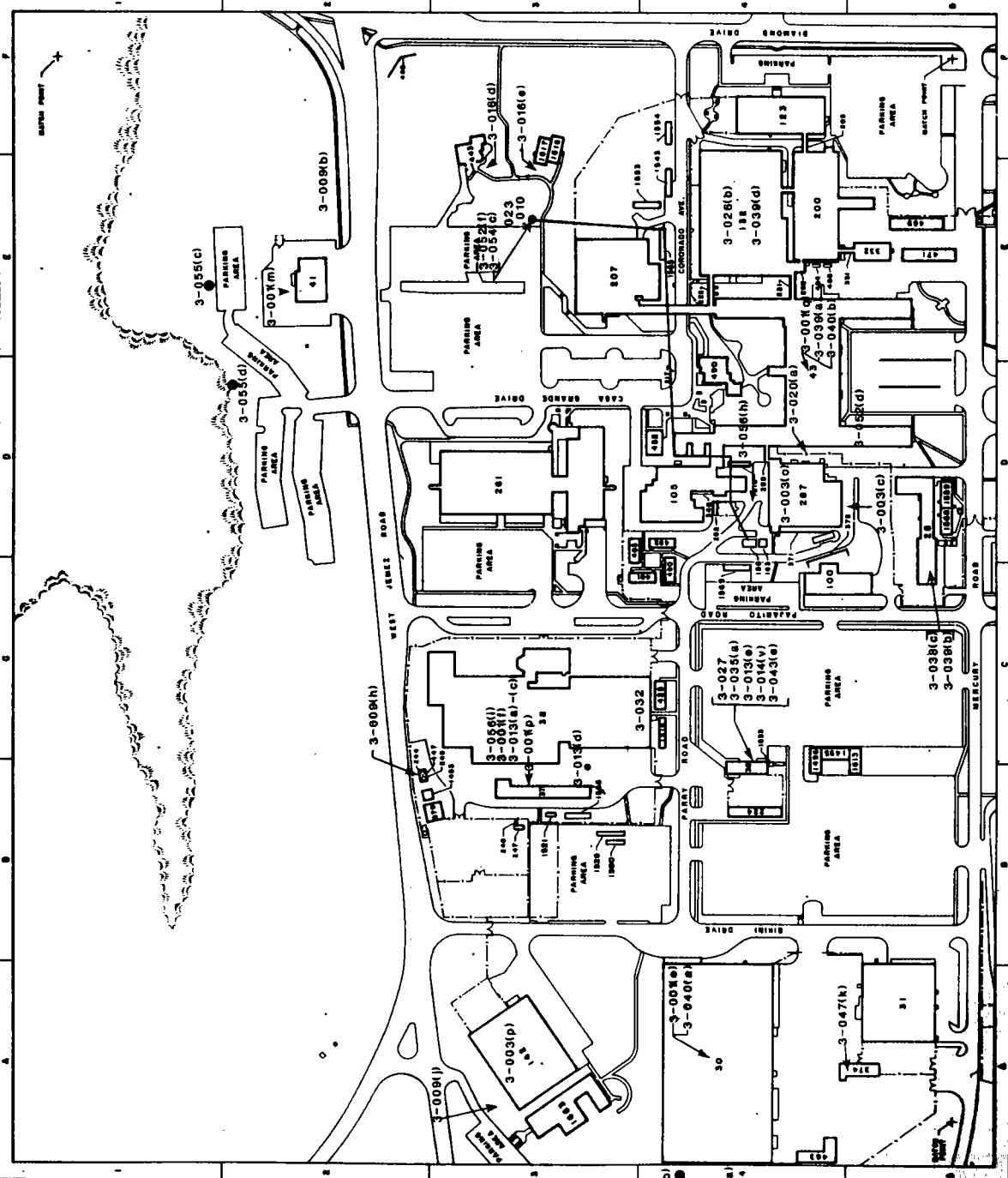
UNIVERSITY OF CALIFORNIA
Los Alamos Los Alamos National Laboratory

FACILITIES ENGINEERING DIVISION

STRUCTURE LOCATION PLAN
MAIN BUILDINGS

TA-3 SOUTH MESA SITE

DATE: 10-28-93
DRAWN BY: [Signature]
CHECKED BY: [Signature]
SCALE: 1" = 50'-0" 10' x 17' ENC-R5103





EXPLANATION
3-001 SWMU LOCATION
010 LOCATION OF OUTFALL INDICATING ASSOCIATED PIPING AND NPDES SERIAL NUMBERS (SEE APPENDIX A)

SWT. NO. 10	SWT. NO. 18	SWT. NO. 16	SWT. NO. 14
SWT. NO. 11	SWT. NO. 13	SWT. NO. 15	SWT. NO. 17

MAIN BUILDINGS

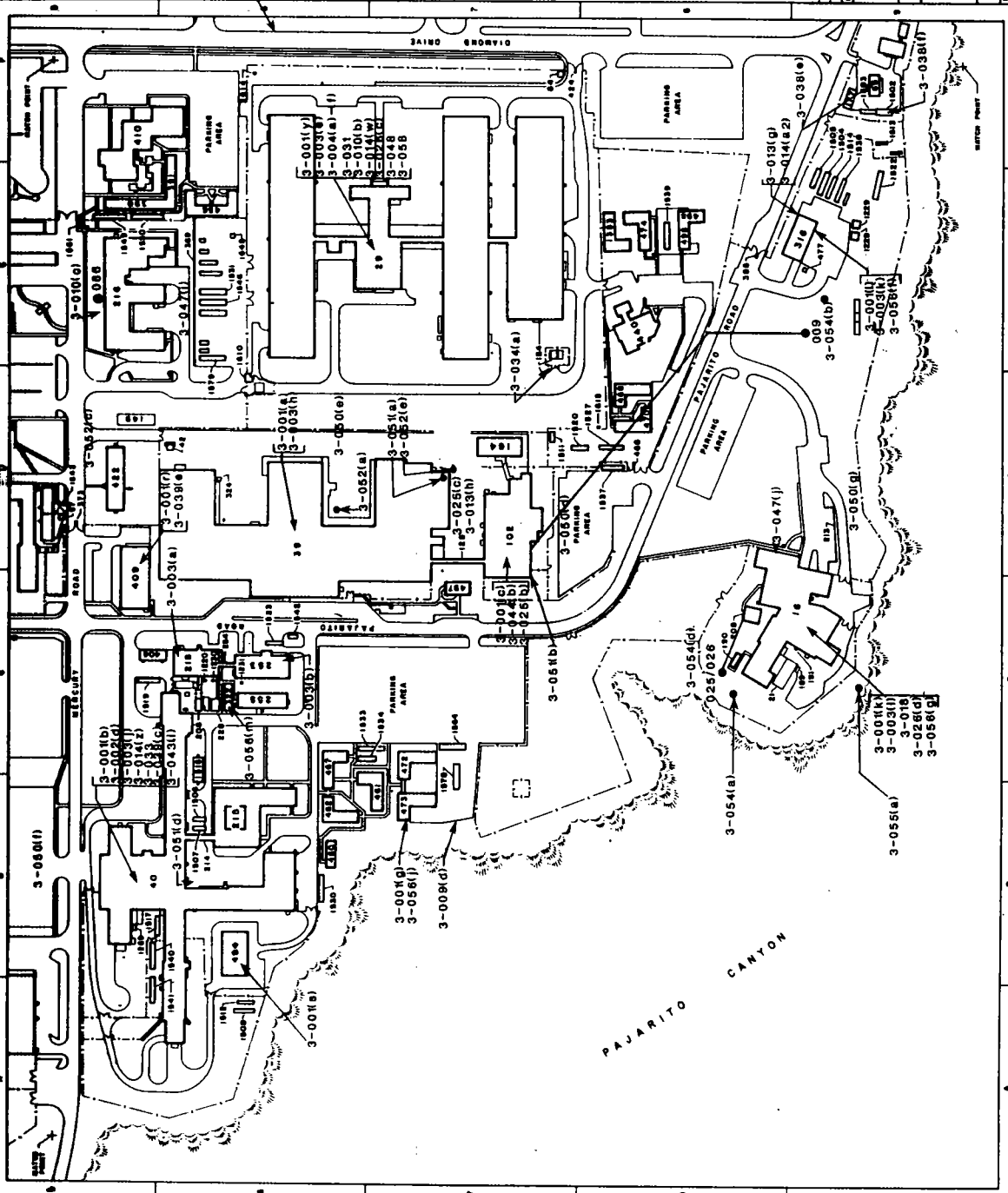
TA-3 MAP GUIDE

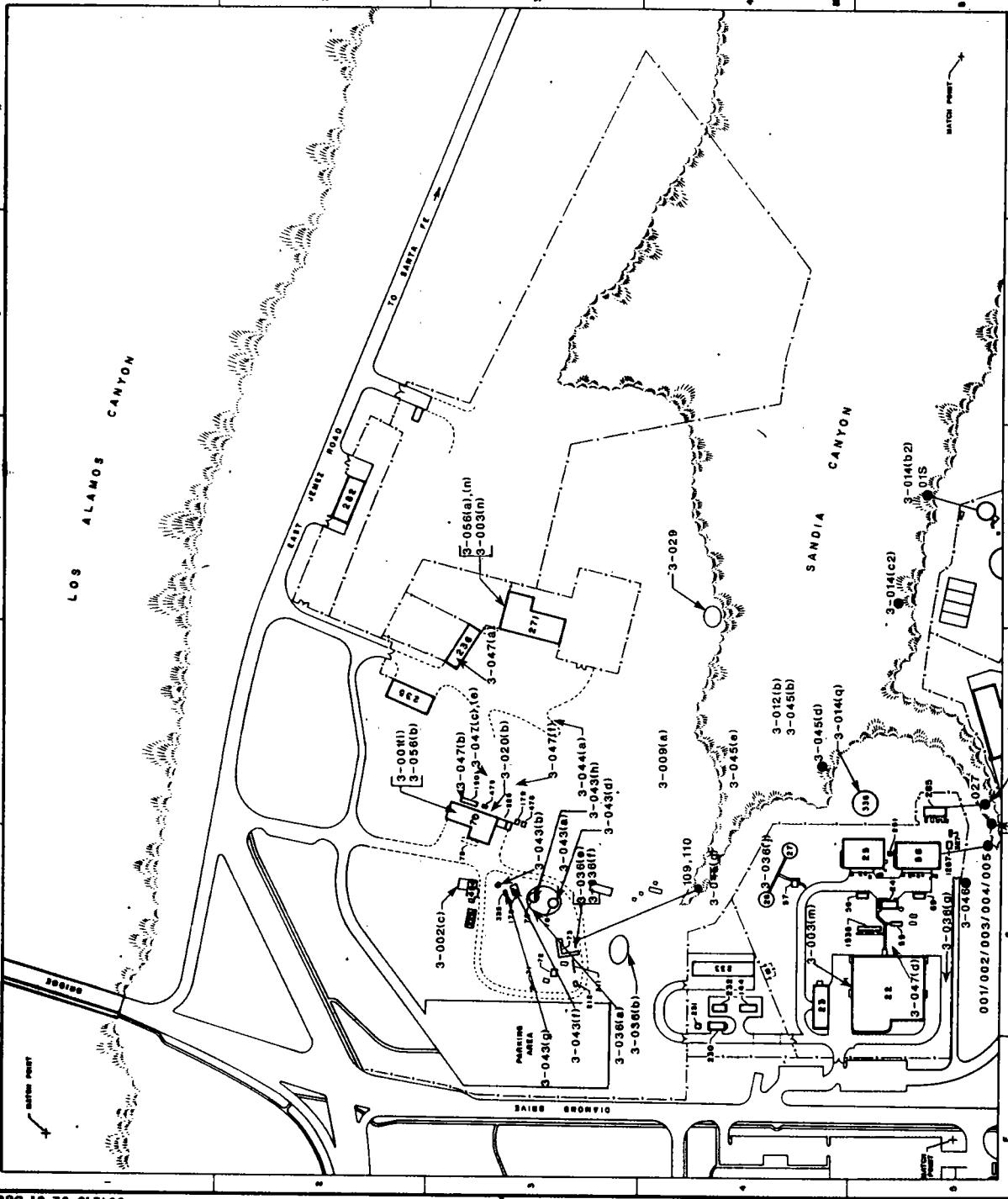
REV. 1 8/5/90

FIGURE 3-4

SOLID WASTE MANAGEMENT UNITS (SWMUS) IN TA-3

DATE	11-23-88	BY	...
REVISION	REVISED TO STATUS OF 11-23-88	NO.	2
UNIVERSITY OF CALIFORNIA			
Los Alamos			
FACILITIES ENGINEERING DIVISION			
STRUCTURE LOCATION PLAN			
MAIN BUILDINGS			
TA-3 SOUTH MESA SITE			





3-008(H)	3-058(B)	3-047(B)	3-047(C)	3-020(B)	3-047(F)	3-044(A)	3-043(H)	3-045(D)	3-008(A)	3-045(E)	3-012(B)	3-045(B)	3-045(D)	3-014(Q)	3-045(A)	3-045(C)
3-043(G)	3-038(F)	3-038(G)	3-043(I)	3-043(J)	3-043(K)	3-043(L)	3-043(M)	3-043(N)	3-043(O)	3-043(P)	3-043(Q)	3-043(R)	3-043(S)	3-043(T)	3-043(U)	3-043(V)

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REV. 1 6/5/90

FIGURE 3-5

SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-3

UNIVERSITY OF CALIFORNIA	Los Alamos
FACILITIES ENGINEERING DIVISION	
STRUCTURE LOCATION PLAN	
TA-3	SOUTH MESA SITE
DATE: 6-5-90	BY: [Signature]
APP. BY: [Signature]	ENG. R5103



UNCLASSIFIED

SHT. NO. 10	SHT. NO. 12	SHT. NO. 14	SHT. NO. 16
SHT. NO. 11	SHT. NO. 13	SHT. NO. 15	SHT. NO. 17

MAIN BUILDINGS

TA-3 MAP GUIDE

EXPLANATION

3-001 SWMU LOCATION

REV. 1 8/5/90

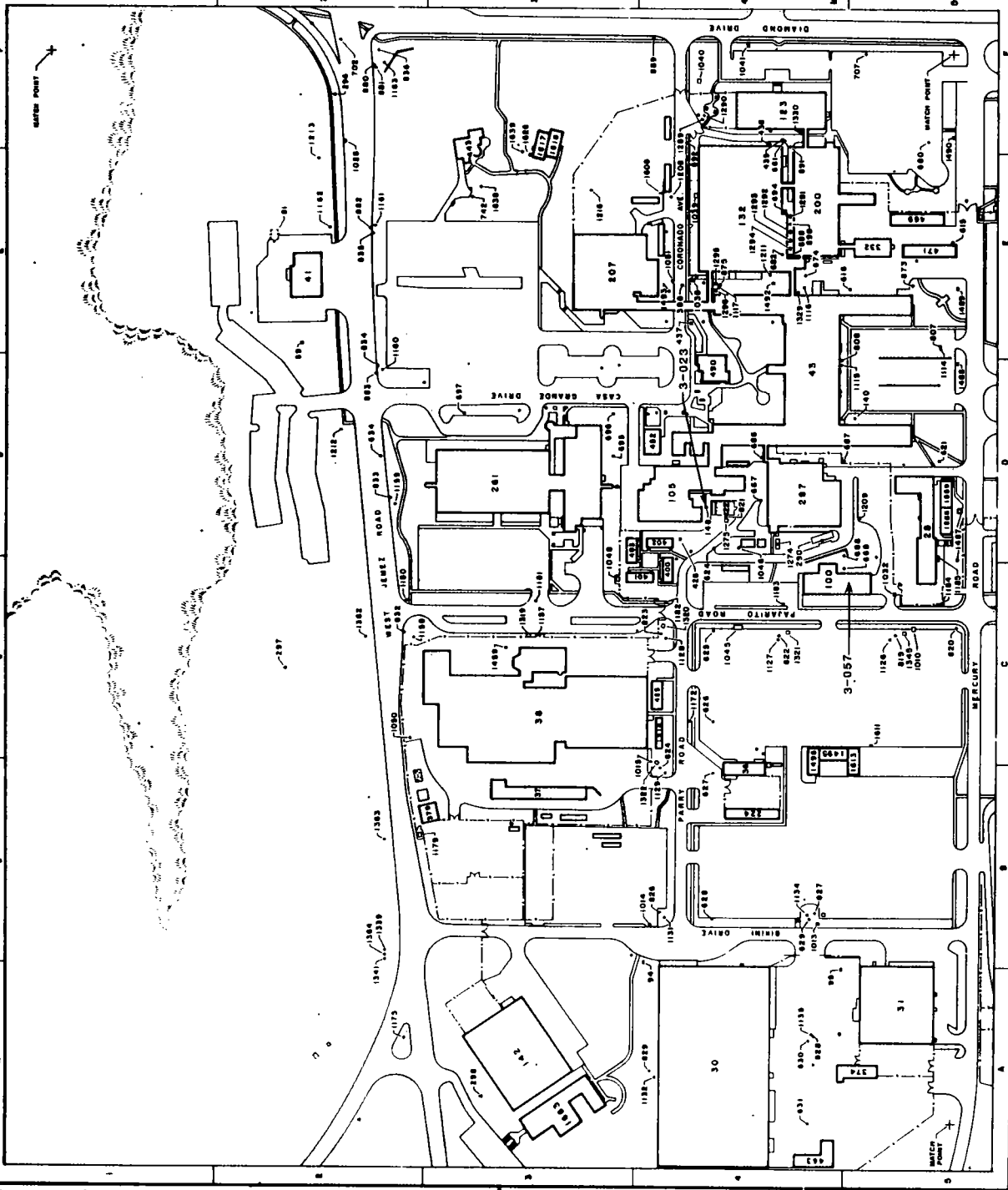
FIGURE 3-7
SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-3

DATE	BY	REVISION
11-18-85	W. J. BATES	REVISION 8
11-18-85	W. J. BATES	REVISION 7
11-18-85	W. J. BATES	REVISION 6
11-18-85	W. J. BATES	REVISION 5
11-18-85	W. J. BATES	REVISION 4
11-18-85	W. J. BATES	REVISION 3
11-18-85	W. J. BATES	REVISION 2
11-18-85	W. J. BATES	REVISION 1

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Los Alamos 1000 UNIVERSITY AVENUE, LOS ALAMOS, N.M. 87545

FACILITIES ENGINEERING DIVISION
STRUCTURE LOCATION PLAN
UTILITY STRUCTURES
SOUTH MESA SITE
TA-3

DATE: 11-18-85
BY: W. J. BATES
CHECKED BY: [Signature]
SCALE: AS SHOWN
PROJECT NO.: ENG-83103





UNCLASSIFIED



EXPLANATION
3-001 SWMU LOCATION

SMT. NO. 10	SMT. NO. 11	SMT. NO. 14	SMT. NO. 15
SMT. NO. 12	SMT. NO. 13	SMT. NO. 16	SMT. NO. 17
MAIN BUILDINGS		UTILITY STRUCTURES	

TA-3 MAP GUIDE

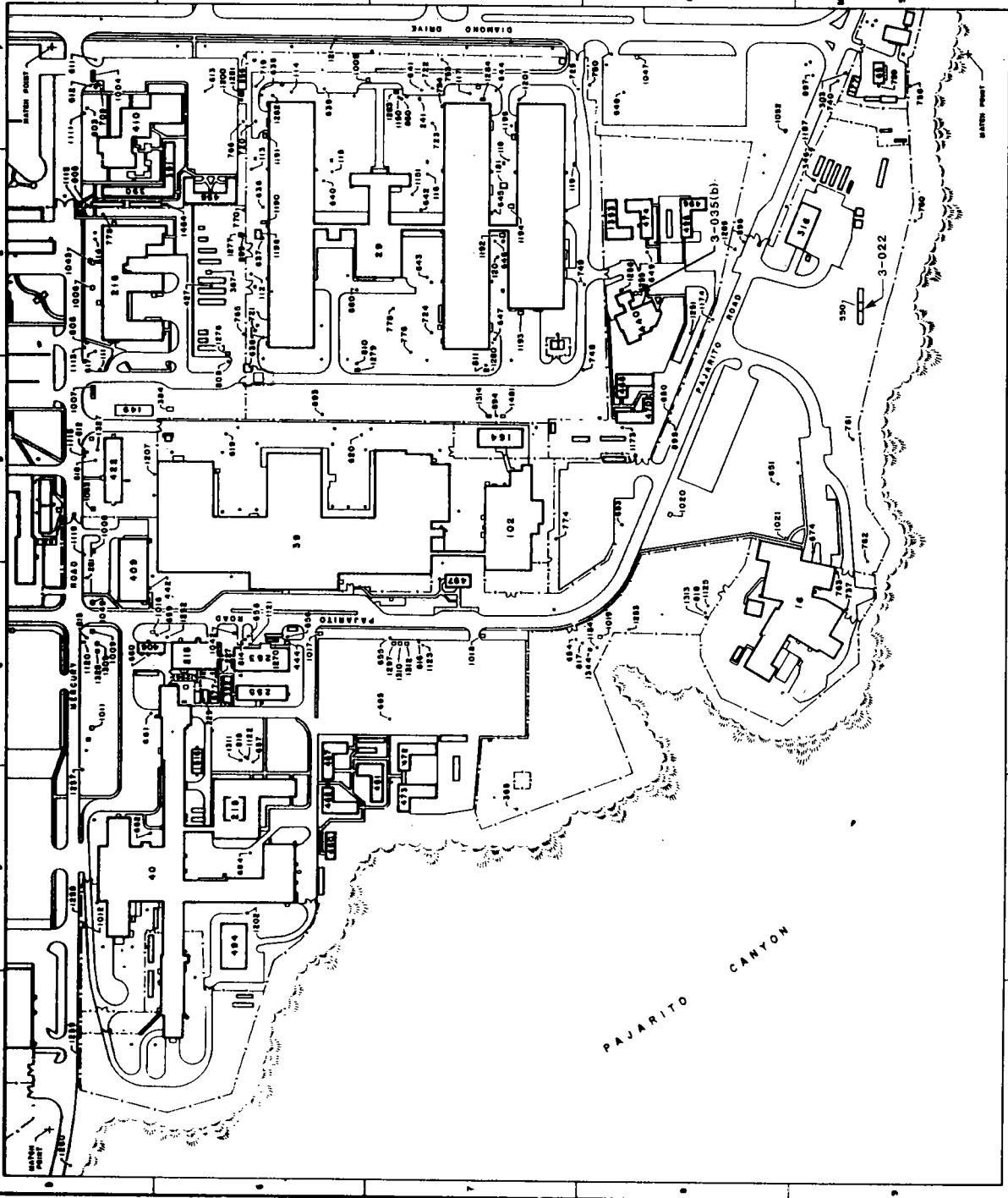
REV. 1 8/5/90

FIGURE 3-8
SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-3

NO.	DATE	BY	REVISION
1	11-22-89		REVISED TO STATUS OF 11-22-89

UNIVERSITY OF CALIFORNIA
Los Alamos AN INDEPENDENT LABORATORY

FACILITIES ENGINEERING DIVISION
STRUCTURE LOCATION PLAN
UTILITY STRUCTURES
TA-3 SOUTH MESA SITE





UNCLASSIFIED



EXPLANATION
3-001 SWMU LOCATION

SMT 00-10	SMT 00-11	SMT 00-12	SMT 00-13
SMT 00-14	SMT 00-15	SMT 00-16	SMT 00-17

MAIN BUILDINGS

SMT 00-10	SMT 00-11	SMT 00-12	SMT 00-13
SMT 00-14	SMT 00-15	SMT 00-16	SMT 00-17

UTILITY STRUCTURES

TA-3 MAP GUIDE

REV. 1/8/5/90

FIGURE 3-9
SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-3

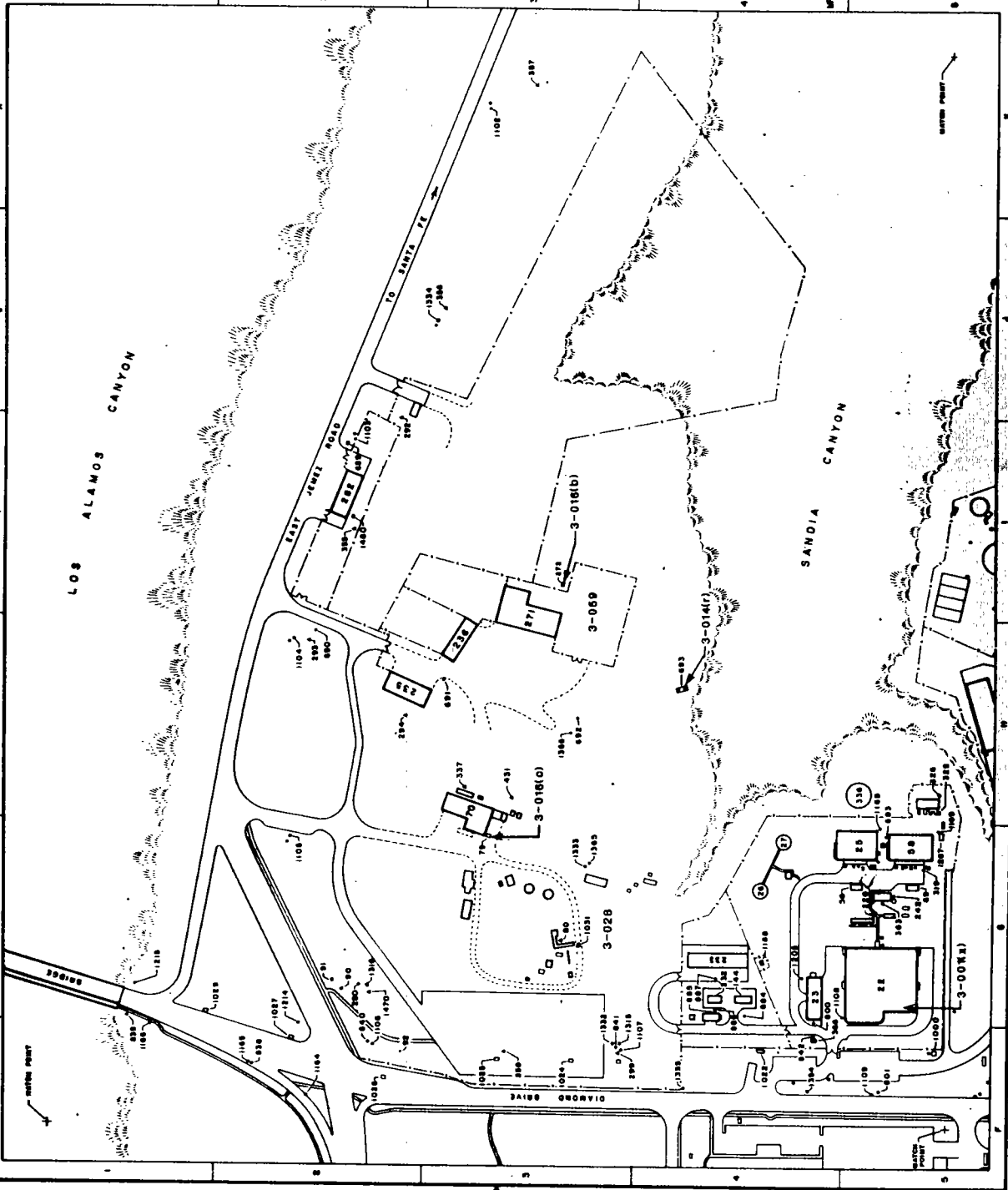
NO.	REV.	DESCRIPTION & RELATED TO STATUS OF 12-2-89	DATE
1	1	ISSUED	12/2/89

UNIVERSITY OF CALIFORNIA
Los Alamos 100 UNIVERSITY DRIVE

FACILITIES ENGINEERING DIVISION

STRUCTURE LOCATION PLAN
UTILITY STRUCTURES
TA-3 SOUTH MESA SITE

DATE: 5/7/90
BY: [Signature]
CHECKED BY: [Signature]
12-2-89 10 17 ENG-RS103



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SWT. NO. 10	SWT. NO. 12	SWT. NO. 16	SWT. NO. 18
SWT. NO. 11	SWT. NO. 13	SWT. NO. 17	SWT. NO. 19

TA-3 - WAC - SUBRE

EXPLANATION

3-001 SWMU LOCATION

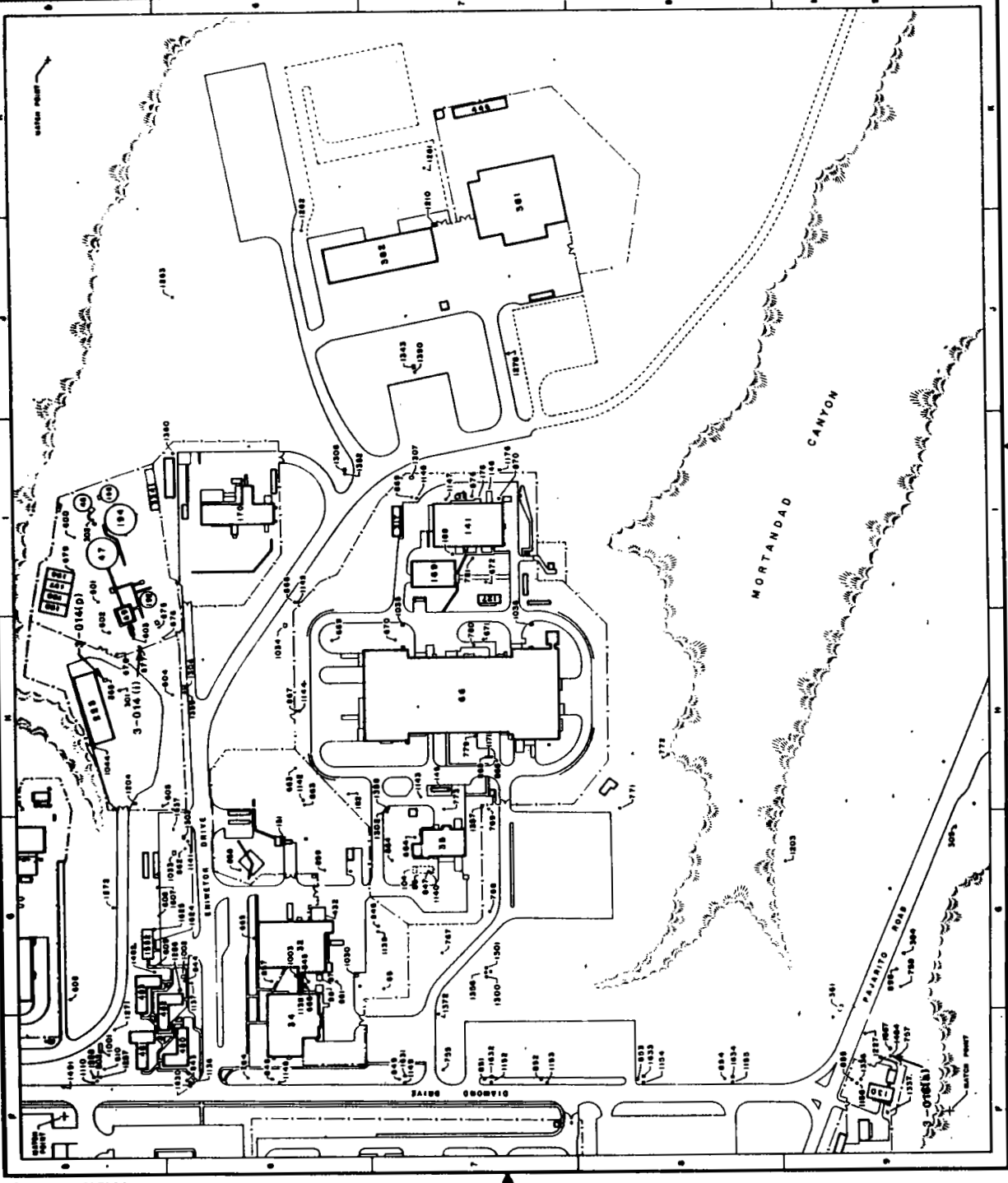
REV. 1 6/5/90

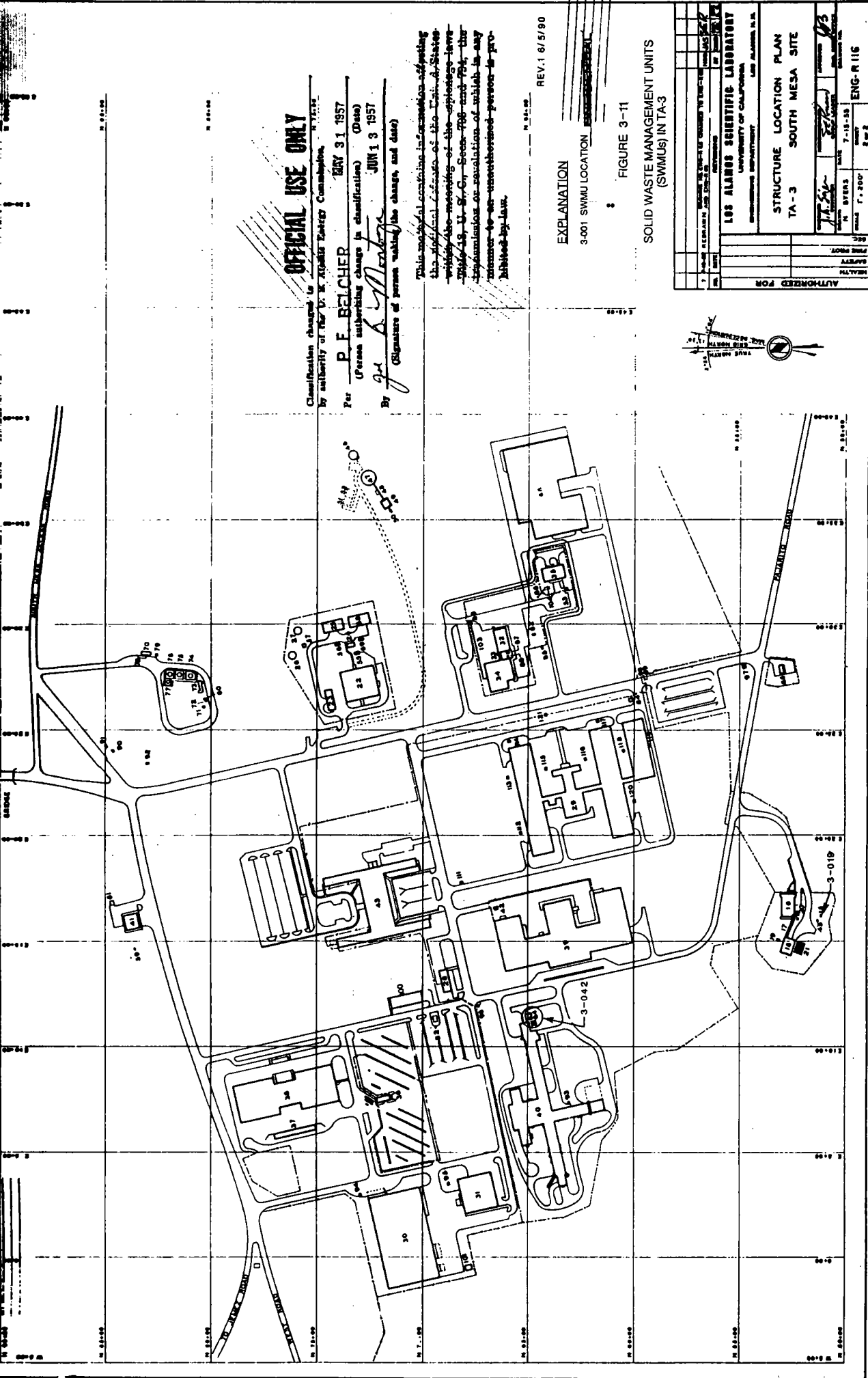
FIGURE 3-10
SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-3

15	1-10-88	REVISED	15	15
16	1-10-88	REVISED	16	16
17	1-10-88	REVISED	17	17
18	1-10-88	REVISED	18	18
19	1-10-88	REVISED	19	19

UNIVERSITY OF CALIFORNIA
Los Alamos
FACILITIES ENGINEERING DIVISION
UTILITY STRUCTURES
SOUTH MESA SITE

DATE: 1-10-88
BY: [Signature]
CHECKED BY: [Signature]
SCALE: 1" = 100'





OFFICIAL USE ONLY

Classification changed by authority of the U.S. Atomic Energy Commission.

Per **P. F. BELCHER** MAY 31 1957
 (Person authorizing change in classification) (Date)
 By *[Signature]* JUN 13 1957
 (Signature of person making the change, and date)

This material contains information affecting the national defense of the United States within the meaning of the espionage laws, Title 18, U.S.C., Secs. 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

REV. 1 6/5/90

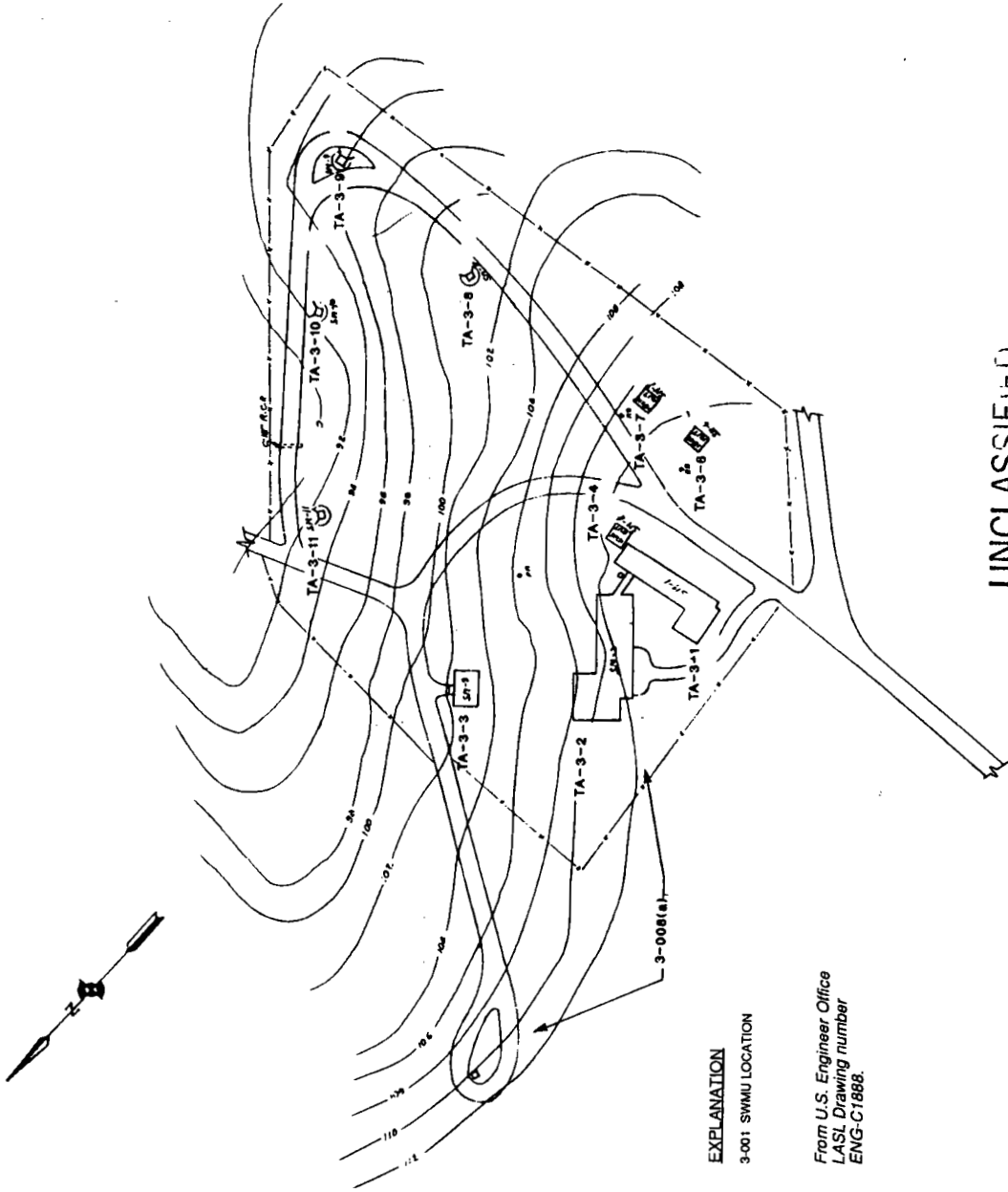
EXPLANATION

3-001 SWMU LOCATION

FIGURE 3-11

SOLID WASTE MANAGEMENT UNITS (SWMUS) IN TA-3

HEALTH	DATE	7-18-58	ENG-R116
LABOR	TIME	8:22	
PERSON			
REASON			
REMARKS			
APPROVED BY			
APPROVED FOR			
DATE			
BY			
FOR			
LOS ALAMOS SCIENTIFIC LABORATORY UNIVERSITY OF CALIFORNIA ENVIRONMENTAL DEPARTMENT LOS ALAMOS, N.M.			
STRUCTURE LOCATION PLAN TA-3 SOUTH MESA SITE			



EXPLANATION

3-001 SWMU LOCATION

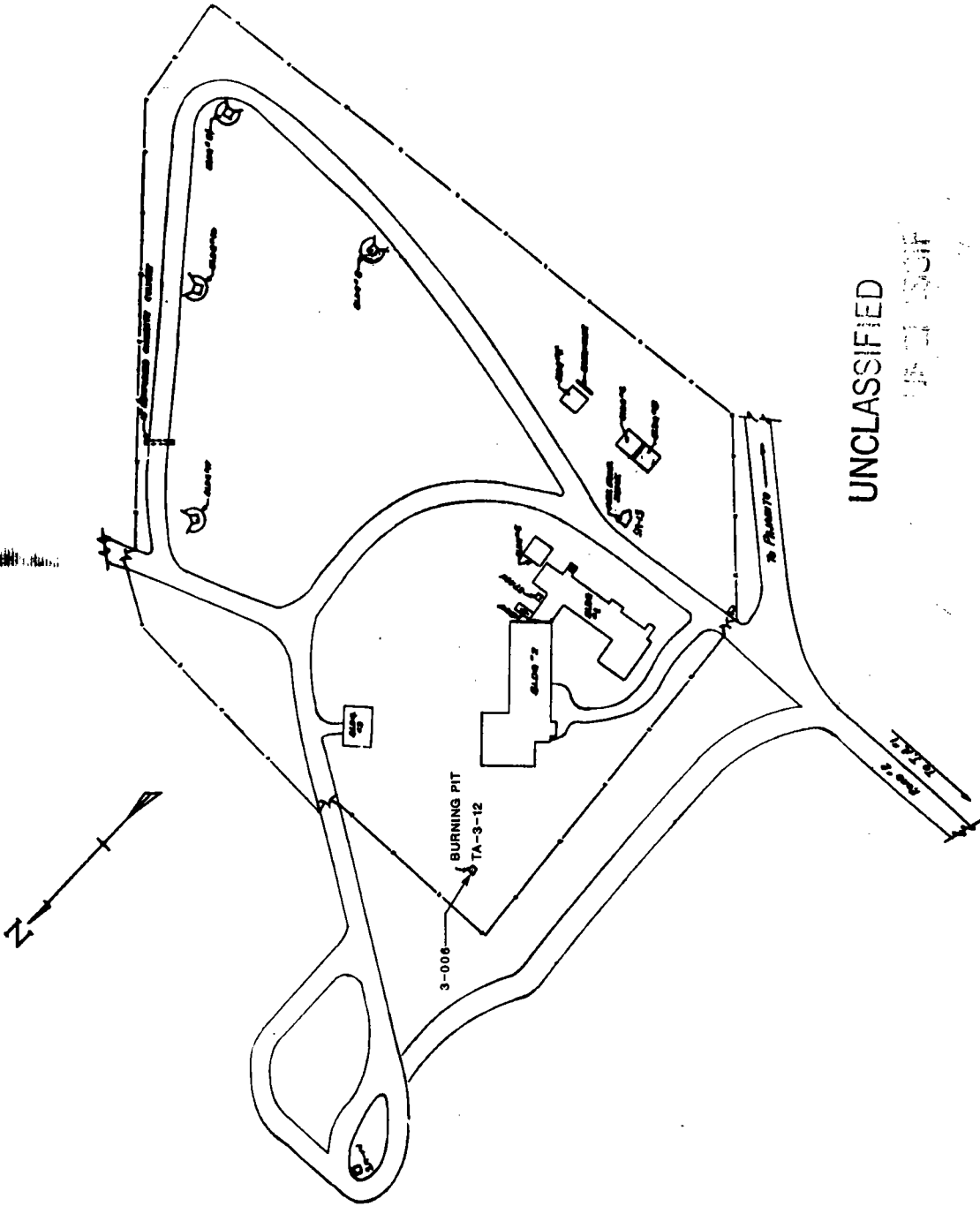
From U.S. Engineer Office
LASI, Drawing number
ENG-C1886.

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REV.1 6/5/90

FIGURE 3-12

SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-3



EXPLANATION

3-001 SWMU LOCATION

From South Mesa Site Plot Plan.
Tech Maintenance Group, drawing
number A5-F38.

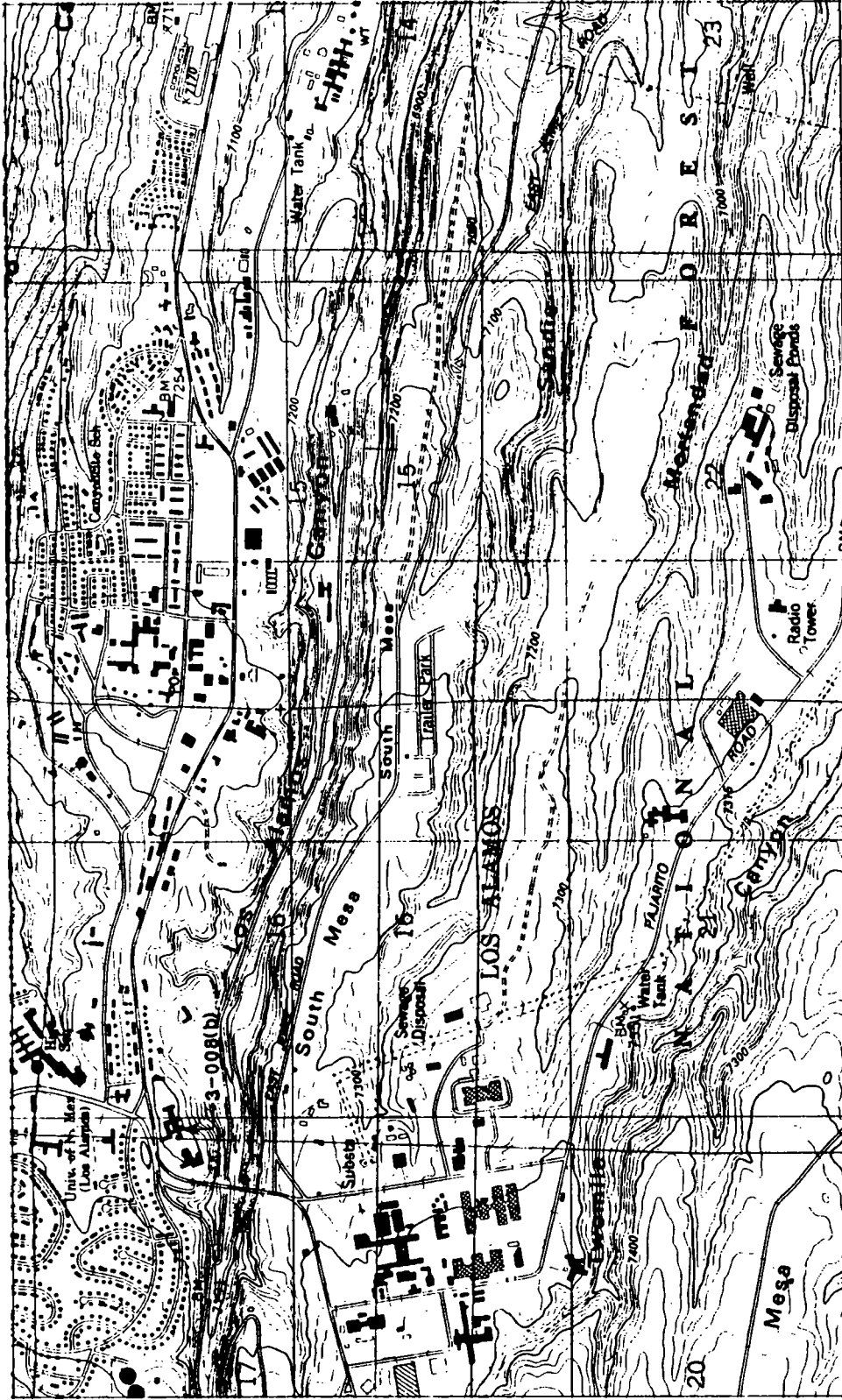
UNCLASSIFIED

14 OCT 2001

REV. 1 01/57/90

FIGURE 3-13

SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-3



EXPLANATION

3-001 SWMU LOCATION

- 010 LOCATION OF OUTFALL INDICATING ASSOCIATED PIPING AND NPDES SERIAL NUMBERS (SEE APPENDIX A)

UNCLASSIFIED

FIGURE 3-14
SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA - 3

TA-4

OPERATIONS AND ENVIRONMENTAL SETTING

Technical Area (TA- 4), called Alpha Site, was used as a firing site; it was abandoned in the late 1940s. The technical area was decontaminated and decommissioned in 1985 (DOE, 1987a). The former site of TA-4 lies within the current boundaries of TA-63 and TA-52. The location of the SWMUs addressed in this section are within the current boundaries of TA-52.

The site of former TA-4 is located on a small finger mesa that extends eastward from the main Pajarito Mesa. The mesa is bound on the north by Ten-Site Canyon that branches west from Mortandad Canyon, and on the south by Canada del Buey. The mesa slopes eastward, with the eastern part of TA-4 lying at about 7,150 feet asl and the western part at about 7,200 feet asl. The mesa surface is underlain by a welded unit of the Bandelier Tuff. Vegetation is from the Ponderosa Pine/Pinon-Juniper and Shrub-Grass-Forb overstory vegetation zones. Soil consists of Hackroy-Rock outcrop complex and Nyjack loam (Nyhan et al., 1978).

The potentiometric surface of the main aquifer in the Los Alamos area lies at about 5,950 to 6,010 feet asl at the former site of TA-4. Over 1,000 feet of unsaturated tuff and volcanic rock separate the surface from the aquifer. There is little potential for downward flow from the surface because of the low moisture conditions of the tuff (IT, 1987a).

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-4

4-001	FIRING SITE
4-002	SURFACE DISPOSAL SITE
4-003	DRAINS AND OUTFALLS
4-004	SOIL CONTAMINATION BENEATH FORMER BUILDING

SUMMARY

LOCATION	: TA-4	MATERIALS MANAGED	: SUSPECTED RADIOACTIVE WASTE
TYPE OF UNIT(S)	: FIRING SITE		HAZARDOUS WASTE
UNIT USE	: TESTING/DISPOSAL		
OPERATIONAL STATUS	: DECOMMISSIONED		
PERIOD OF USE	: 1945 - 1946		
HAZARDOUS RELEASE	: SUSPECTED		
RADIOACTIVE RELEASE	: SUSPECTED		

UNIT INFORMATION

This firing site, also referred to as a firing pit, was designated as structure TA-4-18. It was constructed in 1944 and abandoned in 1946. High explosives were the energy source of the firing experiments. Shot sizes ranged from 0.5 to 1,000 pounds of high explosives. (Shot debris from the firing site was bulldozed off the side of the mesa into Mortandad Canyon, and is addressed in SWMU 4-002.) The debris included wire and shrapnel, etc. Contaminants of concern include high explosives, natural and depleted uranium, lead, and beryllium.

WASTE INFORMATION

The waste consisted of shot debris, including shrapnel, wiring, and possibly uranium, beryllium, and lead.

RELEASE INFORMATION

In the past, shot debris from the firing area was bulldozed over the edge of the mesa (see 4-002). A 1953 survey showed no detectable radioactivity. The firing site required the most extensive effort at TA-4 during the 1985 Los Alamos Site Characterization Program cleanup effort. Shot debris, all aboveground structures, and known underground structures were removed at this time, including electrical lines encased in steel pipe and two large pieces of concrete-encased steel. Each piece of concrete was approximately 8' x 4.5' x 3.5' and weighed 15 tons. The pieces were monitored, then transported to the county landfill. The wire, shrapnel and other debris were taken to TA-54 for disposal. Some of the debris may have been uranium-contaminated aluminum, although no radioactivity was detected during the cleanup effort. Residues outside the cleanup area may remain. Two projectiles found at 4-001 during the ER Program Site Reconnaissance in 1988 were contaminated with radioactivity.

NOTES

The location of this SWMU is within the current boundaries of TA-52.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
4-001	TA4-2-CA-1-HW/RW	4.003	Tsk 7 : 20	TA-4-18

SUMMARY

LOCATION : TA-4
 TYPE OF UNIT(S) : SURFACE DISPOSAL
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : EST. 1944 - 1946
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : SUSPECTED RADIOACTIVE WASTE
 SUSPECTED HAZARDOUS WASTE

UNIT INFORMATION

This surface disposal area was used about two years for the disposal of shot debris generated at structure TA-4-18 (see 4-001). The debris was bulldozed off the side of the mesa onto the north-facing slope of Mortandad Canyon. The dimensions of the unit have not been determined.

WASTE INFORMATION

The waste consisted of shot debris, including cables, wires, and possibly small amounts of uranium, beryllium, lead, and any unexploded HE (thought unlikely).

RELEASE INFORMATION

The material was not covered at the end of its active life. There is a possibility for natural mobilization.

NOTES

The location of this SWMU is within the current boundaries of TA-52.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
4-002	TA4-1-CA-1-HW/RW	4.001	Tsk 7 : 20	IN MORTANDAD CANYON NEAR TA-4-18

SUMMARY

LOCATION : TA-4
 TYPE OF UNIT(s) : OUTFALL
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : DECOMMISSIONED/INACTIVE
 PERIOD OF USE : 1948 - 1956
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : SUSPECTED

MATERIALS MANAGED : RADIOACTIVE WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

Laboratory building TA-4-7 had a photographic processing outfall [4-003(a)] on the south side. The exact location of this outfall is unknown. Radioactivity was detected in the darkroom and portions of the room were removed in 1955 in an attempt to remediate radioactive contamination. Outfall 4-003(a) was not removed when TA-4-7 was dismantled in 1956. Outfall 4-003(b) and associated pipelines were connected to laboratory control building TA-4-3. A 6"-diameter vitrified clay pipe, placed in the tuff, directed the waste to an outfall in Mortandad Canyon, 20 ft north of TA-4-3. TA-4-3 was abandoned in 1946, making the outfall inactive. No radioactivity was detected in a 1953 survey. The pipe was removed during the 1985 Los Alamos Site Characterization Program cleanup effort of TA-4. No radioactive contamination was observed at this time. The sites of buildings TA-4-7, Darkroom and Laboratory, and TA-4-3, Laboratory Control Building, are addressed in SWMU 4-004.

WASTE INFORMATION

Waste from TA-4-7 that may have reached outfall 4-003(a) may have included photographic chemicals and radioactivity. Additional materials are not known. Waste from TA-4-3 which may have reached outfall 4-003(b) is of unknown character.

RELEASE INFORMATION

It is not known whether radioactive or hazardous materials were released at the outfall 4-003(a) that served the darkroom. No release information is available for outfall 4-003(b).

NOTES

The location of SWMU No. 4-003(a) is within the current boundaries of TA-63. The location of SWMU No. 4-003(b) is within the current boundaries of TA-52.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
4-003(a)	TA4-3-CA-1-HW/RW	4.002	Tsk 7 : 5	TA-4-7
4-003(b)	**		Tsk 7 : 6	TA-4-3

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-4
 TYPE OF UNIT(S) : SOIL CONTAMINATION
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : EST. 1944 - 1948
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : RADIOACTIVE WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

TA-4-7 is the location from which two buildings from TA-20 were relocated in 1956 to make a 16' x 43' x 8' high hut. It is not clear what chemicals were handled here or what operations were involved. Photographic processing chemicals may have been disposed of through drainpipes in the darkroom. This site was not part of the 1985 LASCPC cleanup effort. The outfall associated with the darkroom is part of SWMU 4-003.

WASTE INFORMATION

It is possible that photographic chemicals, radioactive material, and other unknown chemicals were released from this building.

RELEASE INFORMATION

A radiation survey in the early 1940s detected activity in the darkroom of TA-4-7. Parts of the floor were removed. A resurvey found the floor free of radioactive contamination in 1955.

NOTES

The location of SWMU No. 4-004 is within the current boundaries of TA-63.

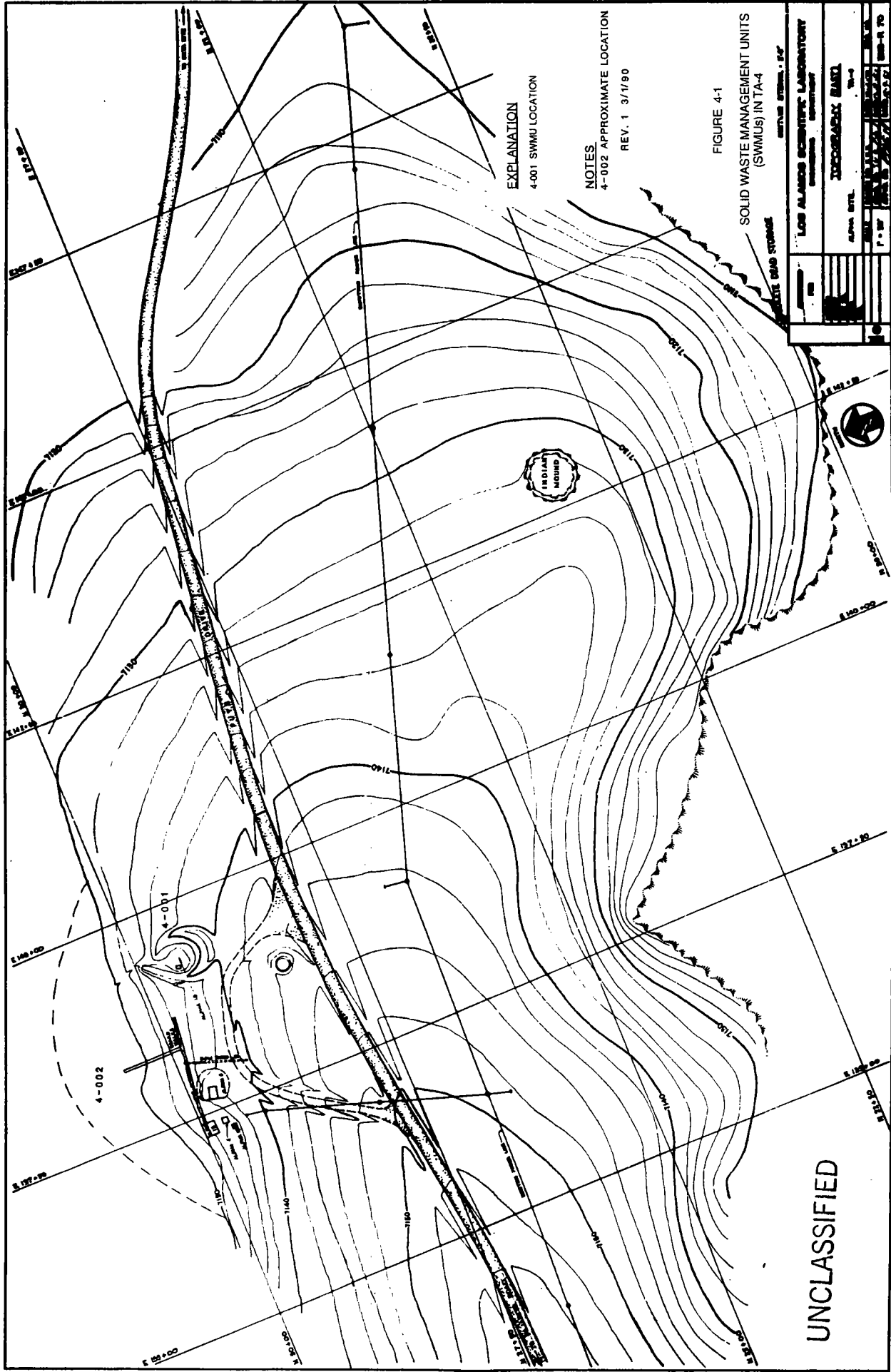
SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
4-004	TA4-2-CA-1-HW/RW		Task 7 : 13	TA-4-7

**TA-4 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX**

SWMU	FIGURE NUMBER
4-001	4-1, 4-2
4-002	4-1, 4-2
4-003(a)	4-2
4-003(b)	4-2
4-004	4-2

NOTE: Some structure locations may contain more than one SWMU.

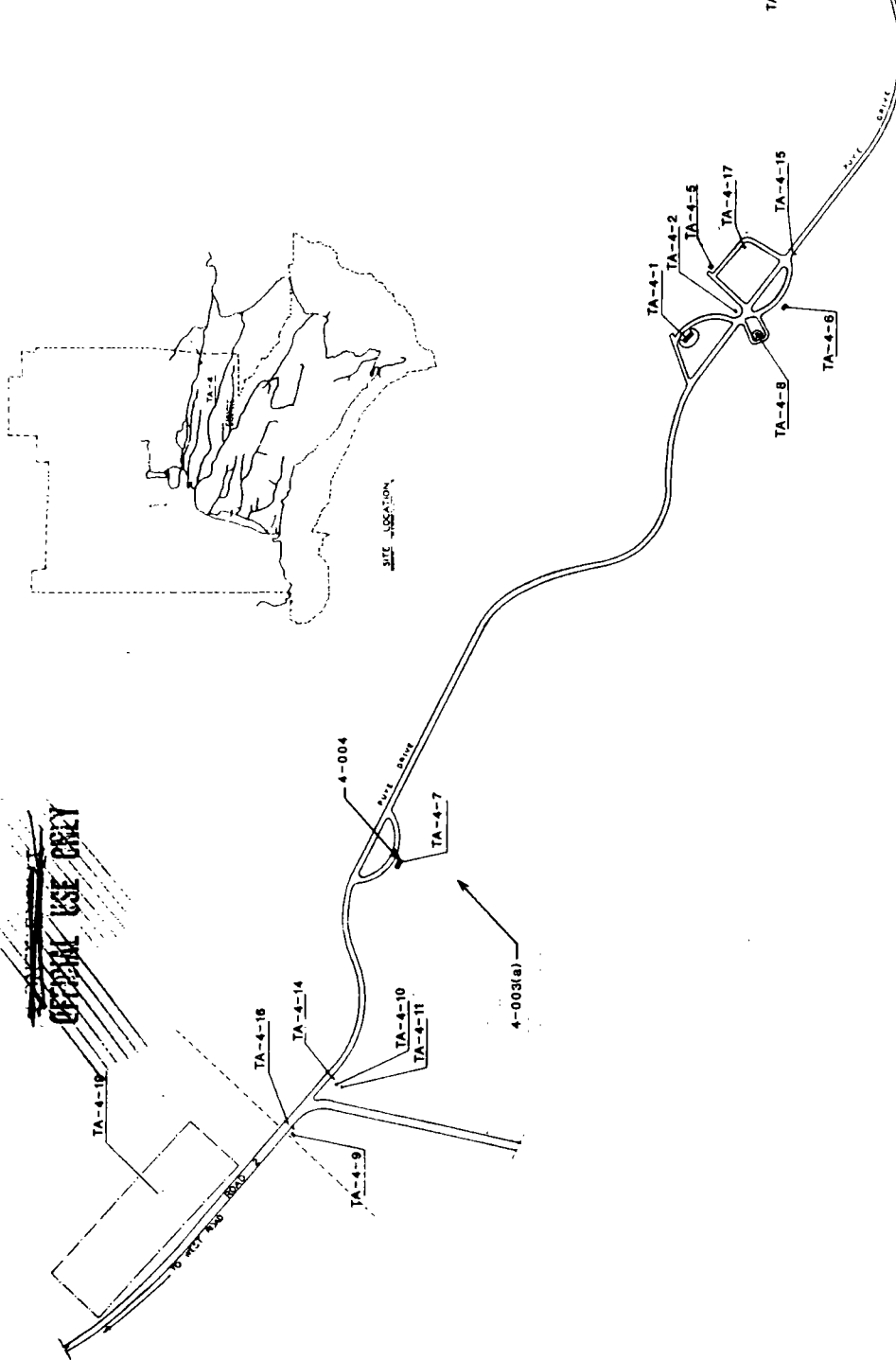


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301215 02 01 B103

STRUCTURE NUMBER	DESCRIPTION	484443
TA-4-1	ALPHA-1	MAGAZINE DOUBLE
TA-4-2	ALPHA-2	MAGAZINE
TA-4-3	ALPHA-3	ADMINISTRATIVE CENTER BLDG
TA-4-4	ALPHA-4	BATTERY BUILDING
TA-4-5	ALPHA-5	STORAGE BLDG
TA-4-6	ALPHA-6	PROCESS & TRIM BLDG
TA-4-7	ALPHA-7	DATA ROOM & LABORATORY
TA-4-8	ALPHA-8	MAGAZINE
TA-4-9	ALPHA-9	GUARD BLDG
TA-4-10	ALPHA-10	WATER TANK
TA-4-11	ALPHA-11	FIRE TOWER
TA-4-12	ALPHA-12	MISC. BUILDING
TA-4-13	ALPHA-13	CONCRETE
TA-4-14	ALPHA-14	ROAD BLDG
TA-4-15	ALPHA-15	ROAD BLDG
TA-4-16	ALPHA-16	ROAD BLDG
TA-4-17	ALPHA-17	LAMPING
TA-4-18	ALPHA-18	FIRING PIT
TA-4-19	ALPHA-19	CONTAMINATED P.T.

EXPLANATION
 4-001 SWMU LOCATION



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Classification Authority: [redacted]
 by Authority of: [redacted]
 For [redacted] (U.S.)
 [redacted] (U.S.)
 R.C. SMITH 10-4-54
 Signature of person making the change and date

1-0105921

FIGURE 4-2

SOLID WASTE MANAGEMENT UNITS (SWMUS) IN TA-4

APPROVED FOR:	LOS ALAMOS SCIENTIFIC LABORATORY
DESIGNED BY:	Department of Construction & Maintenance Group
CHECKED BY:	STRUCTURE LOCATION PLAN
DATE:	TA-4 ALPHA-SITE
SCALE:	1" = 100'
DATE PLOTTED:	APR 11 1978
DATE REVISED:	1-10-78
SCALE:	1" = 100'
DATE PLOTTED:	APR 11 1978
DATE REVISED:	1-10-78

TA-5 OPERATIONS AND ENVIRONMENTAL SETTING

The present Technical Area (TA) 5 is a large area that includes the site of former TA-5, called Beta Site. Beta Site is no longer in operation, and was decontaminated and decommissioned in 1985. The site was built in conjunction with TA-4 in the 1940s and lies to the east of it on a finger mesa that extends eastward from the main Pajarito Mesa. TA-5 had been used as a firing site. Within the current TA-5 boundaries is the location of a well and a power-line substation. The rest of TA-5 is used for non-programmatic needs, including use as a security buffer zone (DOE, 1987a).

Elevation of the present TA-5 ranges from 6,600 to 7,150 feet asl. The technical area includes part of the small Pajarito finger mesa, portions of Mortandad Canyon north of the mesa, parts of a branch of Mortandad Canyon south of the mesa, the eastern end of Sigma Mesa, and the south wall of Sandia Canyon, and a portion of Cedro Canyon within a segment of Sandoval County on the southern perimeter of the technical area. The eastern section of the Technical Area rests in Santa Fe County. Vegetation in the technical area is from the Ponderosa Pine/Pinon-Juniper, Pinon-Juniper, Ponderosa Pine-fir, and Shrub-Grass-Forb overstory vegetation zones. Soil types include Hackroy sandy loam, Hackroy-Rock outcrop complex, Typic Ustorthents-Rock outcrop complex, and Nyjack loam (Nyhan et al., 1978).

The potentiometric surface of the main aquifer in the Los Alamos area lies between 5,810 and 5,950 feet asl at TA-5. Over 700 feet of unsaturated tuff and volcanic rock separate the surface from the aquifer. There is little potential for downward flow from the surface because of the low moisture conditions of the tuff (IT, 1987a).

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-5

5-001	FIRING SITES
5-002	CANYONSIDE DISPOSAL
5-003	CALIBRATION CHAMBER
5-004	SEPTIC SYSTEM
5-005	DRAINS AND OUTFALLS
5-006	SOIL CONTAMINATION BENEATH FORMER BUILDINGS

SUMMARY

LOCATION : TA-5
 TYPE OF UNIT(S) : FIRING SITE
 UNIT USE : TESTING/DISPOSAL
 OPERATIONAL STATUS : DECOMMISSIONED
 PERIOD OF USE : SEE BELOW
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : KNOWN

MATERIALS MANAGED : RADIOACTIVE WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

Steel barricade firing pit #1 (also called firing point) [5-001(a)] is near TA-5-7 and was used from 1944 to 1947. Steel barricade firing pit #2 [5-001(b)] is near TA-5-15 and was used from 1945 to the late 1940s. Experimental shots were set up at these two sites and fired on open ground. The shots used HE as the energy source. The firing pits were approximately 200 ft apart, with overlapping contaminated areas and debris areas. As debris accumulated it was cleared from the firing pit areas with a bulldozer. The shrapnel zone included the canyon sides, canyon bottom, and approximately 200 ft around the firing pit. Potential environmental contaminants consist of high explosives, natural and depleted uranium, beryllium, and uranium-contaminated aluminum or steel. Surveys in 1959 detected no high explosives, radioactive contamination, or toxicity. In 1976, a survey showed no radioactive contamination at either site. The structures were removed in the 1985 Los Alamos Site Characterization Program (LASCP). No radioactive contamination was detected on steel barricade firing pit #1 or beneath it after the structure was removed [5-001(a)]. However, since soil in the area was part of a larger, radioactively contaminated area associated with activities at the site, the debris was removed to TA-54 for disposal. Steel barricade firing pit #2 [5-001(b)] contained uranium and was removed in 1985. LASCP documentation indicates that the dimensions of firing pit structure 5-001(a) were 8' x 5'6" x 3' and that those of 5-001(b) were 12' x 10' x 9'. A second firing point [5-001(c)] is referenced on maps and memos and is apparently located several hundred feet east of 5-001(b). No information is available on the period of use of the second firing point. During the 1985 LASCP decommissioning effort, a cable run to a far firing point was removed, but the location is not mentioned. The sites were used intensively for about three years and have been decommissioned for radioactive constituents. Shot size ranged from 30-2,500 pounds of HE.

WASTE INFORMATION

Residues associated with these firing experiments included uranium and may have included beryllium, cadmium, and lead, as well as undetonated HE (although there are no records of any shots at these sites not completely detonating). Materials that may have been used at the second firing point [5-001(c)] are unknown.

RELEASE INFORMATION

The two firing pit sites have been decommissioned for radioactive constituents. Contamination at Pit 2 was traced to a depth of 15 ft. It is believed to have occurred when multiple shots in the same area loosened the tuff and created fractures. The contamination from 5-001(b) migrated north along seams and fractures to the X-unit chamber [TA-5-9, addressed in 5-006(h)]. The excavation and decontamination efforts left a 20' x 21' x 16' deep pit, and included both the X-unit chamber and steel barricade firing pit #2 sites. The pit was then backfilled with soil from LASCP efforts at TA-5-1, TA-5-2, and TA-5-3 [addressed in 5-006(a), (f), and (g), respectively]. During site cleanup activities in 1985, areas found to be radioactively contaminated were cleaned to background. It is not known if other spots exist or if there are additional areas of uranium migration. No release information is available for 5-001(c).

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
5-001(a)	TAS-1-CA/L-1-HW/RW	5.003	Tsk 7 : 37	NEAR TA-5-7
		5.004		
5-001(b)	TAS-1-CA/L-1-HW/RW	5.003	Tsk 7 : 38	NEAR TA-5-15
		5.004		
5-001(c)	TAS-4-CA-1-HW/RW		Tsk 7 : 39	REPORTEDLY EAST OF TA-5-4

SUMMARY

LOCATION : TA-5
 TYPE OF UNIT(S) : SURFACE DISPOSAL
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : EST. 1944 - 1947
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : SUSPECTED

MATERIALS MANAGED : RADIOACTIVE WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

This surface disposal area was created by pushing shot debris from TA-5 experiments over the side of Mortandad Canyon's north-facing slope. The debris zone extended to the canyon bottom. The site was used intensively for about three years. A radiation survey in 1976 indicated contamination. During the 1985 Los Alamos Site Characterization Program cleanup effort, visible surface shot debris was removed and disposed of at TA-54. There may be some shot debris remaining below the surface.

WASTE INFORMATION

The waste includes shot debris, including cables, wire and possibly trace amounts of uranium, lead, beryllium, and cadmium.

RELEASE INFORMATION

It is possible that any remaining material may be mobilized by natural processes. The DOE Environmental Survey in 1989 discussed 5-002 in Environmental Problem 26 - Inactive Firing Sites. Nine soil samples were taken near the former site of the X-unit Chamber. The analysis results indicated the presence of metals and radionuclides, but no high explosives were found.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
5-002	TA5-1-CA/L-1-HW/RW	5.001	Task 7 : 36	MORTANDAD CANYON

SUMMARY

LOCATION : TA-5
 TYPE OF UNIT(S) : CALIBRATION CHAMBER
 UNIT USE : TESTING
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1960 - 1974(?)
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

The calibration facility, TA-5-20, was an 8' x 12' x 8' high building built over a shaft 10.67 m deep and 1.83 m in diameter. One report indicated the presence of a small room off the bottom of the shaft. It reportedly was used to calibrate thermoluminescent dosimeters with a sealed radium source. The shaft was lined with lead brick. Equipment containing uranium was reportedly used in the chamber. The facility was built in January, 1960 and abandoned before February, 1974. It is not known if the lead bricks were removed before the shaft was backfilled. No date is available on the backfilling, but it occurred before 1985. A radiation survey in 1976 detected no radioactivity. The facility was not addressed in the 1985 Los Alamos Site Characterization Program cleanup effort. The building over the shaft was removed but the removal date is not known.

WASTE INFORMATION

Although the unit itself did not contain or generate waste, if the lead used in lining the chamber was left in place, the chamber is now a disposal site.

RELEASE INFORMATION

It is believed that the lead bricks were removed when the chamber was backfilled with dirt. Residual uranium is very unlikely. This unit was not addressed during the decommissioning of TA-5 in 1985.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
5-003	TA5-2-CA-I-HW/RW		Tsk 7 : 42	TA-5-20

SUMMARY

LOCATION	: TA-5	MATERIALS MANAGED :	HAZARDOUS WASTE
TYPE OF UNIT(s)	: SEPTIC SYSTEM		SUSPECTED RADIOACTIVE WASTE
UNIT USE	: TREATMENT/DISPOSAL		
OPERATIONAL STATUS	: DECOMMISSIONED		
PERIOD OF USE	: EST. 1948 - 1959		
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: UNKNOWN		

UNIT INFORMATION

This septic tank, TA-5-13, received industrial waste for approximately 10 years. It was of reinforced concrete 5' x 5' x 7' deep and served TA-5-1. Surveys conducted in 1959 found the tank to be free of radioactive and high explosives contamination, but the tank is suspected of being contaminated with acid. The septic tank was abandoned in late 1959. The tank was removed prior to the 1985 Los Alamos Site Characterization Program cleanup effort, which confirmed removal of the tank and piping by re-excavation. There was no evidence of radioactively contaminated soil at that time. As-built drawings indicate a discharge line from the septic tank running south towards the canyon.

WASTE INFORMATION

The tank is listed as having toxic/chemical contamination.

RELEASE INFORMATION

Documentation has not been found that indicates whether the discharge area was investigated during the removal of the tank. Records do not indicate any releases.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
5-004	TAS-2-CA-1-HW/RW		Tsk 7 : 24	TA-5-13

SUMMARY

LOCATION	: TA-5	MATERIALS MANAGED :	RADIOACTIVE WASTE
TYPE OF UNIT(S)	: WASTE LINE		HAZARDOUS WASTE
UNIT USE	: TREATMENT/DISPOSAL		
OPERATIONAL STATUS	: DECOMMISSIONED/INACTIVE		
PERIOD OF USE	: 1944 - 1959		
HAZARDOUS RELEASE	: SUSPECTED		
RADIOACTIVE RELEASE	: SUSPECTED		

UNIT INFORMATION

During the 1985 Los Alamos Site Characterization Program (LASCP) cleanup efforts at TA-5, a French drain [5-005(a)] was discovered running from Control Building TA-5-4 toward the canyon. This Control Building (TA-5-4) and, presumably, the French drain were constructed in 1945 and abandoned in 1959. The Control Building was removed in 1960 [see 5-006(b)], but the French drain and associated radioactively contaminated soil were not removed until 1985. An outfall [5-005(b)] associated with TA-5-5, Shop and Darkroom [see 5-006(c)], was identified during a 1987 ER Program site reconnaissance. The outfall was presumably active from 1944 to 1959, the active life of TA-5-5.

WASTE INFORMATION

Radioactive contamination was discovered in the Control Building TA-5-4 during the 1985 LASCP cleanup effort. It is unknown whether chemicals were discharged to the French drain. Photo processing chemicals were used in TA-5-5; it is unknown whether those chemicals were discharged at outfall 5-005(b).

RELEASE INFORMATION

The French drain [5-005(a)] and some soil have been removed, but LANL personnel believe that further radioactive and possibly chemical contamination may be present on the canyon side. It is not known whether hazardous constituents have been released from the French drain. It is not known whether photo processing chemicals were released at outfall 5-005(b).

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
5-005(a)	TA5-3-CA/O-I-HW/RW		Ysk 7 : 22	NEAR TA-5-4
5-005(b)	TA5-3-CA/O-I-HW/RW	5.002	Ysk 7 : 21	NEAR TA-5-5

SUMMARY

LOCATION : TA-5
 TYPE OF UNIT(S) : SOIL CONTAMINATION
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1944 - 1960
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : SUSPECTED

MATERIALS MANAGED : RADIOACTIVE WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

Technical Area (TA) 5, called Beta Site, is no longer in operation and surface structures have been removed. Most were removed in 1958 and 1959 and a supplemental cleanup effort occurred under the Los Alamos Site Characterization Program (LASCP). The site was used as a test firing site for medium- to large-size explosive experiments using the implosion "electric" method of detonation wave determination.

SUMU NO.	STRUCTURE	CONSTRUCTED	ABANDONED	REMOVED	STRUCTURE FORMERLY PRESENT
5-006(a)	TA-5-1	1948	1959	1959	Laboratory building
5-006(b)	TA-5-4	1945	1959	1960	Control building
5-006(c)	TA-5-5	1944	1959	1960	Shop and darkroom
5-006(d)	TA-5-6	1944	1959	1960	Laboratory building
5-006(e)	TA-5-19	1953	1958	1985	Platform
5-006(f)	TA-5-2	1945	1959	1960	High explosives magazine
5-006(g)	TA-5-3	1945	1959	1960	High explosives magazine
5-006(h)	TA-5-9	1947	1959	?	X-unit chamber

5-006(a) is the location of former TA-5-1, a laboratory building measuring 12' x 25' x 12' high. The building was surrounded by an earthen barricade. It was used as office and laboratory space by M-Division and J-Division. It was abandoned and burned in 1959. During the 1985 LASCP cleanup, debris was removed to TA-54. Soil from 5-006(a) was used to backfill the X-unit chamber [TA-5-9, addressed in 5-006(h)] and firing site 5-001(b).

5-006(b) is the location of former TA-5-4, a control building measuring 16' x 16' x 9' and 9' x 6' x 8'. The building was bermed on three sides and the top. The control building handled the detonations for three firing areas. It was abandoned in 1959 and destroyed by fire in 1960.

5-006(c) is the location of former TA-5-5, a shop and darkroom measuring 16' x 16' x 9' and 9' x 6' x 9'. There is no information on the types of materials used or the types of operations that occurred in the shop and darkroom, although photo processing chemicals may have been used. The building was destroyed by fire in 1960, and debris was removed during the 1985 LASCP cleanup.

5-006(d) is the location of former TA-5-6, a laboratory building measuring 16' x 16' x 9'. No information is available on the use of the facility or the types of materials or chemicals handled there. The building was destroyed by fire in 1960; debris was removed in the 1985 LASCP cleanup effort, and the site was recontoured.

5-006(e) is the location of former TA-5-19, a platform measuring 3' x 7'6" that was mounted on two 70' poles. The platform was abandoned in 1958 and removed in the 1985 LASCP cleanup effort.

5-006(f) and 5-006(g) are the locations of former TA-5-2 and TA-5-3, high explosives magazines measuring 10' x 11' x 8' and 7' x 6' x 6', respectively. Both were bermed on three sides and the top. Both magazines were burned in 1960. During the 1985 LASCP cleanup effort, surface debris was removed and excess soil from both areas was used as fill material at the TA-5-9 [5-006(h)] and TA-5-15 [5-001(b)] areas.

5-006(h) is the location of former TA-5-9, the X-unit chamber, which reportedly measured 12' x 10' x 5.8'. During the 1985 LASCP cleanup effort, clean soil from TA-5-1 [5-006(a)], TA-5-2 [5-006(f)], and TA-5-3 [5-006(g)] was used to backfill 5-006(h). The pit that was created to trace the uranium contamination found in 1985 measured approximately 20' x 21' x 16' deep, included both the X-unit chamber and firing pit #2 (TA-5-15) [5-001(b)] sites, and was later backfilled.

(continued)

 Page 2

WASTE INFORMATION

SWMU NO.	WASTE INFORMATION
5-006(a)	High explosives; unknown other
5-006(b)	Uranium; unknown other
5-006(c)	High explosives; possible photo processing chemicals; unknown other
5-006(d)	High explosives; unknown other
5-006(e)	Uranium; unknown other
5-006(f)	High explosives; unknown other
5-006(g)	High explosives; unknown other
5-006(h)	Uranium; unknown other

RELEASE INFORMATION

In 1959, several sites were found to be contaminated with high explosives: 5-006(a), (c), (d), (f), and (g). Radiation surveys conducted in 1976 at 5-006(a) and (h) found these sites to be free of detectable contamination. No contamination was noted in the 1985 LASCPC cleanup effort at 5-006(a), (c), (d), (f), and (g). The 1985 LASCPC cleanup effort discovered uranium contamination at 5-006(b) and (e). Contamination was believed to have entered the environment through a French drain that served the building. Most of the contamination was detected in the top two feet of soil. The surface contamination was removed to MDA-G in TA-54, and the site was recontoured. When TA-5-9 [5-006(h)] was removed by crane in the 1985 LASCPC cleanup effort, uranium contamination was traced to a depth of 15 feet in the gravel seams and tree roots. Contamination to this depth was believed to have occurred through multiple shots in the same area that loosened the tuff and created fractures. Contamination migrated north from firing pit #2 [TA-5-15, addressed in 5-001(b)] to the X-unit chamber along these fractures and gravel seams. The contamination was confirmed to be depleted uranium. Samples taken in the area after the 1985 LASCPC cleanup effort did not give above-background results.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
5-006(a)	TA5-2-CA-1-HW/RW		Tsk 7 : 25	TA-5-1
5-006(b)	TA5-2-CA-1-HW/RW		Tsk 7 : 26	TA-5-4
5-006(c)	TA5-2-CA-1-HW/RW		Tsk 7 : 27	TA-5-5
5-006(d)	TA5-2-CA-1-HW/RW		Tsk 7 : 28	TA-5-6
5-006(e)	TA5-2-CA-1-HW/RW		Tsk 7 : 32	TA-5-19
5-006(f)	TA5-2-CA-1-HW/RW		Tsk 7 : 34	TA-5-2
5-006(g)	TA5-2-CA-1-HW/RW		Tsk 7 : 35	TA-5-3
5-006(h)	TA5-2-CA-1-HW/RW		Tsk 7 : 40	TA-5-9

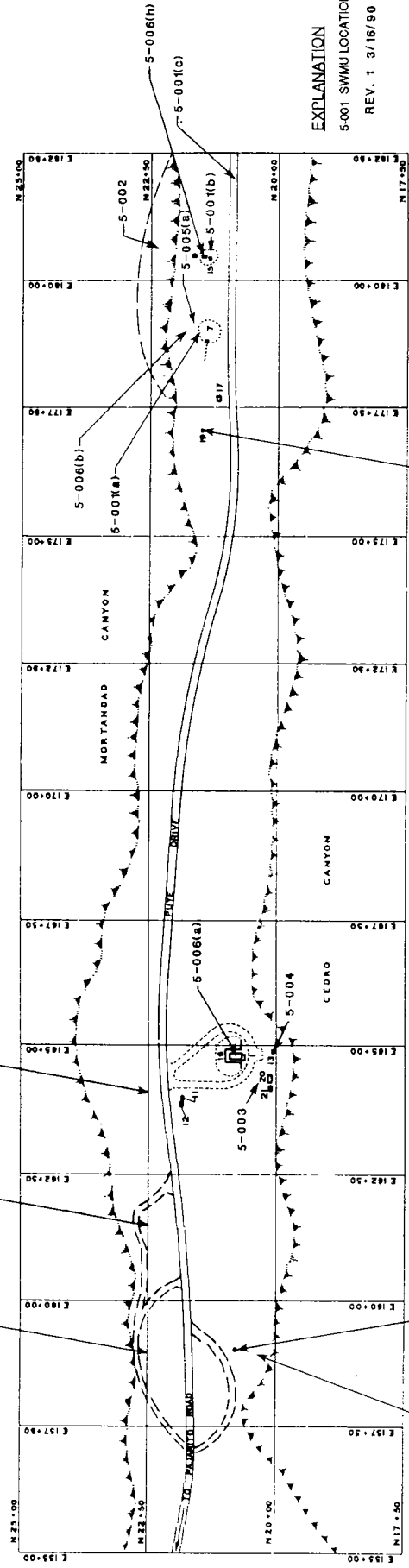
**TA-5 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX**

SWMU	FIGURE NUMBER
5-001(a)	5-1
5-001(b)	5-1
5-001(c)	5-1
5-002	5-1
5-003	5-1, 5-2
5-004	5-1, 5-2
5-005(a)	5-1
5-005(b)	5-1
5-006(a)	5-1, 5-2
5-006(b)	5-1
5-006(c)	5-1
5-006(d)	5-1, 5-2
5-006(e)	5-1
5-006(f)	5-1
5-006(g)	5-1, 5-2
5-006(h)	5-1

NOTE: Some structure locations may contain more than one SWMU.

Rev. 1, 3/16/90

STRUCTURE NUMBER	STRUCTURE IDENTIFICATION	STRUCTURE NOMENCLATURE	REMARKS	APPROXIMATE GRID LOCATION
TA-1	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-2	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-3	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-4	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-5	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-6	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-7	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-8	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-9	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-10	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-11	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-12	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-13	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-14	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-15	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-16	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-17	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-18	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-19	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-20	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-21	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-22	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00
TA-23	LABORATORY BUILDING	LABORATORY BUILDING	REMOVED 1970	N 23 00 E 157 00



EXPLANATION
5-001 SWM LOCATION
REV. 1 3/16/90

FIGURE 5-1
SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-5

13	12-12-78	REVISED TO STATUS OF 1-12-78	DATE	BY
12	8-12-77	REVISED TO STATUS OF 8-12-77	DATE	BY
11	8-12-76	REVISED TO STATUS OF 8-12-76	DATE	BY
10	8-12-75	REVISED TO STATUS OF 8-12-75	DATE	BY
9	8-12-74	REVISED TO STATUS OF 8-12-74	DATE	BY
8	8-12-73	REVISED TO STATUS OF 8-12-73	DATE	BY
7	8-12-72	REVISED TO STATUS OF 8-12-72	DATE	BY
6	8-12-71	REVISED TO STATUS OF 8-12-71	DATE	BY
5	8-12-70	REVISED TO STATUS OF 8-12-70	DATE	BY
4	8-12-69	REVISED TO STATUS OF 8-12-69	DATE	BY
3	8-12-68	REVISED TO STATUS OF 8-12-68	DATE	BY
2	8-12-67	REVISED TO STATUS OF 8-12-67	DATE	BY
1	8-12-66	REVISED TO STATUS OF 8-12-66	DATE	BY

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

STRUCTURE LOCATION PLAN
TA-5 BETA SITE

APPROVED FOR: *[Signature]*
DATE: 8-15-81
BY: P.D. SMITH
JOB NO.: 112/73
AS NOTED

ENG-R 2418



NOTES
5-002 LOCATION APPROXIMATE

REVIEWER: *[Signature]*
CLASS: *[Signature]* DATE: 11/2/73



UNCLASSIFIED

UNCLASSIFIED

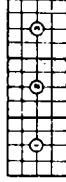
EXPLANATION

5-001 SWMU LOCATION

REV. 1 3/16/90

FIGURE 5-2

SOLID WASTE MANAGEMENT UNITS
(SWMUS) IN TA-5



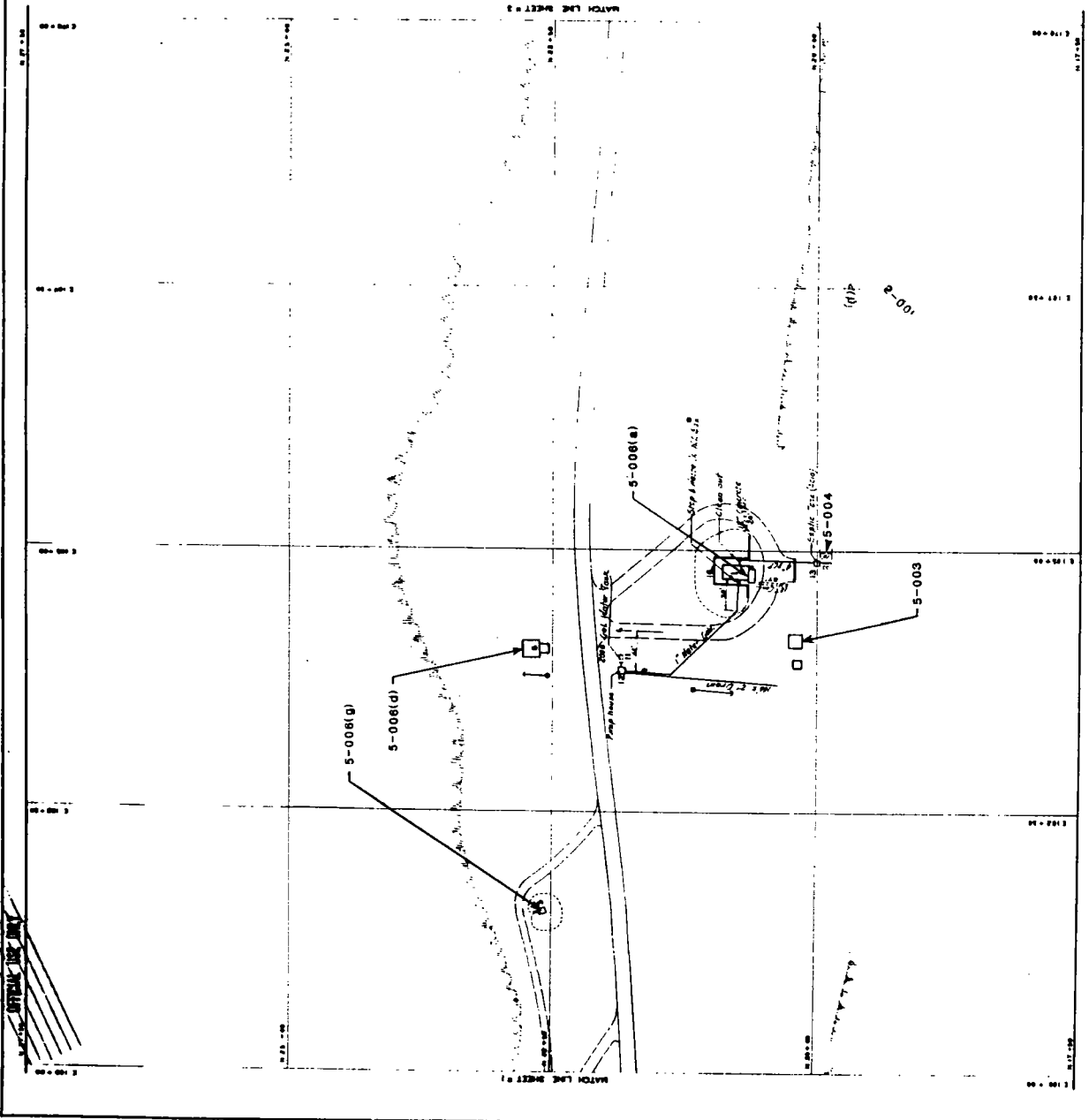
INDEX TO SHEETS
AS SHOWN



STATION 100-2-001

INFO. SHOWN CURRENT AS OF 8-6-98

2	REVISION	REMOVED TO FIELD CHECKED STATUS OF SWMU UNITS	DATE	12/15/98
1	REVISION	REVISED TO FIELD CHECKED STATUS	DATE	12/15/98
0	ISSUE	ISSUED	DATE	08/06/98
PROJECT INFORMATION				
LOS ALAMOS SCIENTIFIC LABORATORY				
UNIVERSITY OF CALIFORNIA				
CHEMISTRY DEPARTMENT				
LAB. ALAMOS, N.M.				
UTILITY LOCATION PLAN				
TA-5 BETA SITE				
WATER & SEWER SYSTEM				
SCALE	DATE	BY	CHKD	
1" = 50.00 FT	8-9-98			
DESIGNED BY	DATE	BY	CHKD	
ENGINEER	DATE	BY	CHKD	
ENG-1512				
LAB. JOB NO.				777



TA-6

OPERATIONS AND ENVIRONMENTAL SETTING

As a result of the 1989 Laboratory redefinition of the technical area boundaries, Technical Area (TA) 6 now includes the locations of former Technical Areas 6 and 7. The former site of TA-6 is only partially active and is used mainly for storage. It dates from the 1940s when it was used to develop initiators, test explosives, and conduct some experiments involving radioactive materials (DOE, 1987a). Currently, the southwest portion of the technical area is used in high explosives research, development and testing. The rest acts as a buffer zone for this activity.

The elevation of TA-6 ranges from 7,100 feet asl at its eastern edge to 7,575 feet asl at its western boundary. TA-6 is located on Two Mile Mesa, a broad mesa bounded on the north by Two Mile Canyon and on the south by Pajarito Canyon. TA-6 is underlain by welded Bandelier Tuff, which is about 200 feet thick at this location (DOE, 1979a). Vegetation is in the Ponderosa Pine/Pinon-Juniper and Ponderosa Pine-fir overstory vegetation zones. The soils in TA-6 consist of Carjo loam, Tocal very fine sandy loam, rock outcrop, Pogna fine sandy loam, fine Typic Eutroboralfs, and Seaby loam (Nyhan et al., 1978).

The potentiometric surface of the main aquifer in the Los Alamos area lies between 6,050 and 6,300 feet asl at TA-6. Therefore, over 1,000 feet of unsaturated tuff and other volcanic rocks are present beneath TA-6. The unsaturated conditions limit infiltration and downward flow rates, and little effect on moisture content is seen in these rocks below about 15 feet due to precipitation (IT,1987a).

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-6

6-001	SEPTIC SYSTEMS
6-002	DECOMMISSIONED SEPTIC SYSTEMS
6-003	FIRING SITE
6-004	SUMP
6-005	PIT
6-006	STORAGE AREAS
6-007	MATERIAL DISPOSAL AREA F AND OTHER LANDFILLS
6-008	DECOMMISSIONED UNDERGROUND STORAGE TANK

SUMMARY

LOCATION : TA-6
 TYPE OF UNIT(s) : SEPTIC SYSTEM
 UNIT USE : TREATMENT/DISPOSAL
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : 1944 - PRESENT
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SANITARY WASTE
 SUSPECTED HAZARDOUS WASTE

UNIT INFORMATION

Two active septic systems are present at TA-6:

SWMU NO.	STRUCTURE	EID NO.	PERIOD OF USE	CAPACITY	DIMENSIONS	CONSTRUCTION	OVERFLOW
6-001(a)	TA-6-40	LA-01	1946 - present	840 gal.	unknown	unknown	drainline
6-001(b)	TA-6-43	LA-02	1946 - present	960 gal.	5' x 9' x 5'9" deep	reinforced concrete	drainline

The capacity of TA-6-40 is listed as 500 gallons on engineering records; the actual capacity of TA-6-40, however, is 840 gallons, according to Registration of an Unpermitted Individual Liquid Waste System Permit. According to engineering drawing R521, septic tank TA-6-40 serves TA-6-1 and -3. Septic tank TA-6-43 serves TA-6-6. TA-6-1 was used as a carpenter's shop, and TA-6-3 was used as a silkscreen facility. TA-6-6 is used as an office, laboratory, and shop. These tanks are used infrequently at present. According to HSE-8's Active Septic Tank Systems survey, the drainline for TA-6-40 was plugged in 1988 and the drainline for TA-6-43 was plugged in 1989.

WASTE INFORMATION

Septic tanks TA-6-40 and TA-6-43 currently handle only sanitary waste. However, since laboratory operations have taken place at TA-6, liquid wastes during previous years may have included NE solvents and other chemicals.

RELEASE INFORMATION

TA-6-40 and -43 overflow to drainlines. The discharge points for TA-6-40 and -43 are holding tanks.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
6-001(a)	TA6-5-ST/CA-A/1-HW	6.004		TA-6-40, -1, -3
6-001(b)	TA6-5-ST/CA-A/1-HW	6.005		
		6.004		TA-6-43, -6
		6.005		
		6.009		

SUMMARY

LOCATION : TA-6 MATERIALS MANAGED : HAZARDOUS WASTE
TYPE OF UNIT(S) : SEPTIC SYSTEM
UNIT USE : TREATMENT/DISPOSAL
OPERATIONAL STATUS : DECOMMISSIONED
PERIOD OF USE : 1945 - 1965
HAZARDOUS RELEASE : UNKNOWN
RADIOACTIVE RELEASE : NONE

UNIT INFORMATION

TA-6-41 was a septic tank that was installed in 1945 and removed in 1965. The tank was constructed of steel and had a capacity of 1,000 gallons. TA-6-41 served as a collection point for effluent from several buildings, including TA-6-10, which was used for HE assembly. The discharge point for the tank is unknown, but is assumed to have been a drain field.

WASTE INFORMATION

Septic tank TA-6-41 received wastes which included PETN, a type of explosive. When the tank was removed the sludge was placed in the HE burial pit and, after washing, the tank was placed in MDA-P.

RELEASE INFORMATION

It is not known whether the soils surrounding TA-6-41 were sampled for HE when the tank was removed in 1965.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
6-002	TA6-4-ST/CA-1-HW			TA-6-41, -10

SUMMARY

LOCATION : TA-6
 TYPE OF UNIT(s) : FIRING SITE
 UNIT USE : TESTING
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1940s - 1960s
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : KNOWN

MATERIALS MANAGED : RADIOACTIVE WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

Several firing areas were used in TA-6: 1) a saucer-shaped concrete-lined depression, TA-6-37 [6-003(a)], 200' in diameter, built in 1944 and abandoned in 1960; 2) a containment vessel [6-003(b)], location unknown, used in HE tests; 3) an asphalt pad [6-003(c)] measuring about 10' x 20' and located south of the road between the saucer and the magazine complex; 4) a reinforced concrete and steel plate structure (12' x 19' x 12' high) in the laboratory area at TA-6-7 [6-003(d)], used to conduct detonator tests; and 5) two reinforced concrete and steel plate structures at TA-6-9 [6-003(e)], one 10' x 19' x 10' and the other 16' x 10' x 10', also used to conduct detonator tests.

WASTE INFORMATION

Shots fired in the saucer-shaped depression included uranium and tuballoy. The depression was washed after tests and the rinsate was filtered to recover some of the material. Shots using uranium were also fired on the asphalt pad. It is unknown what other materials may have been present in the shots, but barium, lead, and beryllium may have been included. Shots in the laboratories (TA-6-7 and TA-6-9) probably included only HE.

RELEASE INFORMATION

Sampling in 1978 indicated uranium at levels above background on the asphalt pad. Additionally, the area around the asphalt pad has elevated levels of phoswich counts. Detailed sampling activities for nonradionuclides have not been undertaken.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
6-003(a)	TA6-1-CA-I-HW/RW	6.007		TA-6-37
6-003(b)	TA6-1-CA-I-HW/RW			
6-003(c)	TA6-1-CA-I-HW/RW	6.013		
6-003(d)	TA6-1-CA-I-HW/RW			TA-6-7
6-003(e)	TA6-1-CA-I-HW/RW			TA-6-9

SUMMARY

LOCATION : TA-6
TYPE OF UNIT(S) : SUMP
UNIT USE : STORAGE/DISPOSAL
OPERATIONAL STATUS : INACTIVE
PERIOD OF USE : 1940s
HAZARDOUS RELEASE : SUSPECTED
RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

The sump and associated drain were located about 170 yards east of TA-6-10. The dimensions and construction of the sump are not known. The drain line extended from the sump to about 30 yards east/southeast where it opened to ground level.

WASTE INFORMATION

The sump received liquids that are suspected to have contained PETN (a type of HE) from the recrystallization facility in Building 10.

RELEASE INFORMATION

Present infield surveys have failed to find the sump area and the decant drain region. These may have been removed. The extent of contamination, if any, is unknown. A memo indicates that soluble nitrates may be present at elevated levels around the sump.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
6-004	TA6-3-S-1-HW			TA-6-10

SUMMARY

LOCATION : TA-6
 TYPE OF UNIT(s) : PIT
 UNIT USE : UNKNOWN
 OPERATIONAL STATUS : DECOMMISSIONED
 PERIOD OF USE : 1940s
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : UNKNOWN

UNIT INFORMATION

TA-6-42 was an enclosed pit, about 16' x 16' x 8', with timbered sides. The pit was constructed in June 1945. The purpose of the pit is not known. According to LANL staff it may have been a firing pit. The pit is reported to have been backfilled with soil in 1952. As reported in CEARP, engineering records indicate the pit to be 1000 feet northeast of TA-6-37.

WASTE INFORMATION

Information on the type of waste is lacking. If the unit was used as a firing pit, uranium and HE residuals could be waste constituents. If the pit was used for a different purpose, the composition of any residuals cannot be ascertained.

RELEASE INFORMATION

It is unknown whether a release of hazardous waste occurred.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
6-005	TA6-10-CA-1-HW			TA-6-42

SUMMARY

LOCATION	: TA-6	MATERIALS MANAGED	: SUSPECTED HAZARDOUS WASTE
TYPE OF UNIT(S)	: CONTAINER STORAGE AREA		SUSPECTED PCBs
UNIT USE	: STORAGE		
OPERATIONAL STATUS	: INACTIVE		
PERIOD OF USE	: LATE 1970s - 1980s		
HAZARDOUS RELEASE	: SUSPECTED		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

A storage area for drums was located near buildings TA-6-5 and TA-6-6; they were identified in the CEARP and in the RFA. The area was estimated to be 300' x 20' and was partially surrounded by a 4' berm. Old equipment, in addition to drummed wastes and raw materials, was also stored in this area. A November 1988 field survey verified that drums, which appear to contain oil, capacitors, and other equipment, remain at the site.

WASTE INFORMATION

The wastes stored consisted of capacitors, transformer oil, and other unknown wastes. The oil from the capacitors and transformers may have contained PCBs, according to the RFA.

RELEASE INFORMATION

During the CEARP field survey, evidence of spills and leaks were noted. The RFA stated that an "organic" sheen was observed on the concrete and soil during the VSI. The November 1988 field survey reported similar findings.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
6-006	TA6-B-CA-A-HW/PP	6.003 6.010		TA-6-6, -5

SUMMARY

LOCATION : TA-6
 TYPE OF UNIT(s) : LANDFILL
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1940s - 1950s
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : RADIOACTIVE WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

MDA-F [6-007(a)] contains two pits inside a fenced area. It is believed that other pits may be just outside the fenced area, including a pit [6-007(b)], estimated to be 40' x 70', observed on photos taken during an aerial survey conducted in the 1940s. Additionally, there are work orders for pits measuring 6' x 6' x 6' [6-007(c)] and 2' x 2' x 4' [6-007(d)], which are believed to have been excavated at TA-6. These pits are assumed to be those sampled in the DOE Environmental Survey in 1987, along with one other pit [6-007(e)]. Several other pits may also have been constructed. A magnetometer survey was conducted in 1986; the results indicate that there is probably little ferrous material within the fenced area and that there were additional pits outside the fenced area. Some surface stabilization at MDA-F was completed in FY-86. The RFA describes four contaminated surface disposal areas near TA-6-3. It is unknown whether these disposal areas are actually one in the same unit; they are designated SWMU No. 6-007(f).

WASTE INFORMATION

The wastes in these units probably include experimental pieces, small quantities of radionuclides, and possibly some unexploded HE material.

RELEASE INFORMATION

The air at the perimeter of this site is sampled annually for radioactivity; the site is at background levels. It is unknown whether releases to soil have occurred or if unexploded HE remain (if so, any decommissioning activities could potentially be dangerous). Some surface stabilization has been undertaken. The DOE Environmental Survey, Problem 22, present results of radionuclide sampling at inactive landfills. Several samples were taken at three pits in TA-6, south of Two Mile Mesa Road and west of TA-6-37 (concrete saucer-shaped firing site). These sites have been designated 6-007(c) through (e). One sample taken from the perimeter of one of the pits showed activity above background levels (>300 pCi/Kg).

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
6-007(a)	TA6-9-L-1-HW/RW MDA-F	6.001 6.002		MDA-F
6-007(b)	TA6-9-L-1-HW/RW			
6-007(c)	TA6-9-L-1-HW/RW			
6-007(d)	TA6-9-L-1-HW/RW			
6-007(e)	TA6-9-L-1-HW/RW			

**TA-6 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX**

SWMU	FIGURE NUMBER
6-001(a)	6-1, 6-3
6-001(b)	6-1, 6-3
6-002	6-2
6-003(a)	6-1
6-003(b)	Not shown, location unknown
6-003(c)	6-2
6-003(d)	6-1
6-003(e)	6-1
6-004	6-2
6-005	Not shown
6-006	6-1
6-007(a)	6-1, 6-2, 6-4
6-007(b)	6-1, 6-2, 6-4
6-007(c)	6-1
6-007(d)	6-1
6-007(e)	6-1
6-007(f)	6-1
6-008	6-1

NOTE: Some structure locations may contain more than one SWMU.

Rev. 1, 7/3/90

SUMMARY

LOCATION : TA-6
 TYPE OF UNIT(s) : UNDERGROUND STORAGE TANK
 UNIT USE : STORAGE
 OPERATIONAL STATUS : DECOMMISSIONED
 PERIOD OF USE : 1940s - 1980s
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

The underground storage tank designated TA-6-47 was intended for storage of diesel fuel. At the time of decommissioning, the tank was thought to store diesel fuel for a back-up generator. The tank's capacity was 2,000 gallons. The tank was emptied and removed in 1987. The area was backfilled and the tank disposed of at the county landfill. The former location of the tank is near TA-6-37 [see 6-003(a)], a concrete, saucer-shaped firing site.

WASTE INFORMATION

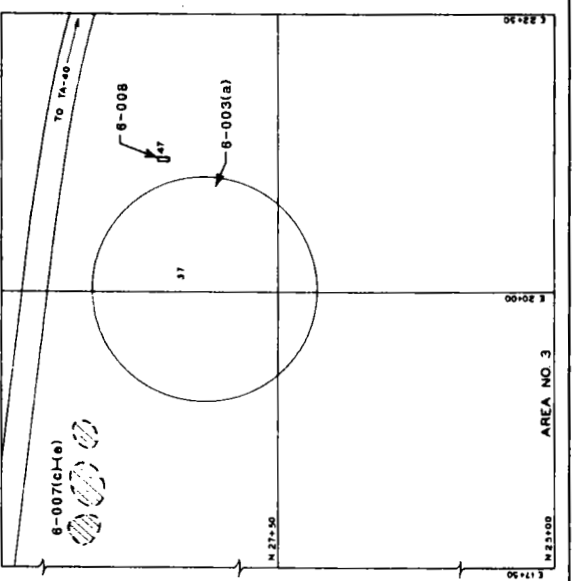
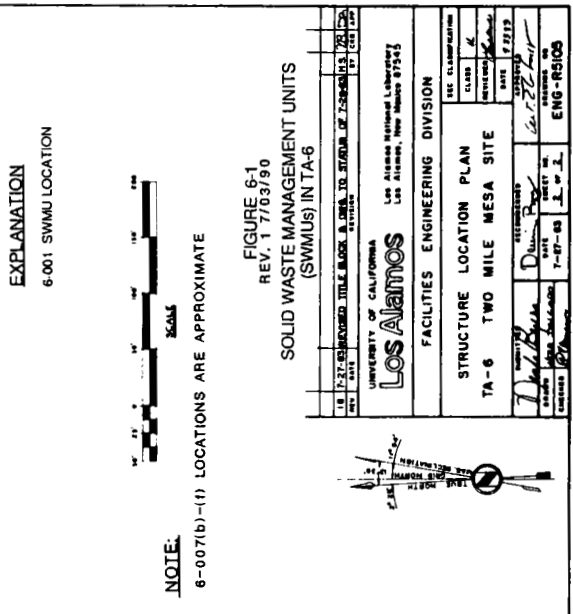
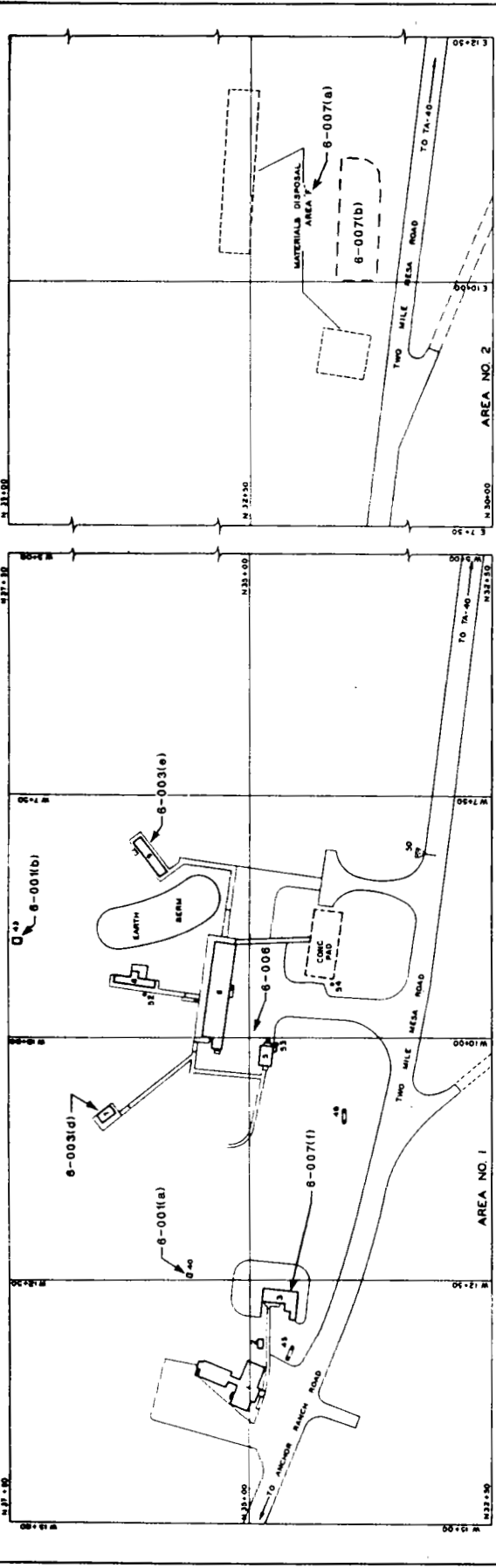
At the time of decommissioning, the tank was approximately 1/3 full of a watery substance. A 1959 survey of vacated LASL structures reported that TA-6-47 was contaminated with HE. An undated inventory of TA-6 structures indicated that the tank received washdown water from firing site TA-6-37.

RELEASE INFORMATION

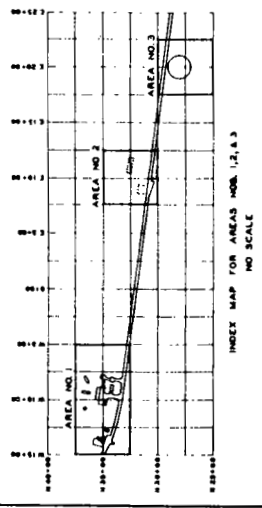
At the time of decommissioning, the tank was reported not to have been leaking. Before removal, the liquid in the tank was analyzed for radioactivity and no detectable levels were found. Until site characterization yields information that indicates there were no releases, it must be assumed, based on historic information, that old underground storage tanks have leaked.

SWMU CROSS-REFERENCE LIST

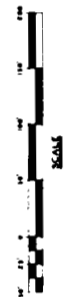
<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
6-008	TA6-UST-1-HW/PP			TA-6-47, -37



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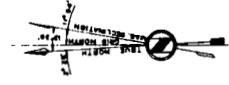
EXPLANATION
6-001 SWMU LOCATION



NOTE:
6-007(b)-(f) LOCATIONS ARE APPROXIMATE

FIGURE 6-1
REV. 1/7/03/90
SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-6

UNIVERSITY OF CALIFORNIA Los Alamos Los Alamos Regional Laboratory Los Alamos, New Mexico 87545	FACILITIES ENGINEERING DIVISION
PROJECT NO. 18-27-63-REMOVED TITLE BLOCK & AREA ID. STUDY OF 2-28-90 DATE 12/28/90	SEC. CLASSIFICATION
CLASS K	REVISIONS
DATE 6-22-93	DESIGNED BY <i>[Signature]</i>
CHECKED BY <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>
DATE 7-07-93	SHEET NO. 1 OF 1
PROJECT NO. ENO-R305	



OFFICIAL USE ONLY

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-6-1	TM-1	SHOP
TA-6-2	TM-2	CARRIAGE COMPRESSOR BLDG.
TA-6-3	TM-3	OFFICE BLDG.
TA-6-4	TM-4	MAGAZINE M
TA-6-5	TM-5	INSPECTION BLDG.
TA-6-6	TM-6	LABORATORY
TA-6-7	TM-7	LABORATORY
TA-6-8	TM-8	LABORATORY
TA-6-9	TM-9	LABORATORY
TA-6-10	TM-10	LABORATORY
TA-6-11	TM-11	L'AB (RELOCATED TO CONT DUMP 895)
TA-6-12	TM-12	STORAGE BLDG. (REMOVED)
TA-6-13	TM-13	STORAGE BLDG.
TA-6-14	TM-14	STORAGE BLDG.
TA-6-15	TM-15	BOILER BLDG.
TA-6-16	TM-16	MAGAZINE T
TA-6-17	TM-17	MAGAZINE I
TA-6-18	TM-18	STORAGE BLDG. (REMOVED 1944)
TA-6-19	TM-19	STORAGE BLDG. (FORMERLY B-A)
TA-6-20	TM-20	LABORATORY (FORMERLY 19)
TA-6-21	TM-21	MAGAZINE C (FORMERLY 20)
TA-6-22	TM-22	MAGAZINE D (FORMERLY 21)
TA-6-23	TM-23	MAGAZINE E (FORMERLY 22)
TA-6-24	TM-24	MAGAZINE F (FORMERLY 23)
TA-6-25	TM-25	MAGAZINE L (FORMERLY 24)

STRUCTURE NUMBER	DESIGNATION	REMARKS
TA-6-26	TM-26	MAGAZINE N (FORMERLY 25)
TA-6-27	TM-27	MAGAZINE O (FORMERLY 26)
TA-6-28	TM-28	MAGAZINE A (FORMERLY 27)
TA-6-29	TM-29	MAGAZINE B (FORMERLY 28)
TA-6-30	TM-30	MAGAZINE P (FORMERLY 29)
TA-6-31	TM-31	TRAILER SHOP (FORMERLY 30)
TA-6-32	TM-32	AIR COMPRESSOR BLDG. (FORM 31)
TA-6-33	TM-33	LUMBER STORAGE BLDG. (FORM 32)
TA-6-34	TM-34	STORAGE BLDG. (FORM 33)
TA-6-35	TM-35	FIRE EQUIP. & HOSE BLDG. (FORM 34)
TA-6-36	TM-36	MAGAZINE N (FORMERLY 35)
TA-6-37	TM-37	CONCRETE BOWL (FORMERLY 36)
TA-6-38	TM-38	GENERATOR BLDG. (FORMERLY 37)
TA-6-39	TM-39	STORAGE TANK (FORMERLY 38)
TA-6-40	TM-40	SEPTIC TANK
TA-6-41	TM-41	SEPTIC TANK
TA-6-42	TM-42	ENCLOSED PIT (REMOVED)
TA-6-43	TM-43	SEPTIC TANK
TA-6-44	TM-44	BARRICADE (REMOVED)
TA-6-45	TM-45	TRANSFORMER STATION
TA-6-46	TM-46	TRANSFORMER STATION
TA-6-47	TM-47	UNDERGROUND TANK
TA-6-48	TM-48	SHELTER

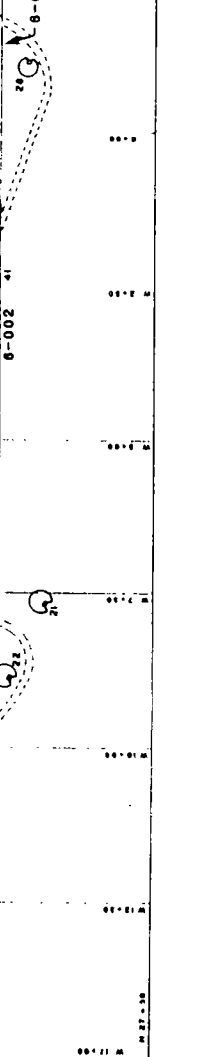
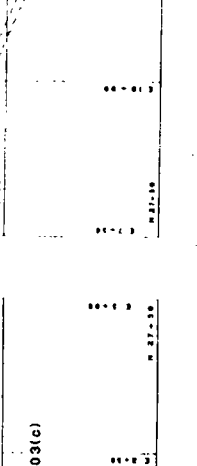
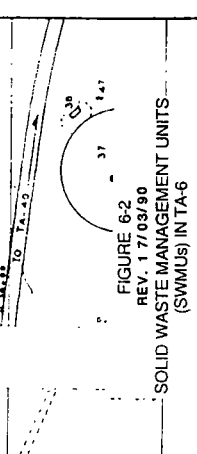
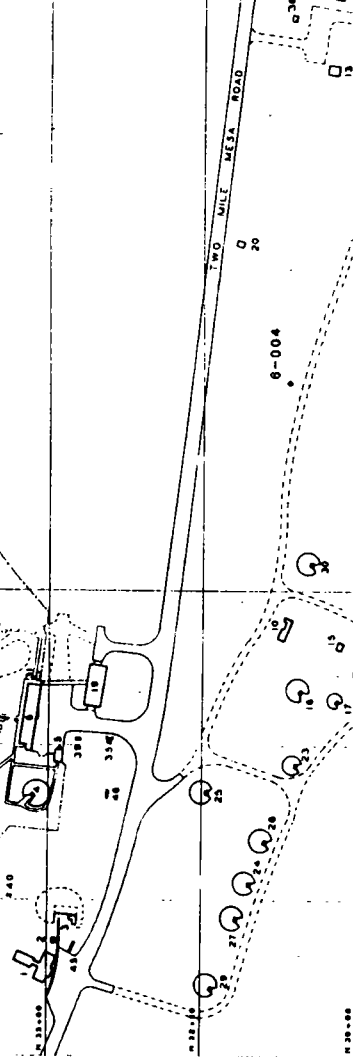
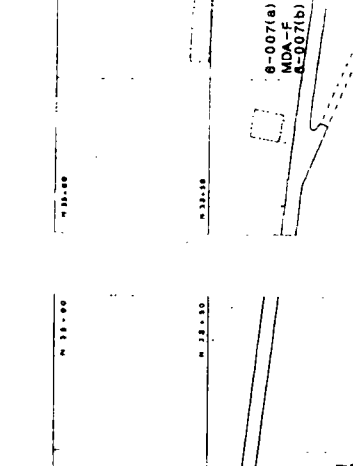
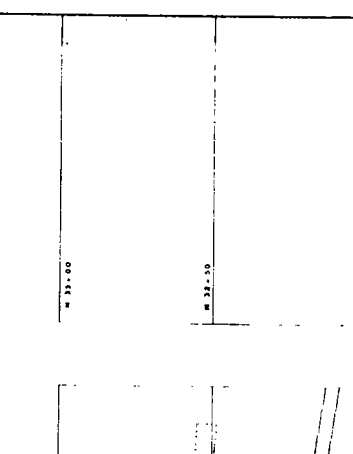
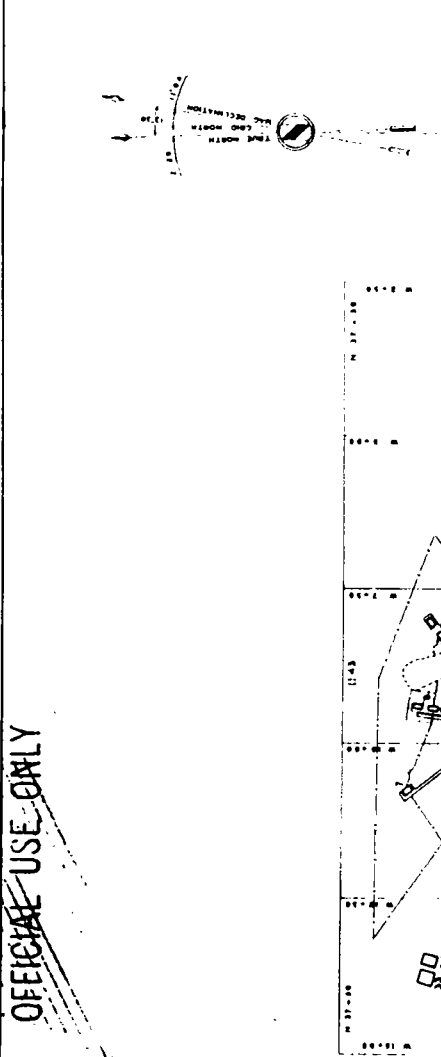


FIGURE 6-2
REV. 1 7/03/80
SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-6

UNCLASSIFIED

EXPLANATION

6-001 SWMU LOCATION

NOTES

UNIT 6-003 (c): UNIT IS A FIRING PAD, EXACT LOCATION UNAVAILABLE.

UNIT 6-004: UNIT LOCATION IS APPROXIMATE.

NO. 1	DATE	REVISIONS	TO STATUS OF	DATE	BY

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

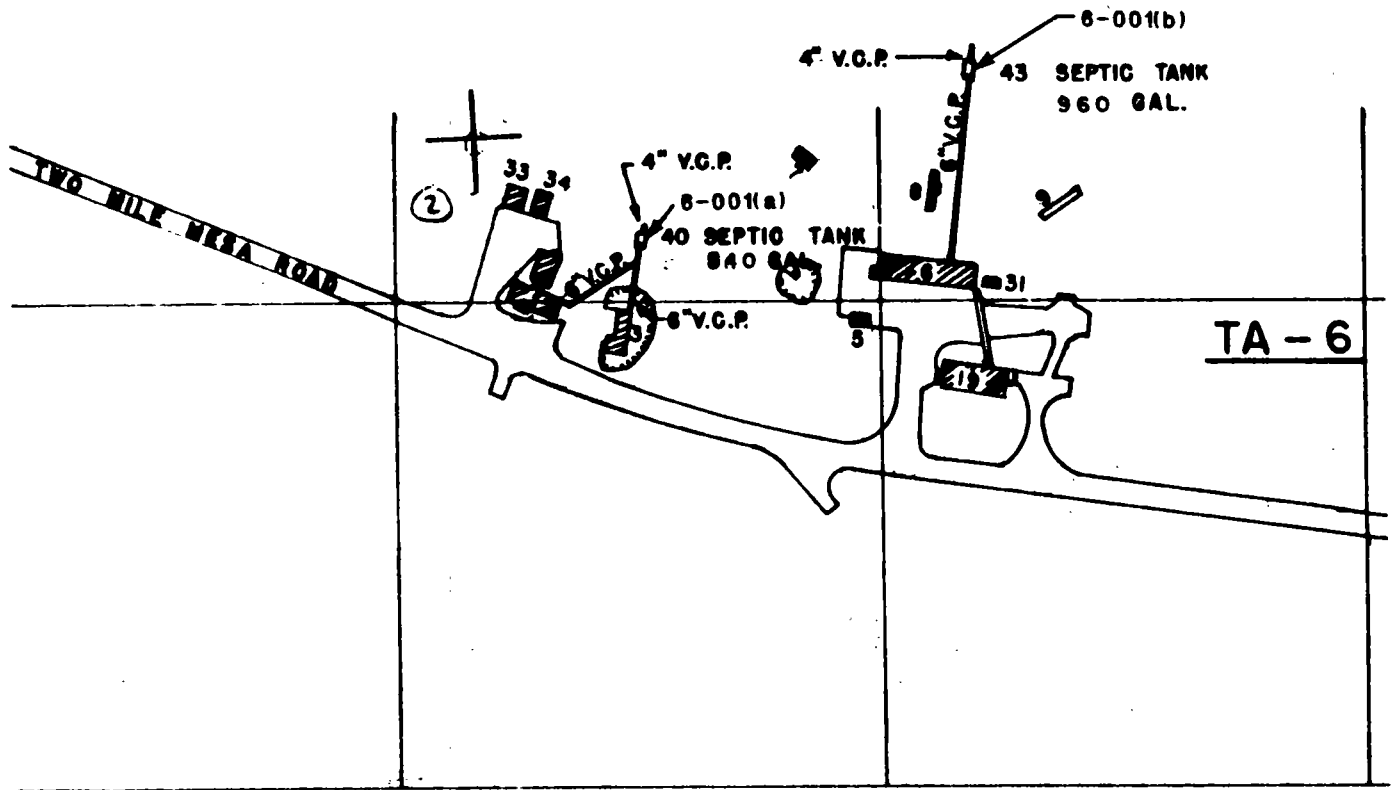
STRUCTURE LOCATION PLAN
TA-6 TWO MILE MESA SITE

APPROVED FOR: *[Signature]*
DATE: 9/28/85
SCALE: 1" = 100'

HEALTH SAFETY FIRE PROT. AUTHORIZED FOR: *[Signature]*

PROJECT: ENG-R 120

OFFICIAL USE ONLY



EXPLANATION

6-001 SWMU LOCATION

From the U. S. Atomic Energy Commission
Sewer System. The Zia Company
Sheet N-1 of W-1
Scale 1" = 200'

REV. 1 7/03/90

FIGURE 6-3

SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-6

EXPLANATION
6-007 SWMU LOCATION

UNCLASSIFIED

THIS DRAWING IS UNCLASSIFIED
DATE 07/03/90 BY [signature]

NOTE: THE LOCATION OF SOLID WASTE MANAGEMENT UNITS (SWMUS) IS APPROXIMATE.
DATE: 07/03/90 BY: [signature]

NOTE:
6-007(b) LOCATION IS APPROXIMATE

FIGURE 6-4
REV. 1 07/03/90
SOLID WASTE MANAGEMENT UNITS
(SWMUS) IN TA-6

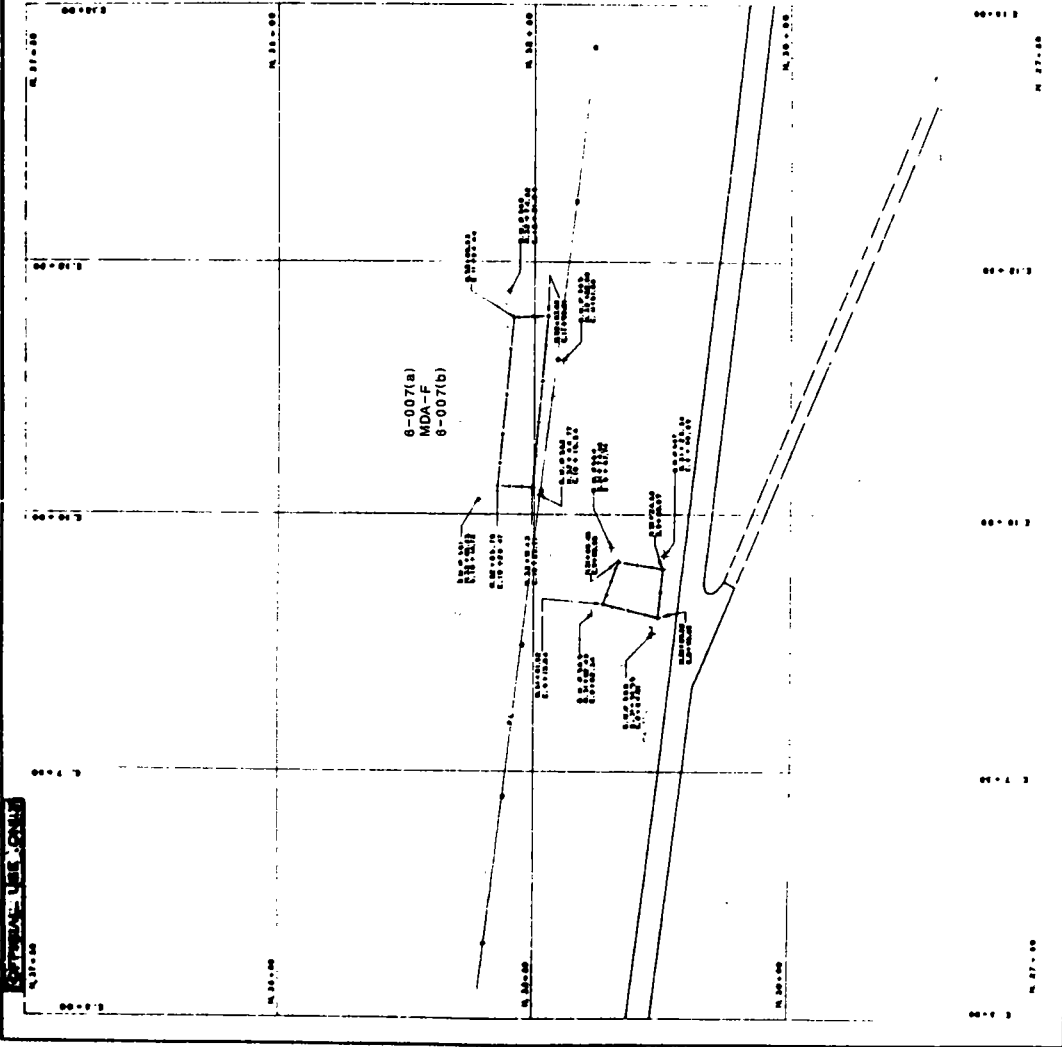
JAMES

* U.S.A. L. 10000 SERIES MAP

100 ALABAMA SCIENTIFIC LABORATORY UNIVERSITY OF ALABAMA	
MATERIALS	WASTE PIT
AREA 'F'	TA-6
DATE: 07-90	ENC-R190
SCALE: 1" = 100'	

OFFICIAL USE ONLY

U100 - New PWS - 2-3045



TA-7 OPERATIONS AND ENVIRONMENTAL SETTING

As a result of the 1989 Laboratory redefinition of the technical area boundaries, the former TA-7 was incorporated into Technical Area 6. Currently, Technical Area (TA) 7 is inactive. The area was used for weapons stockpile storage, a detonator destruction pit, and a few field experiments. Any buildings that may have been present were decommissioned and decontaminated (DOE, 1987a).

The area lies at about 7,390 feet asl. It is located near the eastern end of Two Mile Mesa, where it is divided by small branch canyons of Pajarito Canyon. The location of TA-7 is in the Ponderosa Pine overstory vegetation zone. The soil consist of Carjo loam. The area is underlain by welded Bandelier Tuff, which is about 200 feet thick at this location (Nyhan et al., 1978).

The potentiometric surface of the main aquifer in the Los Alamos area lies at about 6,200 feet asl at former TA-7 (IT, 1987a). Therefore, over 1,000 feet of unsaturated tuff and other volcanic rocks are present beneath the former technical area. The unsaturated conditions limit infiltration and downward flow rates, and little effect on moisture content due to precipitation is seen in these rocks below about 15 feet .

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-7

7-001

FIRING PITS AND DETONATOR DISPOSAL

SUMMARY

LOCATION : TA-7
 TYPE OF UNIT(s) : FIRING SITE
 UNIT USE : DISPOSAL/TESTING
 OPERATIONAL STATUS : DECOMMISSIONED
 PERIOD OF USE : 1944 - LATE 1940s
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : KNOWN

MATERIALS MANAGED : RADIOACTIVE WASTE
 HAZARDOUS WASTE

UNIT INFORMATION

Two firing pits, [7-001(a)] and [7-001(b)], were used in TA-7 for explosives experiments using radioactive materials until the late 1940s. Later one pit was used for destroying detonators and scrap HE. They are located on the eastern portion of the Gomez Ranch site. The pits today are approximately 30' in diameter and surrounded by earthen banks about 5' high.

WASTE INFORMATION

The residues from experiments and destruction activities included shot debris, depleted uranium, and pieces of detonators. Some scrap HE and PBX pellets may also be present.

RELEASE INFORMATION

Presently, the only visible evidence of activity is the firing pit areas. The area was surveyed for scrap and all pieces located were removed. It is possible that some small buried items may remain.

NOTES

The location of this SWMU is within the current boundaries of TA-6.

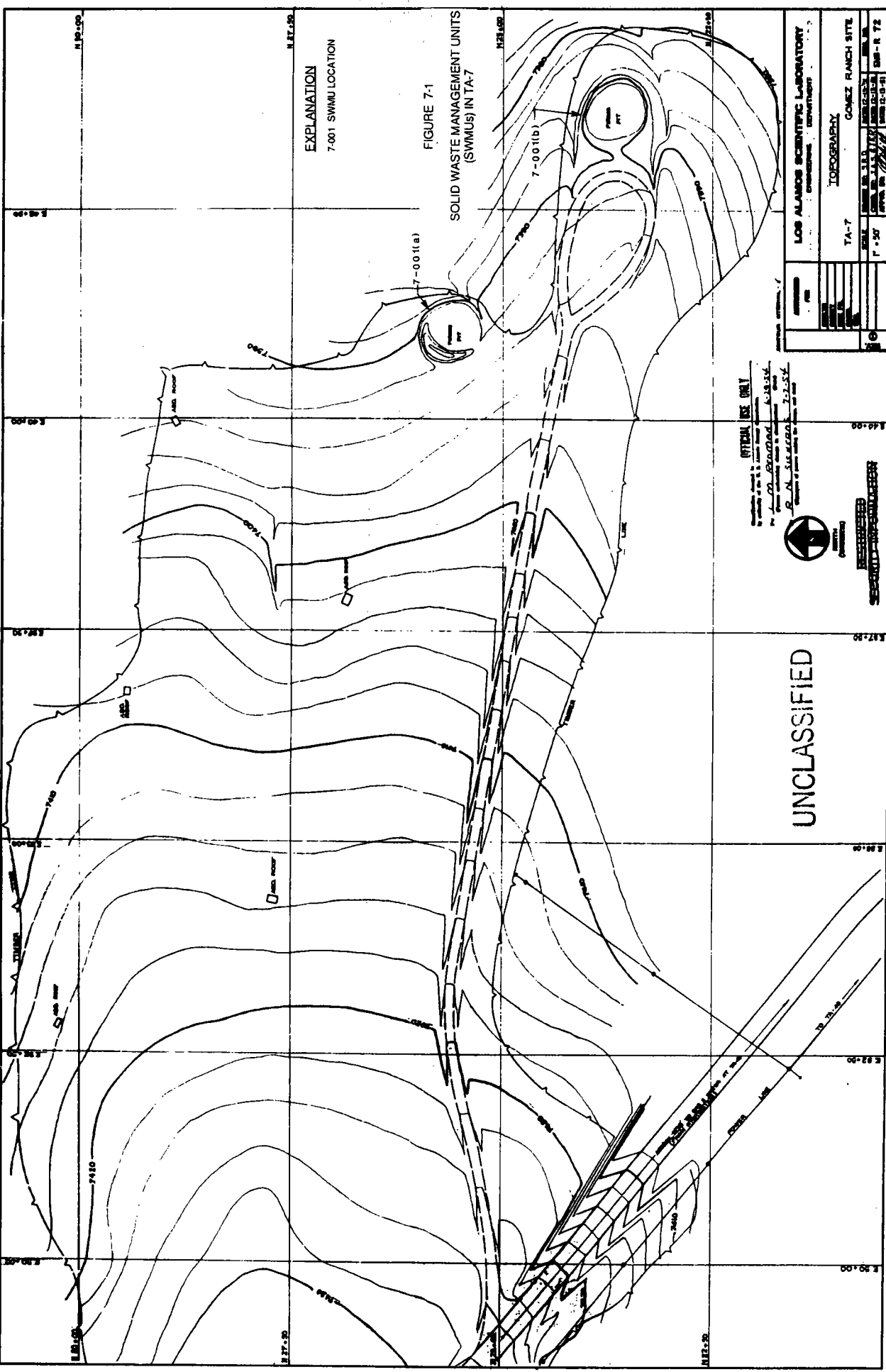
SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
7-001(a)	TA7-1-CA-1-HW		7.001-	
	TA7-2-CA-1-HW		7.003	
7-001(b)	TA7-1-CA-1-HW		7.001-	
	TA7-2-CA-1-HW		7.003	

**TA-7 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX**

SWMU	FIGURE NUMBER
7-001(a)	7-1
7-001(b)	7-1

NOTE: Some structure locations may contain more than one SWMU.



TA-8 OPERATIONS AND ENVIRONMENTAL SETTING

Technical Area (TA) 8 is the site of non-destructive testing and administration. Structures in the area include a laboratory and office building containing a large photographic facility, x-ray machines, and Fabrication and Assembly Group's betatron. A small amount of explosive material is stored at TA-8 (DOE, 1987a).

Elevation ranges from about 7,550 feet asl at the eastern edge of TA-8 to 7,800 feet asl at the western edge. TA-8 lies in the northwestern section of the Laboratory on a broad mesa drained by branches of Pajarito Canyon on the north and east and by Canon de Valle on the south. Canyons are not as deeply incised nor are their walls as steep as the slopes and cliffs of the finger mesas further east on the Pajarito Plateau. The area is underlain by the Bandelier tuff which is welded at the surface. The technical area lies mostly in the Ponderosa Pine/Pinon-Juniper overstory vegetation zone, with small areas in Ponderosa Pine-fir and Shrub-Grass-Forb overstory vegetation zones. Soils in TA-8 include Carjo loam, fine and clayey-skeletal Typic Eutroboralfs, and Tocal very fine sandy loam (Nyhan et al., 1978).

The potentiometric surface of the main aquifer in the Los Alamos area lies at about 6,300 to 6,400 feet asl. Over 1,000 feet of unsaturated tuff and volcanic rock separates the surface from the underlying aquifer. Studies have shown the potential for downward movement of water from the surface is very low because of the hydraulic properties of the tuff and its very low moisture content (IT, 1987a).

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-8

8-001	OFF-GAS FACILITIES
8-002	FIRING SITE
8-003	INACTIVE SEPTIC TANKS
8-004	DRAINS AND SUMPS
8-005	WASTE STORAGE VESSEL
8-006	MATERIAL DISPOSAL AREA Q
8-007	SILVER RECOVERY RESIN BED
8-008	TRANSFORMER STORAGE AREA
8-009	DRAINS AND OUTFALLS
8-010	WASTE CONTAINER STORAGE AREA
8-011	DECOMMISSIONED UNDERGROUND STORAGE TANKS

SUMMARY

LOCATION : TA-8
 TYPE OF UNIT(s) : OFF-GAS SYSTEM
 UNIT USE : TREATMENT/DISPOSAL
 OPERATIONAL STATUS : DECOMMISSIONED/INACTIVE
 PERIOD OF USE : EST. 1940s - 1960s
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

Buildings TA-8-1 and TA-8-2 were used as laboratories in the development and storage of explosives at TA-8 (Anchor Site West). The buildings were built prior to 1947 and currently remain in place. Various types of chemical operations including HE formulation and crystal growing were conducted in TA-8-1. These processes caused the off-gas ducts [8-001(a)] to become chemically contaminated. The ducts are thought to have been removed. Building TA-8-2 was also used in the production of HE, but the status of the off-gas system [8-001(b)] is unknown. The buildings may potentially contain small amounts of residual HE from leaks in the ducts.

WASTE INFORMATION

Chemicals used in these processes included terphenyl and alpha naphthyl phenyl oxazole which were added as scintillators to styrene. Methyl chloroform was also used. Flammable residues were possible from work with styrene. HE formulation work was also conducted. Contaminants identified at TA-8-1 include explosives, styrene, thallus iodide, cyanogen, and methyl chloroform. Cyanogen was reported to have been used at TA-8-1, at least in 1960. Memos from 1967 and 1971 mention storage of a source, high flash point oil, styrene, and HE containers.

RELEASE INFORMATION

Explosives contamination was identified at TA-8-2; it is possible that the contamination came from the ducts. There are no known releases associated with the contaminated ducts in TA-8-1 or with their possible removal.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
8-001(a)	TAB-2-CA-1-HW/RW TAB-4-CA-1-HW		Tsk 36 : 21	TA-8-1
8-001(b)	TAB-2-CA-1-HW/RW		Tsk 36 : 23	TA-8-2

SUMMARY

LOCATION : TA-8
 TYPE OF UNIT(S) : FIRING SITE
 UNIT USE : TESTING/DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1943 - 1945
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : KNOWN

MATERIALS MANAGED : HAZARDOUS WASTE
 SUSPECTED MIXED WASTE
 RADIOACTIVE WASTE

UNIT INFORMATION

A gun firing site was believed to have been located south of TA-8-1 and east of TA-8-23 and was used during the war for gun firing tests. A three-inch gun was fired in 1943, and at the end of 1943 and beginning of 1944 a series of ballistic tests were performed. Some of the projectiles contained uranium cores. Tests of large guns were also performed. In 1945, TA-8 was turned over for explosives research, and firing and testing of guns was discontinued at the site.

WASTE INFORMATION

Some of the projectiles contained uranium and possibly lead and other metals. Explosives contamination is also likely.

RELEASE INFORMATION

Above-background levels of radioactivity are present at the site. It is unknown whether a hazardous release has occurred.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
8-002	TAB-1-CA-1-HM/RW		Tsk 36 : 39	TA-8-1, -23

SUMMARY

LOCATION : TA-8
 TYPE OF UNIT(s) : SEPTIC SYSTEM
 UNIT USE : TREATMENT/DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : SEE BELOW
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : SANITARY WASTE
 SUSPECTED HAZARDOUS WASTE
 SUSPECTED MIXED WASTE

UNIT INFORMATION

The inactive septic tanks in TA-8 include:

STRUCTURE	SWMU NO.	CAPACITY/DIMENSIONS	CONSTRUCTION	BUILT/ABANDONED	BUILDING SERVED
TA-8-59	8-003(a)	5'10" x 10'4" x 6'	reinforced concrete	1943/unknown	TA-8-1
TA-8-64	8-003(b)	500 gallons	steel	1949/1949	TA-8-11
TA-8-67	8-003(c)	500 gallons	not available	1949/1968	TA-8-9

Currently, domestic sewage is routed to TA-9. TA-8-67 has been filled with earth. TA-8-67 also includes the outfall and septic tank lines from the inactive septic tank. The outfall discharged to the west of the tank. TA-8-64 is located north of TA-8-1. Structures TA-8-9 and TA-8-11 were removed in 1968 and 1950, respectively.

WASTE INFORMATION

The tanks handled sanitary waste. In addition, liquids in tanks TA-8-59 and -67 may have contained spent photo processing solutions, chemicals, and HE residues.

RELEASE INFORMATION

The extent of possible hazardous releases from the septic systems is not known. Samples were taken from the TA-8-59 [8-003(a)] septic tanks as part of the DOE Environmental Survey Environmental Problem 24. The samples were analyzed for Cs-137, U-235, Pu-238, Pu-239, Pu-240, Sr-90, and total uranium. Analytical results indicated the presence of radionuclides at concentrations above detection limits.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
8-003(a)	TAB-5-CA/ST/O-A/I-HW/RW		Tsk 36 : 3	TA-8-59, -1
8-003(b)	TAB-5-CA/ST/O-A/I-HW/RW		Tsk 37 : 89	TA-8-64, -11
8-003(c)	TAB-5-CA/ST/O-A/I-HW/RW		Tsk 37 : 87 88	TA-8-67, -9

SUMMARY

LOCATION : TA-8
 TYPE OF UNIT(S) : SUMP
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : EST. 1940s - 1960s
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : KNOWN

MATERIALS MANAGED : HAZARDOUS WASTE
 RADIOACTIVE WASTE

UNIT INFORMATION

SWMU NO.	DESCRIPTION	LOCATION
8-004(a)	Floor drain	TA-8-1, Laboratory and Shop Building
8-004(b)	Drainline	TA-8-2, East Bay, Shop and Storage Building
8-004(c)	Floor drain	TA-8-3, Laboratory Building
	2 sumps	Behind TA-8-3
8-004(d)	Drain	TA-8-24, Isotope Building

Buildings 1, 2, and 3 [8-004(a), (b), and (c)] were used as laboratories for explosives development and storage. These buildings still remain in place. TA-8-24 [8-004(d)] is a radiographic facility that contains a control room and a source. TA-8-24 was used for studies on high explosives, plutonium, uranium, and other materials, including arsenic, lithium hydride, and titanium dioxide. It was the practice in the 1960s to dispose of water-miscible solvents, acids, alkali, and other chemicals in laboratory sinks and drains after they were diluted with water. In 1972, a recommendation was made to seal and mark the floor drains in Building 1, the East Bay of Building 2, and Building 3 as explosive-contaminated, as well as the sumps outside of Building 3. The drains in Building TA-8-24 are reported to be contaminated with strontium-90 [8-004(d)].

WASTE INFORMATION

The waste in Buildings 1, 2, and 3 drains consisted of HE residues and chemicals. TA-8-24 drains contain strontium-90 from wash water that was poured down the drain. Possible contaminants at TA-8-3 include uranium-235 and plutonium.

RELEASE INFORMATION

Drain release points for Buildings 1, 2, and 3 are unknown. A drain from TA-8-24 is believed to have connected to a septic tank, TA-9-81.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
8-004(a)	TAB-5-CA/ST/O-A/I-HW/RW TAB-2-CA-I-HW/RW	8.003	Tsk 36 : 4	TA-8-1
8-004(b)	TAB-5-CA/ST/O-A/I-HW/RW TAB-2-CA-I-HW/RW	8.003	Tsk 37 : 90	TA-8-2
8-004(c)	TAB-5-CA/ST/O-A/I-HW/RW TAB-2-CA-I-HW	8.003	Tsk 36 : 5 6 25	TA-8-3
8-004(d)	TAB-5-CA/ST/O-A/I-HW/RW	8.003	Tsk 36 : 28	TA-8-24

SUMMARY

LOCATION : TA-8
 TYPE OF UNIT(S) : CONTAINER STORAGE AREA
 UNIT USE : STORAGE
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : EST. 1960s
 HAZARDOUS RELEASE : NONE
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

A vessel believed to contain crystal-growing residues is located outside, west of TA-8-2.

WASTE INFORMATION

The waste is suspected to contain crystal residues consisting of some type of naphthol compound.

RELEASE INFORMATION

There have been no known hazardous releases from this vessel.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
8-005	**		Tsk 36 : 17	TA-8-2

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-8	MATERIALS MANAGED :	HAZARDOUS WASTE
TYPE OF UNIT(S)	: LANDFILL		RADIOACTIVE WASTE
UNIT USE	: DISPOSAL		SUSPECTED MIXED WASTE
OPERATIONAL STATUS	: INACTIVE		
PERIOD OF USE	: EST. LATE 1940s		
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: UNKNOWN		

UNIT INFORMATION

MDA-Q is located to the south of TA-8-1 and to the east of TA-8-23 [8-006(a)]. Although specific information is lacking, it is believed to be a pit approximately 30 ft x 32 ft. The landfill was used to dispose of waste from the gun firing area. A 1964 memo lists the following items as buried at this location: six or seven gun barrels, ranging from 8 to 18 ft long; 70 to 80 inert projectiles; about 15 14" x 24" steel blocks with 3" projectiles embedded in them; a number of spent casings; and "Little Boy" bomb parts. There is no indication of live ammunition being buried here. An old, undated memo suggests a waste disposal area was present west of TA-8-21 [8-006(b)]. During construction of a building complex, an old waste disposal site was uncovered which may have been the area referenced in the memo. The disposal site was not removed during the excavation.

WASTE INFORMATION

The waste in MDA-Q, and possibly the landfill west of TA-8-21, consists of gun barrels, projectiles, and casings. Some HE and uranium residues may be contaminants associated with the debris.

RELEASE INFORMATION

There have been no known releases from either disposal area.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
8-006(a)	TAB-7-L-1-HW/RW	8.001	Tsk 36 : 35	TA-8-1, -23
8-006(b)	TAB-7-L-1-HW/RW	8.001	Tsk 36 : 38	TA-8-21

SUMMARY

LOCATION : TA-8
 TYPE OF UNIT(s) : RESIN BED
 UNIT USE : TREATMENT/RECOVERY
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : EST. 1970s - PRESENT
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

In TA-8-22 spent photo solutions containing silver pass through ion exchange resin bead units where the silver is removed. The spent resins are collected for silver recovery. The canisters which contain the beads are approximately 12" high with a 4" O.D.

WASTE INFORMATION

The waste liquids are from processing x-ray film.

RELEASE INFORMATION

The treated liquid is released through an outfall. Before the silver recovery unit was installed, the solutions containing silver were discharged to the outfall.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
8-007	**			TA-8-22

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-8
 TYPE OF UNIT(s) : CONTAINER STORAGE AREA
 UNIT USE : STORAGE
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : SEE BELOW
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE
 PCBs

UNIT INFORMATION

Inactive transformers are stored at several locations in TA-8:

SWMU NO.	LOCATION	PCB CONCENTRATION	DATE STORED
8-008(a)	Southwest of TA-8-22	922 ppm	May 1986
8-008(b)	West of TA-8-21	<50 ppm	Oct. 1987
8-008(c)	East of TA-8-24	64 ppm	July 1987
8-008(d)	Southeast of TA-8-21 near Anchor Ranch Rd.	--	1968

WASTE INFORMATION

PCB levels in several of the transformers, sampled at the time they were placed in storage, are shown above.

RELEASE INFORMATION

It is not known or documented whether releases from these sites have occurred.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
8-008(a)	**		Tsk 37 : 93	SOUTHWEST OF TA-8-22
8-008(b)	**		Tsk 37 : 94	WEST OF TA-8-21
8-008(c)	**		Tsk 37 : 95	EAST OF TA-8-24
8-008(d)	**		Tsk 37 : 96	SOUTHEAST OF TA-8-21

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-8
 TYPE OF UNIT(s) : DRAINS AND OUTFALLS
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : 1940s - PRESENT
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

The drains and outfalls in TA-8 include:

SWMU NO.	LOCATION / RELEASE POINT	EPA OUTFALL NO.	NPDES NO.
8-009(a)	Drain inlet west of TA-8-2, outfall east of TA-8-1 discharges into Pajarito Canyon	none	none
8-009-(b)	Industrial drain outfall from TA-8-70 into Pajarito Canyon (discharge is noncontact cooling water)	04A	115/076
8-009(c)	Storm sewer and outfall from TA-8-23 parking lot discharges to the north	none	none
8-009(d)	Drain from TA-8-22 fluorescent penetration experiments to outfall	06A	074
8-009(e)	Outfall from TA-8-21 photo-developing processes	06A	075

WASTE INFORMATION

There is no record of contamination at these units.

RELEASE INFORMATION

The extent of hazardous releases to the outfall receiving areas is unknown.

SWMU CROSS-REFERENCE LIST

SWMU NUMBER	CEARP IDENTIFICATION NUMBER(S)	RFA UNIT	E.R. RELEASE SITE INFO.	ASSOCIATED STRUCTURES
8-009(a)	**		Tsk 37 : 84	TA-8-1, -2
8-009(b)	**		Tsk 37 : 85	TA-8-70
8-009(c)	**		Tsk 37 : 86 92	TA-8-23
8-009(d)	**		Tsk 37 : 91	TA-8-22
8-009(e)	**			TA-8-21

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-8
 TYPE OF UNIT(S) : CONTAINER STORAGE AREA
 UNIT USE : STORAGE
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : 1940s - PRESENT
 HAZARDOUS RELEASE : NONE
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE
 RADIOACTIVE WASTE

UNIT INFORMATION

The following waste container storage areas are listed in the 1/90 LANL Active Container Storage Area Database:

SWMU NO.	STRUCTURE	LOCATION	MATERIALS
8-010(a)	TA-8-70	Ultrasonic, EM testing Bldg.	acetone, butyl acetate, freon (absorbed on rags); trichloroethane; ethyl alcohol
8-010(b)	TA-8-21	Laboratory office building	ammonium hydroxide
8-010(c)	TA-8-30	Radiation laboratory	metallic mercury, zinc chloride, xylene, toluene, acetone, naphtha, TCE, potassium dichromate, sodium hydroxide, sodium dichromate, furfural alcohol

WASTE INFORMATION

Waste is generated at 8-010(a) by cleaning equipment in a small machine shop. Waste is generated at 8-010(b) by diazo printers.

RELEASE INFORMATION

There is no information on releases from these units. However, past operations at most container storage areas have resulted in systematic releases of solid wastes, including RCRA-regulated constituents.

SWMU CROSS-REFERENCE LIST

SWMU NUMBER	CEARP IDENTIFICATION NUMBER(S)	RFA UNIT	E.R. RELEASE SITE INFO.	ASSOCIATED STRUCTURES
8-010(a)	TAB-3-CA-A/1-HW/RW		Task 36 : 27	TA-8-70
8-010(b)	TAB-3-CA-A/1-HW/RW			TA-8-21
8-010(c)	TAB-3-CA-A/1-HW/RW			TA-8-30

SUMMARY

LOCATION : TA-8
 TYPE OF UNIT(s) : UNDERGROUND STORAGE TANK
 UNIT USE : STORAGE
 OPERATIONAL STATUS : DECOMMISSIONED
 PERIOD OF USE : AT LEAST 1971-1987
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : DIESEL OIL

UNIT INFORMATION

Two 2,000-gallon underground storage tanks, TA-8-60 and -61 [8-011(a) and (b), respectively] were removed in 1987. Both were used to store diesel oil.

WASTE INFORMATION

At the time of removal, the tanks were pumped of all remaining diesel oil.

RELEASE INFORMATION

At the time of removal, soil contamination was noted around the fill stems of the tanks. About 6 drums of diesel-contaminated soil was removed and landfarmed at Area G, TA-54.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
8-011(a)	TAB-6-UST-1-PP			TA-8-60
8-011(b)	TAB-6-UST-1-PP			TA-8-61

**TA-8 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX**

SWMU	FIGURE NUMBER
8-001(a)	8-1
8-001(b)	8-1
8-002	8-1
8-003(a)	8-1
8-003(b)	8-1
8-003(c)	8-1
8-004(a)	8-1
8-004(b)	8-1
8-004(c)	8-1
8-004(d)	8-1
8-005	8-1
8-006(a)	8-1, 8-2
8-006(b)	8-1
8-007	8-1
8-008(a)	8-1
8-008(b)	8-1
8-008(c)	8-1
8-008(d)	8-1
8-009(a)	8-1
8-009(b)	8-1
8-009(c)	8-1
8-009(d)	8-1
8-009(e)	8-1
8-010(a)	8-1
8-010(b)	8-1
8-010(c)	8-1
8-011(a)	8-1
8-011(b)	8-1

NOTE: Some structure locations may contain more than one SWMU.

Rev. 1, 5/23/90

LAN:TA-Units/16

EXPLANATION
 8-001 SWMU LOCATION
 LOCATION OF OUTFALL
 INDICATING ASSOCIATED
 PIPING AND NPDES
 SERIAL NUMBERS
 (SEE APPENDIX A)

0 10

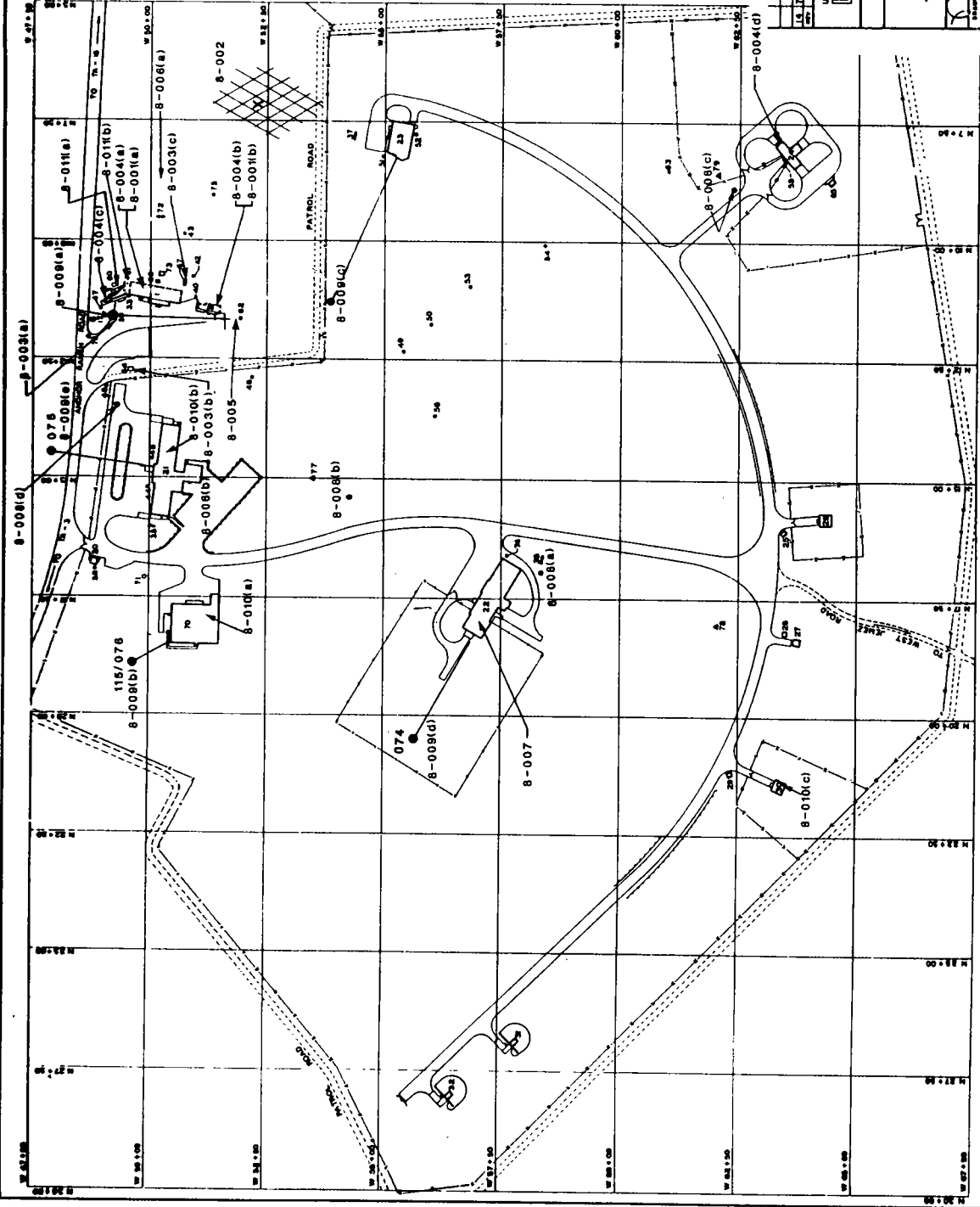
NOTES
 UNIT 8-002 LOCATION IS APPROXIMATE.

REV. 1 5/23/90

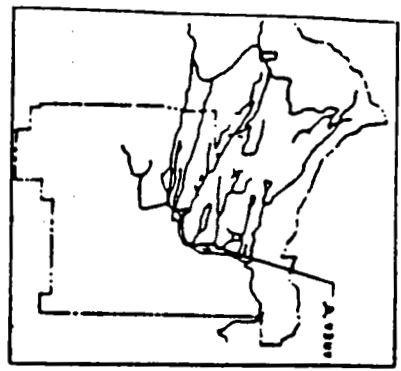
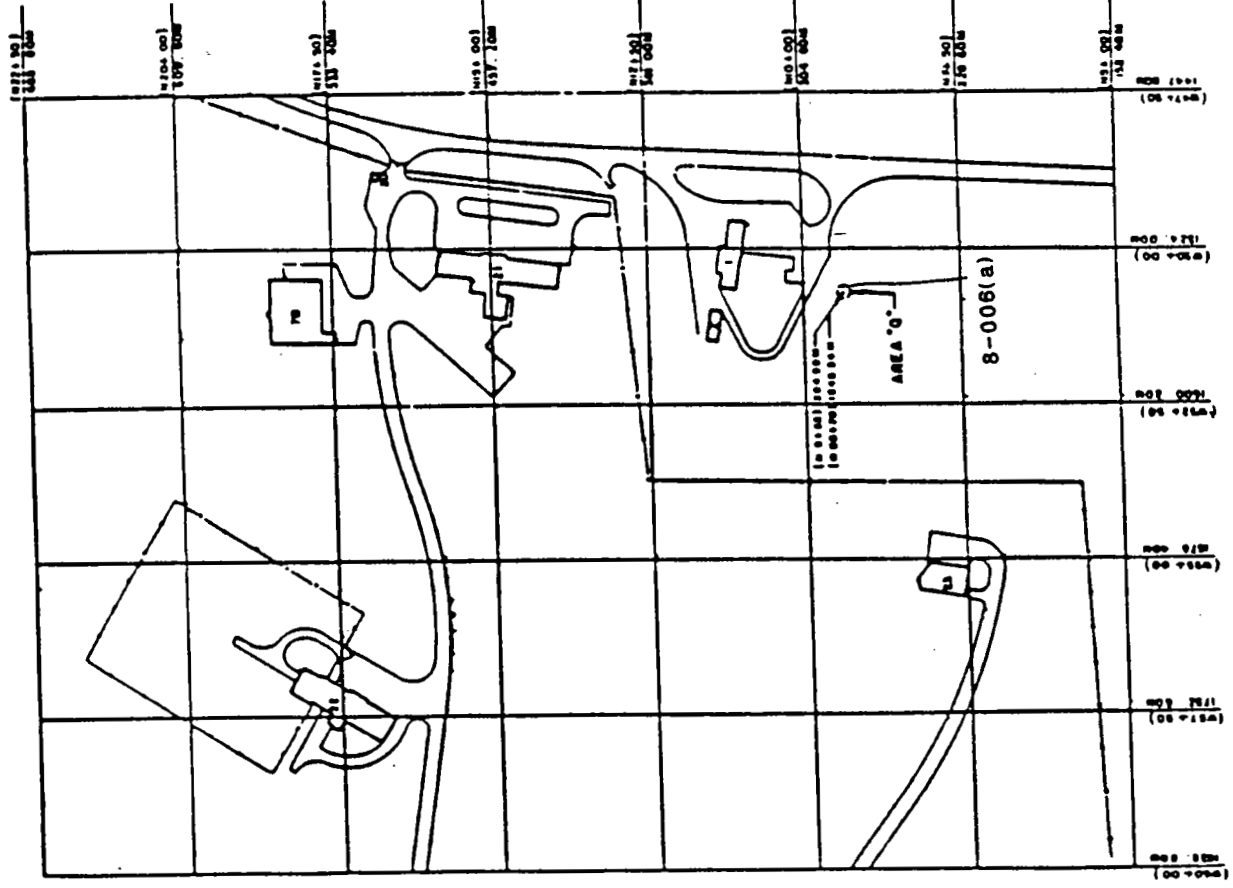
FIGURE 8-1
 SOLID WASTE MANAGEMENT UNITS
 (SWMUS) IN TA-8



UNIVERSITY OF CALIFORNIA LOS ALAMOS Los Alamos National Laboratory Los Alamos, New Mexico 87545	
FACILITIES ENGINEERING DIVISION	
STRUCTURE LOCATION PLAN	
TA-8	ANCHOR SITE WEST
DATE: 1-27-90	SCALE: 1" = 100'
DESIGNED BY: [Signature]	CHECKED BY: [Signature]
DRAWN BY: [Signature]	APP. BY: [Signature]
PROJECT NO. 880-R3105	



UNCLASSIFIED



EXPLANATION
8-001 SWMU LOCATION

FIGURE 8-2
MATERIAL DISPOSAL AREA Q, TA -8

TA-9 OPERATIONS AND ENVIRONMENTAL SETTING

Technical Area (TA) 9 includes the location of former TA-23, an old part of TA-9 (Anchor Site East), and the active site south of Anchor Site East. Facilities at Anchor Site East included an x-ray laboratory to study charges, open and closed firing chambers, high explosive casting, magazines, solvent storage, and a chemical pilot plant. Chemicals that may have been present were those used in production of HE, such as solvents, organics, acids, and plasticizers. Also present were probably uranium, cyanogen, as well as the HE used in tests. As a result of the 1989 Laboratory redefinition of the technical area boundaries, TA-9 has been expanded and now includes a SWMU, Material Disposal Area M (9-013), which was previously listed in TA-0 (0-009).

The active section of TA-9 is occupied by the Explosives Technology Group, which is involved with the development and testing of explosives and other special materials. Activities include organic synthesis of explosives, pressing and machining explosives, handling and synthesis of plastic-bonded explosives. Explosives, brass, steel, aluminum, graphite, and plastics are also machined at TA-9. Radionuclides are handled at this facility (DOE, 1987a).

The elevation of TA-9 ranges between 7,300 and 7,600 feet asl. The TA is located on a broad mesa bounded by a branch of Pajarito Canyon on the north and by Canon de Valle on the south. The canyon walls range from steep to moderate slopes in this area. Vegetation is from the Ponderosa Pine/Pinon-Juniper and Ponderosa Pine-fir overstory vegetation zone. Soil types include Carjo loam, Tocal very fine sandy loam, clayey-skeletal Typic Eutroboralfs, Seaby loam, and rock outcrop (Nyhan et al., 1978). The area is underlain by Bandelier Tuff. The potentiometric surface of the main aquifer in the Los Alamos region lies at about 6,275 to 6,375 feet asl at TA-9. Over 1,000 feet of unsaturated tuff and volcanic rock separate the surface from the aquifer. There is little potential for downward flow from the surface because of the low moisture conditions of the tuff (IT,1987a).

LIST OF SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-9

9-001	OLD ANCHOR EAST FIRING SITES (DECOMMISSIONED AREA)
9-002	OLD ANCHOR EAST BURN PIT (DECOMMISSIONED AREA)
9-003	OLD ANCHOR EAST DECOMMISSIONED SUMPS
9-004	ACTIVE HE SUMPS
9-005	SEPTIC SYSTEMS
9-006	DECOMMISSIONED SEPTIC SYSTEM
9-007	INACTIVE SUMP
9-008	OXIDATION POND
9-009	LAGOON AND SAND FILTER
9-010	WASTE CAN SHELTERS
9-011	ACTIVE CONTAINER STORAGE AREAS
9-012	POSSIBLE WASTE PIT
9-013	MATERIAL DISPOSAL AREA M
9-014	FIRING SITE
9-015	INDUSTRIAL WASTE MANHOLE
9-016	DECOMMISSIONED UNDERGROUND STORAGE TANK

SUMMARY

LOCATION : TA-9
 TYPE OF UNIT(S) : FIRING SITE
 UNIT USE : TESTING/DISPOSAL
 OPERATIONAL STATUS : DECOMMISSIONED
 PERIOD OF USE : SEE BELOW
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : HAZARDOUS WASTE
 RADIOACTIVE WASTE

UNIT INFORMATION

Firing sites at the original TA-9 included TA-9-4, -5, and -15 [9-001(a), (b), and (c)] and an open chamber in TA-9-1 [9-001(d)]. Information on these units is summarized as follows:

SWMU NO.	STRUCTURE	DESCRIPTION	DATE REMOVED
9-001(a)	TA-9-4	Far Point firing site and pit	1965
9-001(b)	TA-9-5	Far Point firing site	1965
9-001(c)	TA-9-15	recovery pit located NW of firing site	1963
9-001(d)	TA-9-1	open firing chamber	1965

The sites were used for field testing of explosive charges. One of the firing areas at the Old Anchor Site East was known as Far Point, and it consisted of two firing sites, TA-9-4 and TA-9-5. TA-9-4 also included a firing pit (possibly an area northwest of Far Point near the edge of the mesa). TA-9-1 consisted of a closed x-ray chamber, where small shots were fired, and a larger open chamber. TA-9-4, completed in 1944, was 8' x 10' x 8' high of reinforced concrete with metal doors and an earth berm on three sides. TA-9-5, completed in 1947, was 10' x 12' x 8' high of reinforced concrete, metal doors and earth berm on three sides. TA-9-15, completed in 1943, was 12' x 12' x 8' with timbered sides, and was covered with a 3/4" steel plate and metal cover. For TA-9-1, completed in 1943, the firing chamber was steel faced concrete.

WASTE INFORMATION

The waste in TA-9-4 and TA-9-5 includes residues of HE, steel, aluminum, and possibly tungsten carbide, beryllium, and uranium. The TA-9-15 recovery pit was contaminated with HE. TA-9-1 was contaminated with HE and radionuclides.

RELEASE INFORMATION

The radioactive contaminated portion of TA-9-1 is believed to have been taken to the radioactive material disposal area (probably MDA-C) in 1965. Firing areas TA-9-4, -5, and -15 were burned in 1960, and the debris was later removed. Documentation has not been found describing in detail the decommissioning procedures for these sites.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-001(a)	TA9(AE)-1-CA-1-HW/RW TA9(AE)-3-CA/ST/S-1-HW		Tsk 36 : 78 77	TA-9-4
9-001(b)	TA9(AE)-1-CA-1-HW/RW TA9(AE)-3-CA/ST/S-1-HW		Tsk 36 : 78	TA-9-5
9-001(c)	TA9(AE)-1-CA-1-HW/RW TA9(AE)-3-CA/ST/S-1-HW		Tsk 36 : 79	TA-9-15
9-001(d)	TA9(AE)-1-CA-1-HW/RW TA9(AE)-3-CA/ST/S-1-HW		Tsk 36 : 76	TA-9-1

SUMMARY

LOCATION : TA-9
 TYPE OF UNIT(S) : PIT
 UNIT USE : TREATMENT/DISPOSAL
 OPERATIONAL STATUS : DECOMMISSIONED
 PERIOD OF USE : EST. 1940s - 1950s
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : UNKNOWN

UNIT INFORMATION

The exact location of this unit, a burn pit, is not known. It is known that the pit was used for incineration of classified and no-longer-needed material. The pit was apparently an irregularly shaped excavation about 20' x 40' x 3' deep. The frequency of use is not known. An undated note (probably from the early 1950s) to the Engineering File lists the pit areas in TA-9. One of the pits listed is a burn pit established in June, 1949 near TA-9-15. The dimensions of the burn pit are 20' x 40' x 3'.

WASTE INFORMATION

Specific composition or final fate of the burned material is not known. Activities at the pit may have resulted in HE contamination.

RELEASE INFORMATION

The only known releases associated with the use of this unit are combustion products.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-002	TA9(AE)-2-CA-1-HW/RW		Tsk 37 : 132	UNKNOWN

SUMMARY

LOCATION	: TA-9	MATERIALS MANAGED	: SUSPECTED RADIOACTIVE WASTE
TYPE OF UNIT(S)	: SUMP		HAZARDOUS WASTE
UNIT USE	: TREATMENT/DISPOSAL		SUSPECTED MIXED WASTE
OPERATIONAL STATUS	: DECOMMISSIONED		
PERIOD OF USE	: SEE BELOW		
HAZARDOUS RELEASE	: SUSPECTED		
RADIOACTIVE RELEASE	: UNKNOWN		

UNIT INFORMATION

The following industrial sumps and associated drains were located in TA-9:

SWMU NO.	STRUCTURE	BUILT	DECOMMISSIONED	DIMENSIONS	DESCRIPTION
9-003(a)	TA-9-83	1943	1965	4' x 4' x 4' deep	sump serving TA-9-14
9-003(b)	TA-9-84	1943	1965	4' x 5' x 3' deep	sump serving TA-9-12
9-003(c)	TA-9-85	1943 (est.)	1965	unknown	basket wash pit near TA-9-14
9-003(d)	TA-9-88	1943	1965	4' x 7' x 7' deep	sump near TA-9-1
9-003(e)	TA-9-62	1950	1965	4'2" x 4'2" x 4'10" deep	basket washing facility near TA-9-14
9-003(f)	TA-9-199	1952	1952	unknown	sump for TA-9-51
9-003(g)	TA-9-2	1940s	1960	unknown	sump and pipes serving TA-9-2
9-003(h)	TA-9-3	1940s	1965	unknown	sump and pipes serving TA-9-3
9-003(i)	TA-9-13	1940s	1965	unknown	sump and pipes serving TA-9-13

All of these sumps and their associated drainlines, with the exceptions of TA-9-199, -2, -3, and -13, were built of reinforced concrete and were decommissioned in 1965 by removal and burial at TA-54; details on the construction, dimensions, and decommissioning of TA-9-199, -2, -3, and -13 are unknown. Drain/sump TA-9-83 served Building TA-9-14; drain/sump TA-9-84 served Building TA-9-12; and TA-9-199 served the Test Laboratory, TA-9-51. Sump TA-9-62 was a basket washing sump. Additionally, other sanitary septic tanks, industrial sumps, and drain lines served Buildings TA-9-1, -2, -3, -13, and -14. These buildings housed HE formulations, experiments, and manufacturing operations. TA-9-1 was an x-ray facility used to study implosions. TA-9-2 was a photo darkroom and boiler plant. TA-9-3 was used for remote-control mixing and housed a hydraulic press. TA-9-13 was a machine shop for explosives. TA-9-14 was a large-scale laboratory building which contained uranium-238, beryllium, and HE. TA-9-1 was removed in 1965; TA-9-2, -3, -13, and -14 were removed in 1960. During a utility upgrade in 1985, excavations uncovered an additional structure, possibly TA-9-85, and drain lines that had not been removed in 1965. The structure and drain lines were removed during the utility upgrade.

WASTE INFORMATION

The industrial wastes received by the sumps and drain lines contained HE residues and possibly solvents and other chemicals used in the manufacture of HE. Small quantities of radionuclides may have been present in some waste streams.

RELEASE INFORMATION

There is no evidence that surrounding soils were sampled during decommissioning.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-003(a)	TA9(AE)-3-CA/ST/S-I-HW		Tsk 37 : 112 109	TA-9-14, -83
9-003(b)	TA9(AE)-3-CA/ST/S-I-HW		Tsk 37 : 113	TA-9-12, -84
9-003(c)	TA9(AE)-3-CA/ST/S-I-HW		Tsk 37 : 111	TA-9-14, -85
9-003(d)	TA9(AE)-3-CA/ST/S-I-HW		Tsk 37 : 114	TA-9-1, -88
9-003(e)	TA9(AE)-3-CA/ST/S-I-HW		Tsk 37 : 110	TA-9-14, -62
9-003(f)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW		Tsk 37 : 115 74	TA-9-51, -199
9-003(g)	TA9(AE)-3-CA/ST/S-I-HW		Tsk 37 : 107	TA-9-2
9-003(h)	TA9(AE)-3-CA/ST/S-I-HW		Tsk 37 : 106	TA-9-3
9-003(i)	TA9(AE)-3-CA/ST/S-I-HW		Tsk 37 : 108	TA-9-13

SUMMARY

LOCATION : TA-9 MATERIALS MANAGED : HAZARDOUS WASTE
 TYPE OF UNIT(S) : SUMP
 UNIT USE : DISPOSAL/TREATMENT
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : 1952 - PRESENT
 HAZARDOUS RELEASE : KNOWN
 RADIOACTIVE RELEASE : NONE

UNIT INFORMATION

The following sumps in TA-9 are currently active:

SWMU NO.	STRUCTURE	DIMENSIONS (APPROXIMATE)	BUILDING SERVED	OUTFALL NPDES #
9-004(a)	TA-9-184		TA-9-21	05A066
9-004(b)	TA-9-185		TA-9-21	05A066
9-004(c)	TA-9-186	13' x 3' x 5' deep	TA-9-37	05A067
9-004(d)	TA-9-187	13' x 3' x 5' deep	TA-9-38	05A067
9-004(e)	TA-9-188	13' x 3' x 5' deep	TA-9-45	05A067
9-004(f)	TA-9-189	13' x 3' x 5' deep	TA-9-46	05A067
9-004(g)	TA-9-190		TA-9-50	outfall
9-004(h)	TA-9-191	13' x 3' x 5' deep	TA-9-32	05A066
9-004(i)	TA-9-192	13' x 3' x 5' deep	TA-9-33	05A066
9-004(j)	TA-9-193		TA-9-34	05A067
9-004(k)	TA-9-194		TA-9-35	05A067
9-004(l)	TA-9-195		TA-9-40	05A066
9-004(m)	TA-9-196		TA-9-42	05A067
9-004(n)	TA-9-197		TA-9-43	05A067
9-004(o)	TA-9-198		TA-9-48	05A068

Sump TA-9-190 shares a leach field and outfall with septic system TA-9-109 [see 9-005(g)]; the outfall is northeast of building TA-9-50. TA-9-188 is an aluminum settling pit which was destroyed by acid.

WASTE INFORMATION

The waste is primarily HE residues and may also contain acids, chemicals and solvents, particularly from past operations.

RELEASE INFORMATION

Pieces of HE caught in the baffles are taken to TA-16 for burning. Soils sampled 0.5 meters from the sump TA-9-198 outfall contain 2.6% acetone solubles and <2.5% (by weight) total HE. Other units may have released hazardous waste as the settling basin serving TA-9-45 was destroyed by acids placed in the drain.

SWMU CROSS-REFERENCE LIST

SWMU NUMBER	CEARP IDENTIFICATION NUMBER(S)	RFA UNIT	E.R. RELEASE SITE INFO.	ASSOCIATED STRUCTURES
9-004(a)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.005	Tsk 36 : 37	TA-9-184, -21
9-004(b)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.006	Tsk 36 : 56	TA-9-185, -21
9-004(c)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.007	Tsk 36 : 58	TA-9-186, -37
9-004(d)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.003	Tsk 36 : 59	TA-9-187, -38
		9.008		
9-004(e)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.004	Tsk 36 : 73	TA-9-188, -45
	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.009		
9-004(f)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.010	Tsk 36 : 60	TA-9-189, -46
9-004(g)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.011	Tsk 36 : 40 61	TA-9-190, -50
9-004(h)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.012	Tsk 36 : 62	TA-9-191, -32

(continued)

SWMU CROSS-REFERENCE LIST
(continued)

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-004(i)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.013	Tsk 36 : 63	TA-9-192, -33
9-004(j)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.014	Tsk 36 : 64	TA-9-193, -34
9-004(k)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.015	Tsk 36 : 65 43	TA-9-194, -35
9-004(l)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.016	Tsk 36 : 66 42	TA-9-195, -40
9-004(m)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.017	Tsk 36 : 67	TA-9-196, -42
9-004(n)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.018	Tsk 36 : 68	TA-9-197, -43
9-004(o)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	9.019	Tsk 36 : 69 41	TA-9-198, -48

SUMMARY

LOCATION	: TA-9	MATERIALS MANAGED	: SUSPECTED RADIOACTIVE WASTE
TYPE OF UNIT(S)	: SEPTIC SYSTEM		SUSPECTED HAZARDOUS WASTE
UNIT USE	: TREATMENT/DISPOSAL		
OPERATIONAL STATUS	: ACTIVE/INACTIVE		
PERIOD OF USE	: SEE BELOW		
HAZARDOUS RELEASE	: SUSPECTED		
RADIOACTIVE RELEASE	: SUSPECTED		

UNIT INFORMATION

The following are inactive and active septic tanks in TA-9:

SWMU NO.	STRUCTURE	BUILT	BUILDING(S) SERVED	CAPACITY (GALLONS)	STATUS	OVERFLOW	EID REGISTRATION NO.
9-005(a)	TA-9-81	1950	TA-8-20, -21, -22, -23, -24		abandoned 1970	leach field	
9-005(b)	TA-9-105	1952	TA-8-21, -28, -29		active		
9-005(c)	TA-9-106	1952	TA-8-21, -33, -34, -37, -38		inactive		
9-005(d)	TA-9-211	1961(est.)		4000	abandoned		
9-005(e)	TA-9-107	1952	TA-9-42, -43, -41, -45, -46	540	active	NPDES outfall	LA-03
9-005(f)	TA-9-108	1952	TA-9-48	1360	active	NPDES outfall	LA-04
9-005(g)	TA-9-109	1952	TA-9-50	600	active	buried outfall	LA-05
9-005(h)	TA-9-110	1952	TA-9-51	425	active	outfall	LA-06

Tank TA-9-211 is constructed of concrete and has dimensions of 4' x 30' x 6' deep. 9-005(e), (f), and (g) have drainlines measuring approximately 100' with outfalls into Pajarito Canyon.

WASTE INFORMATION

The waste is generally sewage. There is some possibility that spent photo solutions and small quantities of industrial waste were, at times, discharged to these septic systems. A spill in TA-8 may have resulted in strontium-90 in the leach field of TA-9-81.

RELEASE INFORMATION

Septic system TA-9-109 shares a leach field and outfall with sump TA-9-190 [see 9-004(g)]. This outfall is northeast of building TA-9-50. Utility drawings from 1956 (ENG-R606 and ENG-R615) indicate a complex network of septic tanks and industrial waste drains. Overflow from septic tanks went to industrial waste lines, and the combined discharge was routed to outfalls in the canyon. With the exception of drains from TA-9-51, these same outfalls appear to continue to be used for industrial waste, according to the CEARP. The active septic systems have overflows to outfalls; inactive septic systems overflowed to seepage fields or drain lines. Some strontium-90 was released in washwater to the drains at TA-8; thus the leach field of TA-9-81 may have received strontium-90.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-005(a)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW		Tsk 36 : 44 48	TA-9-81
9-005(b)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW		Tsk 36 : 49	TA-8-20, -21, -22, -23, -24 TA-9-105
9-005(c)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW		Tsk 36 : 50	TA-8-21, -28, -29 TA-9-106 TA-8-21, -33, -34, -37, -38

(continued)

SWMU CROSS-REFERENCE LIST
(continued)

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-005(d)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW		Tsk 36 : 55	TA-9-211
9-005(e)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	? 9.023	Tsk 36 : 51	TA-9-107, -42, -43, -41, -45, -46
9-005(f)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	? 9.024	Tsk 36 : 52	TA-9-108, -48
9-005(g)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	? 9.025	Tsk 36 : 40 53	TA-9-109, -50
9-005(h)	TA9-2-CA/ST/S/O/SI-A/I-HW/RW	? 9.026	Tsk 36 : 45 54	TA-9-110, -51

? Indicates uncertainty with RFA Unit correlation.

SUMMARY

LOCATION	: TA-9	MATERIALS MANAGED :	SANITARY WASTE
TYPE OF UNIT(S)	: SEPTIC SYSTEM		SUSPECTED HAZARDOUS WASTE
UNIT USE	: TREATMENT/DISPOSAL		SUSPECTED RADIOACTIVE WASTE
OPERATIONAL STATUS	: DECOMMISSIONED		
PERIOD OF USE	: 1943 - 1965		
HAZARDOUS RELEASE	: SUSPECTED		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

Septic tank TA-9-203 was built in 1943 of reinforced concrete with a wood cover. The dimensions of the tank were 4' x 9' x 4'. It was reported to have been removed in 1965. The tank served Building TA-9-3, and it is the only septic tank that has been identified for the old original TA-9 buildings.

WASTE INFORMATION

The waste handled by this septic tank was primarily sanitary although there is a possibility that spent photo processing solutions and other small quantities of industrial wastes were occasionally discharged to the tank. In a 9/29/59 contamination inspection of vacated LASL structures, building TA-9-3 was reported to be contaminated with HE and radionuclides, which may have entered the septic system.

RELEASE INFORMATION

The tank probably overflowed to a seepage field or an open drain; it is unknown whether a release beyond the seepage field or outfall has occurred.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-006	TA9-2-CA/ST/S/O/SI-A/I-HW/RW		Tsk 36 : 72	TA-9-203, -3

SUMMARY

LOCATION : TA-9
 TYPE OF UNIT(S) : SUMP
 UNIT USE : TREATMENT
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : 1952 - ?
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

Sump TA-9-202 is a basket pit that was built in 1952 of reinforced concrete and served Building 51 (the Environmental Test Chamber). The dimensions of the sump are 4'3" x 3'8" x 7' deep. This sump appears to have replaced TA-9-199. It is believed to be inactive. According to CEARP, the sump is contaminated with HE.

WASTE INFORMATION

The waste consisted of HE residues.

RELEASE INFORMATION

It is unknown whether there has been a hazardous release from this unit.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-007	TA9-2-CA/ST/S/O/SI-A/I-HW/RW		Tsk 36 : 70	TA-9-202, -51

SUMMARY

LOCATION : TA-9
 TYPE OF UNIT(S) : SURFACE IMPOUNDMENT
 UNIT USE : TREATMENT/DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : EST. 1950s - 1980s
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : SANITARY WASTE
 UNKNOWN

UNIT INFORMATION

An old lagoon [9-008(a)] and oxidation pond TA-9-212 [9-008(b)] were used for the oxidation of sewage. The lagoon has been excavated; its dimensions were 50' x 150' x 7'. The oxidation pond is inactive; it measures about 65' x 15' x 6' deep, has clay plating and emulsified asphalt waterproofing, and has overflow lines and drainlines. It is surrounded by an 8' high chain-link fence.

WASTE INFORMATION

Both units received sanitary waste. It is unknown whether the waste contained hazardous constituents. Waste formerly managed by the lagoon are now in the TA-9 oxidation pond.

RELEASE INFORMATION

The pond drained to an outfall with NPDES serial number 025. It is unknown whether hazardous materials were released to this outfall.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-008(a)	**	8.002	Tsk 36 : 75	
9-008(b)	**	8.004		TA-9-212

** No corresponding E. R. Program unit.

SUMMARY

LOCATION	: TA-9	MATERIALS MANAGED	: SANITARY WASTE
TYPE OF UNIT(S)	: SURFACE IMPOUNDMENT		SUSPECTED HAZARDOUS WASTE
UNIT USE	: TREATMENT/DISPOSAL		
OPERATIONAL STATUS	: ACTIVE		
PERIOD OF USE	: ? - PRESENT		
HAZARDOUS RELEASE	: UNKNOWN		
RADIOACTIVE RELEASE	: NONE		

UNIT INFORMATION

A lagoon, TA-9-218, and two sand filters are used to treat sanitary waste from buildings TA-9-20, -28, -29, -21, -32, -33, -34, -37, -35, and -38 in TA-9 and TA-8 sanitary waste. The lagoon is 62' x 39' x 7' deep. The pond has concrete sides and bentonite bottom. Its dimensions are 30' x 70'. The pond discharges to the sand filters, which are 50' x 30'. The sand filters contain flexible membrane liners and are surrounded by a concrete curb. After flowing through the sand filter, the effluent is discharged to a NPDES-permitted outfall, EPA no. 555 025.

WASTE INFORMATION

The lagoon receives sanitary waste and possibly spent photo processing solutions. In previous years small amounts of industrial liquids may have been discharged to the lagoon.

RELEASE INFORMATION

It is unknown whether hazardous waste has been discharged.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-009	**	9.020- 9.022	Tsk 36 : 47 71	TA-9-218, -20, -28, -29, -21, -32, -33, -34, -37, -35, -39

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-9
 TYPE OF UNIT(S) : CONTAINER STORAGE AREA
 UNIT USE : STORAGE
 OPERATIONAL STATUS : UNKNOWN
 PERIOD OF USE : 1961 - ?
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

Structure TA-9-48 [9-010(a)] was built in 1961 and is described as a waste can shelter. The structure has a steel frame construction with corrugated steel siding; it measures 2'6" x 11' x 6'6" (average height). Structures TA-9-206 and -207 [9-010(b) and (c)] have also been identified as waste can shelters. TA-9-206 is located northeast of the TA-9-142 laboratory building. TA-9-207 is located north of TA-9-48.

WASTE INFORMATION

The wastes stored in TA-9-48 consist of HE-contaminated rags which are burned at TA-16. Waste solvents may also be stored here. Stained ground has been identified around a chemical and explosive storage bin on the northeast side of TA-9-48. The wastes stored in TA-9-206 and -207 are unknown.

RELEASE INFORMATION

It is unknown whether hazardous releases have occurred from these units.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-010(a)	**		Tsk 37 : 126	TA-9-48
9-010(b)	**			TA-9-206, -142
9-010(c)	**			TA-9-207, -48

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-9
 TYPE OF UNIT(s) : CONTAINER STORAGE AREA
 UNIT USE : STORAGE
 OPERATIONAL STATUS : ACTIVE
 PERIOD OF USE : ? - PRESENT
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : UNKNOWN

UNIT INFORMATION

According to the 4/90 LANL Active Container Storage Areas database, there are three active container storage areas in two buildings in TA-9: 1) TA-9-21 [9-011(a)] has satellite storage; 2) TA-9-39 [9-011(b)] has a satellite storage area west of the building. A November 1988 field survey identified an additional storage area on the south side of TA-9-38 [9-011(c)], which contained 2 drums. Another waste container storage area might be located north of TA-9-43, but the exact location is unknown.

WASTE INFORMATION

The waste stored in the TA-9-21 and -39 areas is HE waste, generated by experiments. The storage area near TA-9-38 stores isobutyl acetate and methyl sub-oxide. A LANL archive memo stated that TA-9-21 was ranked a moderate hazard in 1979 due to operations involving HE and tritium.

RELEASE INFORMATION

It is unknown whether hazardous releases have occurred from these units. However, past operations at most container storage areas have resulted in systematic releases of solid wastes, including RCRA-regulated constituents.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-011(a)	**	9.001	Tsk 37 : 104	TA-9-21
9-011(b)	**	9.002	Tsk 37 : 124	TA-9-39
9-011(c)	**		Tsk 37 : 125	TA-9-38

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-9
TYPE OF UNIT(S) : PIT
UNIT USE : DISPOSAL
OPERATIONAL STATUS : INACTIVE
PERIOD OF USE : ?
HAZARDOUS RELEASE : UNKNOWN
RADIOACTIVE RELEASE : UNKNOWN

MATERIALS MANAGED : UNKNOWN

UNIT INFORMATION

Engineering file 1757 indicates a possible waste pit in TA-9. It is unknown whether the pit was located in the old TA-9 or the new TA-9, or even if the disposal area existed. It has not been found during field surveys.

WASTE INFORMATION

The type of waste is unknown.

RELEASE INFORMATION

It is unknown whether a hazardous release has occurred from this disposal area.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-012	TA9(AE)-4-L-1-HW/RW			

SUMMARY

LOCATION : TA-9
 TYPE OF UNIT(s) : SURFACE DISPOSAL
 UNIT USE : DISPOSAL
 OPERATIONAL STATUS : INACTIVE
 PERIOD OF USE : EST. 1940s - 1960s
 HAZARDOUS RELEASE : SUSPECTED
 RADIOACTIVE RELEASE : SUSPECTED

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE
 SUSPECTED RADIOACTIVE WASTE
 SOLID WASTE

UNIT INFORMATION

This material disposal area (MDA-M) is a surface disposal site located in a remote area east of TA-8 and north of the main area of TA-9. It is estimated to cover approximately 3.2 acres.

WASTE INFORMATION

The wastes identified by a visual inspection include construction debris, land-clearing debris (e.g., tree stumps), asbestos, and laboratory waste. A number of discarded gun barrels, chemical bottles, and paint cans were buried in this location in the 1950s. The laboratory waste may be contaminated with chemicals, explosives, and uranium.

RELEASE INFORMATION

It is suspected that releases may have occurred from natural mobilization processes.

NOTES

This SWMU was formerly SWMU No. 0-009.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-013	MDA-M		Tsk 36 : 37	MDA-M

SUMMARY

LOCATION : TA-9
TYPE OF UNIT(S) : FIRING SITE
UNIT USE : TESTING/DISPOSAL
OPERATIONAL STATUS : DECOMMISSIONED
PERIOD OF USE : EST. 1945
HAZARDOUS RELEASE : UNKNOWN
RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : HAZARDOUS WASTE

UNIT INFORMATION

Engineering records indicate that the TA-23 firing area, renumbered TA-9-176, was constructed of reinforced concrete, 15' x 15' x 8', with an earth barricade on 3 sides. It included an irregularly shaped reinforced concrete structure consisting of two firing pits in a concrete apron measuring 3'6" x 12' x 12" thick. The pits were used for the testing of lens charges of up to 135 lbs. of HE. The site was used actively during the war, but was decommissioned in 1952.

WASTE INFORMATION

HE residues and metals may have dispersed at and around the site.

RELEASE INFORMATION

There is no evidence of past low-order shots that may have scattered HE or of any current residues remaining at the site.

NOTES

This SIMU was formerly SIMU No. 23-001.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-014	TA23-1-CA-1-HW/RW			TA-9-176

SUMMARY

LOCATION : TA-9
 TYPE OF UNIT(s) : MANHOLE
 UNIT USE : TREATMENT/DISPOSAL
 OPERATIONAL STATUS : DECOMMISSIONED
 PERIOD OF USE : EST. 1945
 HAZARDOUS RELEASE : UNKNOWN
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : SUSPECTED HAZARDOUS WASTE

UNIT INFORMATION

Engineering records indicate an industrial waste manhole, TA-9-178, formerly located within TA-23. Further information is lacking. Whether there were other liquid waste handling systems is not known; however, they would be expected.

WASTE INFORMATION

The waste is assumed to have been laboratory type wastes and perhaps HE residues. It is not known how sanitary wastes were handled.

RELEASE INFORMATION

Information on the manhole, its drainline, or possible releases is lacking.

NOTES

This SWMU was formerly SWMU No. 23-002.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-015	**			TA-9-178

** No corresponding E. R. Program unit.

SUMMARY

LOCATION : TA-9
 TYPE OF UNIT(S) : UNDERGROUND TANK
 UNIT USE : STORAGE
 OPERATIONAL STATUS : DECOMMISSIONED
 PERIOD OF USE : ? - 1959
 HAZARDOUS RELEASE : NONE
 RADIOACTIVE RELEASE : NONE

MATERIALS MANAGED : PRODUCT

UNIT INFORMATION

The underground storage tank TA-9-182 was located east of TA-9-1. It was abandoned in 1959 and removed in 1965.

WASTE INFORMATION

The tank stored petroleum fuel product. There is no record of hazardous/radioactive waste storage associated with this tank.

RELEASE INFORMATION

There is no information on the extent of any releases associated with leaks or the removal of the tank. However, until site characterization information is acquired which indicates that there were no releases, it must be assumed, based on past tank removals at the Laboratory, that the tank may have leaked.

SWMU CROSS-REFERENCE LIST

<u>SWMU NUMBER</u>	<u>CEARP IDENTIFICATION NUMBER(S)</u>	<u>RFA UNIT</u>	<u>E.R. RELEASE SITE INFO.</u>	<u>ASSOCIATED STRUCTURES</u>
9-016	**		Tsk 37 : 123	TA-9-182

** No corresponding E. R. Program unit.

**TA-9 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX**

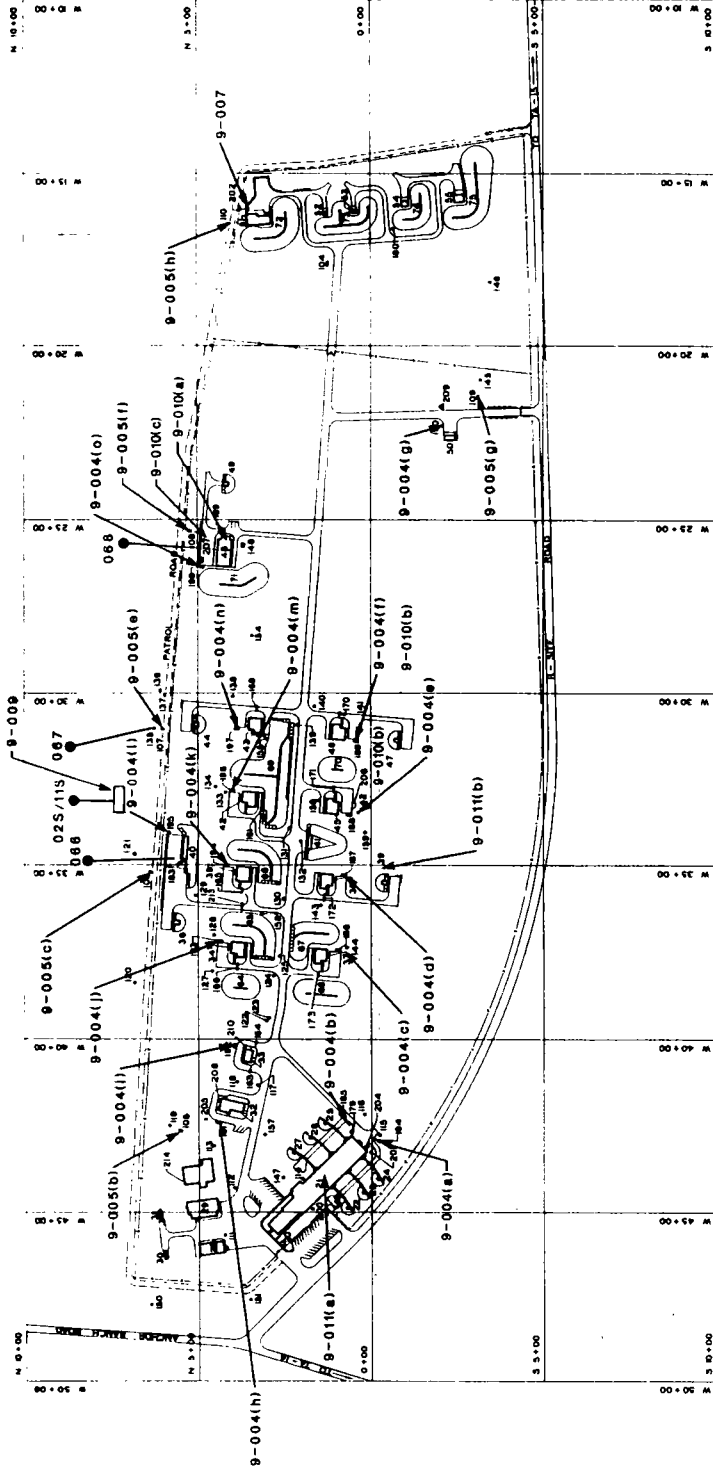
SWMU	FIGURE NUMBER
9-001(a)	9-1
9-001(b)	9-1
9-001(c)	9-1
9-001(d)	9-1
9-002	Not shown, location unknown
9-003(a)	9-1
9-003(b)	9-1
9-003(c)	9-1
9-003(d)	9-1
9-003(e)	9-1
9-003(f)	9-1
9-003(g)	9-1
9-003(h)	9-1
9-003(i)	9-1
9-004(a)	9-2
9-004(b)	9-2
9-004(c)	9-2
9-004(d)	9-2
9-004(e)	9-2
9-004(f)	9-2
9-004(g)	9-2
9-004(h)	9-2
9-004(i)	9-2
9-004(j)	9-2
9-004(k)	9-2
9-004(l)	9-2
9-004(m)	9-2
9-004(n)	9-2
9-004(o)	9-2
9-005(a)	9-3
9-005(b)	9-2
9-005(c)	9-2
9-005(d)	9-4
9-005(e)	9-2
9-005(f)	9-2
9-005(g)	9-2
9-005(h)	9-2
9-006	Not shown
9-007	9-2
9-008	9-3
9-009	9-2

**TA-9 SOLID WASTE MANAGEMENT UNITS
(SWMUs) FIGURE INDEX
(CONTINUED)**

SWMU	FIGURE NUMBER
9-010(a)	9-2
9-010(b)	9-2
9-010(c)	9-2
9-011(a)	9-2
9-011(b)	9-2
9-011(c)	9-1
9-012	Not shown, location unknown
9-013	9-6
9-014	9-1
9-015	9-1
9-016	Not shown

NOTE: Some structure locations may contain more than one SWMU.

Rev. 1, 7/2/90



REV.1 7/2/90

FIGURE 9-2

SOLID WASTE MANAGEMENT UNITS (SWMUs) IN TA-9

- EXPLANATION**
- 9-001 SWMU LOCATION
 - 0 10 LOCATION OF OUTFALL INDICATING ASSOCIATED PIPING AND INFES SERIAL NUMBERS (SEE APPENDIX A)



UNCLASSIFIED

DATE	7-27-83	REVISION	REVISED TITLE BLOCK & DATE TO STATE OF 7-28-83
BY	W. J. ...	CHECKED	...
APP'D	...	DATE	...
DESIGNED	...	DATE	...
CHECKED	...	DATE	...
PROJECT	...	DATE	...
SCALE	...	DATE	...
PROJECT	...	DATE	...
SCALE	...	DATE	...
PROJECT	...	DATE	...
SCALE	...	DATE	...
PROJECT	...	DATE	...
SCALE	...	DATE	...

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

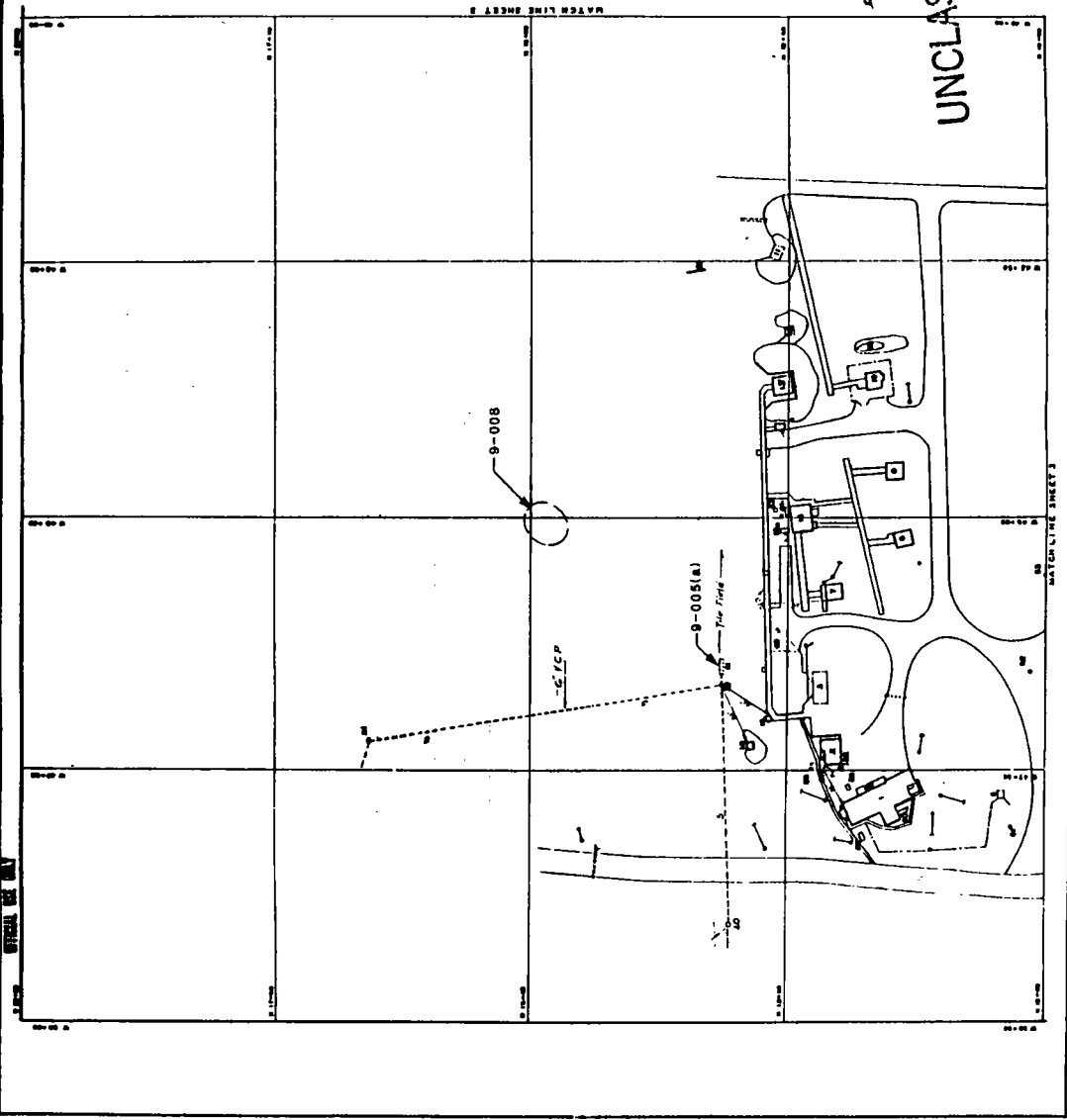
FACILITIES ENGINEERING DIVISION

STRUCTURE LOCATION PLAN
TA-9 ANCHOR SITE EAST

REVISIONS

NO.	DATE	BY	REASON
1	7-27-83	W. J. ...	...
2	...	...	...
3	...	...	...
4	...	...	...
5	...	...	...
6	...	...	...
7	...	...	...
8	...	...	...
9	...	...	...
10	...	...	...

PROJECT: TA-9 ANCHOR SITE EAST
SCALE: AS SHOWN
DATE: 7-27-83
BY: W. J. ...
CHECKED: ...
APP'D: ...
DESIGNED: ...
CHECKED: ...
PROJECT: ...
SCALE: ...

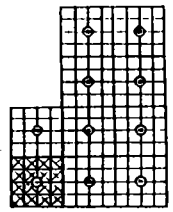


EXPLANATION
 9-001 SWMU LOCATION

REFERENCE
 HARD SHEET

LEGEND
 - P - Sewer
 - C - Cleanout Valve
 - A - Street Gully

FIGURE 9-3
 METRO SOLID WASTE MANAGEMENT UNITS
 (SWMUS) IN TA-9

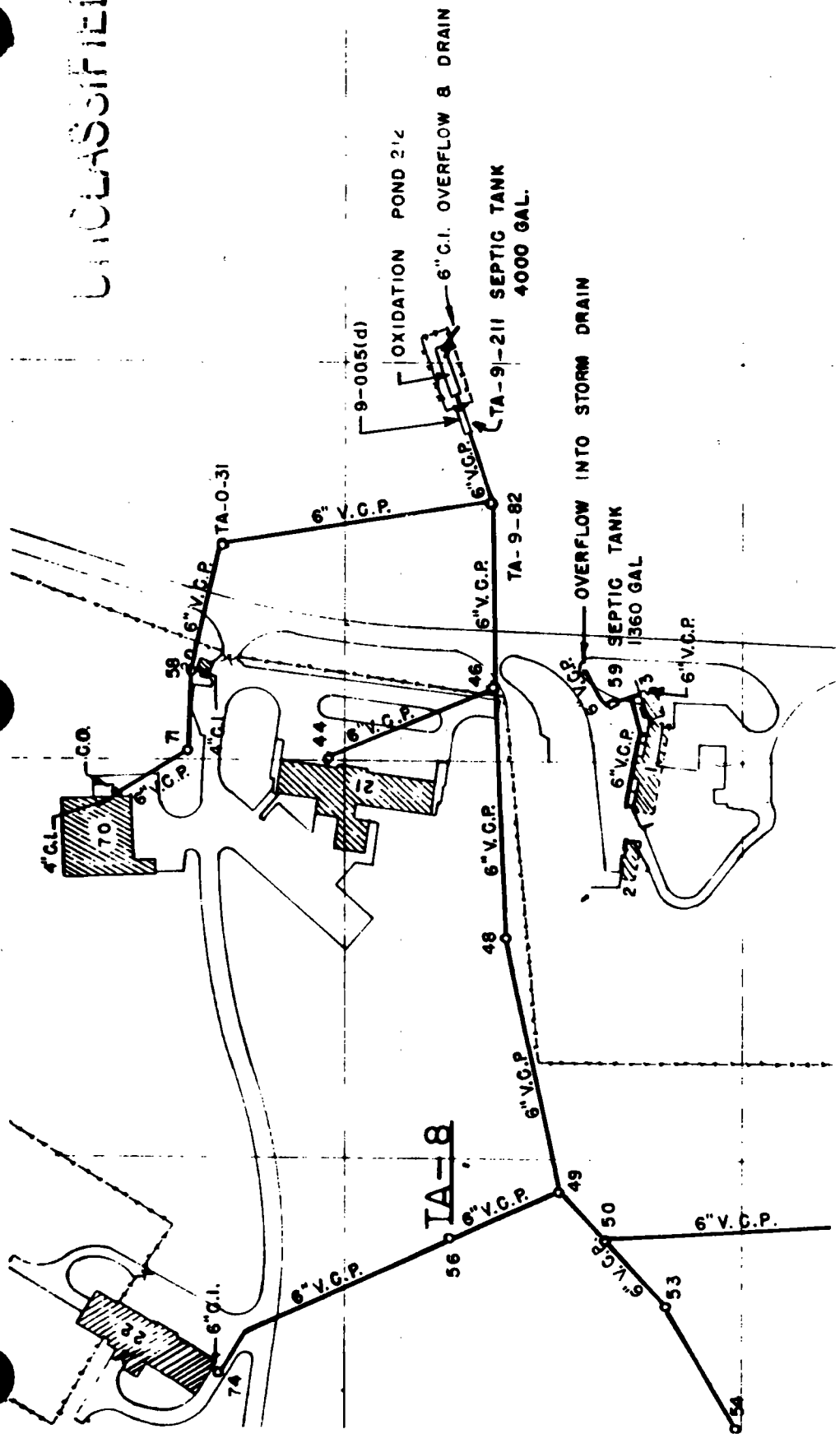


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U.S. GOVERNMENT PRINTING OFFICE: 1963 O 355-153 AUTHORIZED FOR OFFICIAL USE ONLY	
LEW ALBINO SCIENTIFIC LABORATORY U.S. DEPARTMENT OF COMMERCE 100 ALABAMA AVE. S.E.	
UTILITY LOCATION PLAN TA-9 ANCHOR SITE EAST WASHINGTON, D.C.	
DATE: 10/1/63 DRAWN BY: [Signature] CHECKED BY: [Signature]	ENG-2, 0, 0, 0, 0 10 10

1963 SUBJECT: SWMU IS X GRAN 1053 100 100 100

UNCLASSIFIED

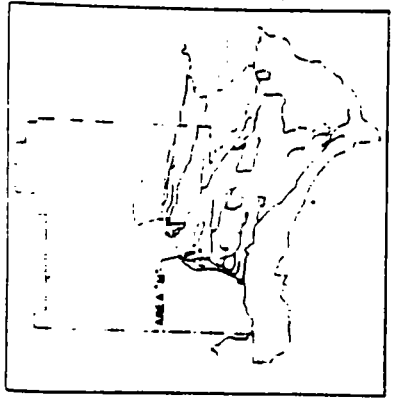
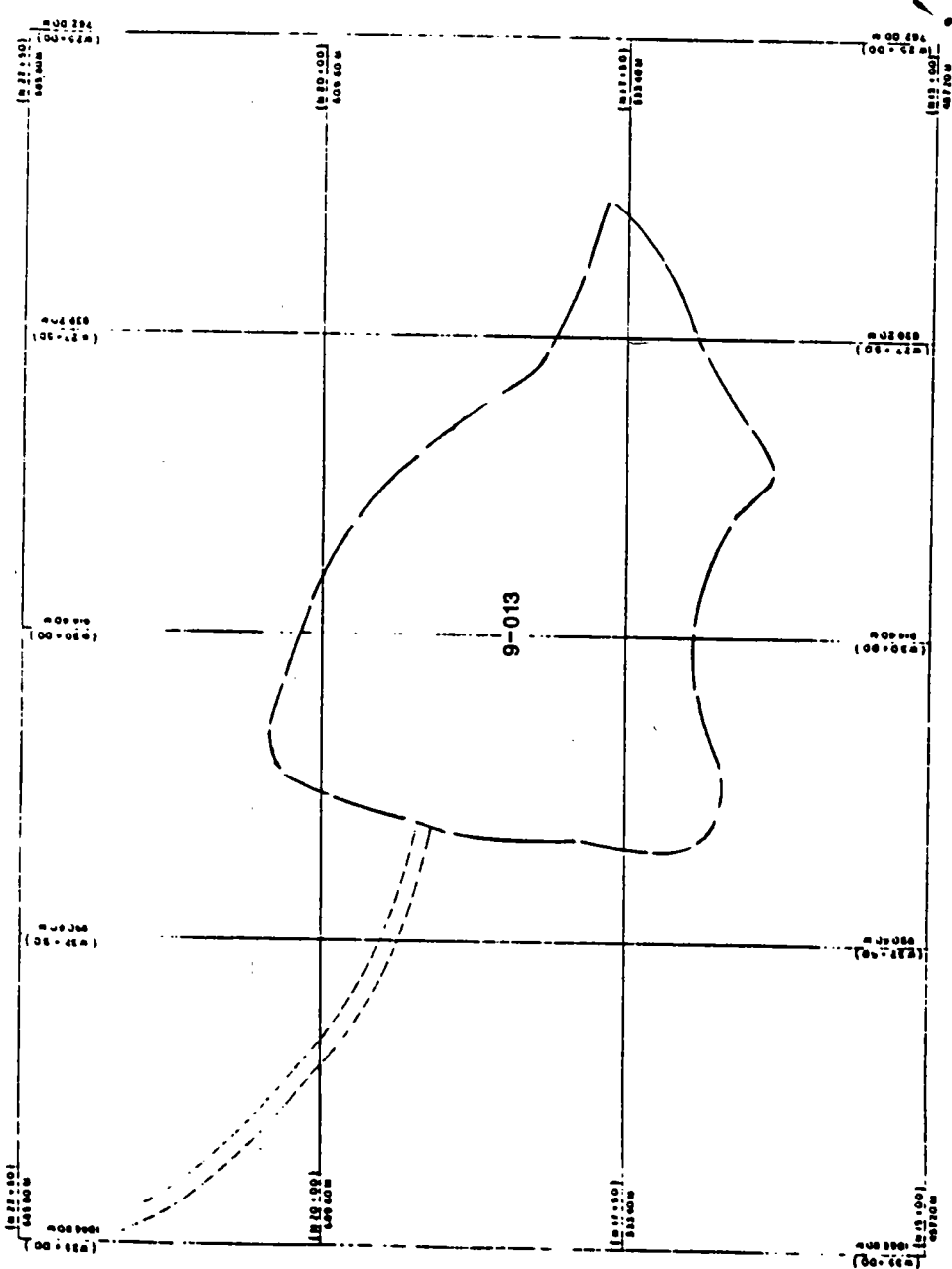


EXPLANATION

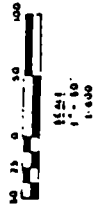
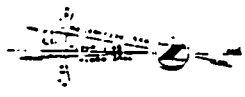
9-00.1 SWMU LOCATION

FIGURE 9-4

SOLID WASTE MANAGEMENT UNITS
(SWMUs) IN TA-9



LOCATION PLAN



REV.1 7/2/90

FIGURE 9-6

MATERIAL DISPOSAL AREA M, TA-0

EXPLANATION
 9-001 SWMU LOCATION

LOS ALAMOS SCIENTIFIC LABORATORY	
ENGINEERING DEPARTMENT	
UNIVERSITY OF CALIFORNIA - LOS ALAMOS 88000	
PROJECT NUMBER	3-22-87-01
DATE	1987
BY	PRELIM
SCALE	1:1
PROJECT TITLE	MATERIALS DISPOSAL AREAS
AREA	AREA "M"
TA 0	
DATE	
BY	
SCALE	
PROJECT NUMBER	
DATE	
BY	
SCALE	