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Department of Energy
Field Office, Albuquerque
Los Alamos Area Office
Los Alamos, New Mexico 87544

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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Kathleen Sisneros, Director
Water and Waste Division
New Mexico Environment Department
Harold Runnels Building
1190 St. Francis Drive
Santa Fe, NM 87502

Dear Ms. Sisneros:

Subject: Class 1 Permit Modification

The purpose of this letter is to request a Class 1 permit modification to the Los Alamos National Laboratory's hazardous waste facility permit. The modifications requested are designed to update sections of the permit affected by the closure of the Technical Area (TA) 50 Batch Waste Treatment Unit (BWTU) and two of the TA-54, Area L, Hazardous Waste Treatment/Storage (HWST) tanks. This submittal is in response to permit modification requirements discussed in your letter to Theodore Taylor, Program Manager, Environmental Restoration Program, of January 3, 1994.

The modifications include:

- The deletion of the closure plan for the BWTU at Permit Attachment E.2.
- The deletion of references to the BWTU within the body of the permit.
- The replacement of the existing HWST closure plan at Permit Attachment E.8 with a modified closure plan for the future closure of the remaining two treatment tanks.

For ease of review, we have provided multiple versions of the modification documents. Both redline/strike-out versions identifying the proposed changes and finished versions for replacement in the existing permit have been provided where appropriate.

We request that you provide us with a current copy of the facility mailing list or allow us to utilize our facility mailing list to contact all interested persons of these proposed modifications as required by Section 270.42(a) (11) of the Hazardous Waste Management Regulations.

KED LANL
[Handwritten initials]

LANL
TA-50 & 54 '94

tz

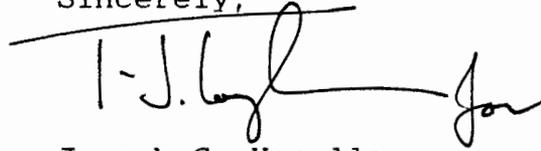


Benito
DEC 13 1994

Ms. Kathleen Sisneros 2

If you should have any questions concerning this issue, please feel free to contact Jon Mack of my staff at (505) 665-5026, or me at (505) 665-5027.

Sincerely,



Joseph C. Vozella
Acting Assistant Area Manager
Office of Environment and Projects

LAAMEP:5JM-002

Enclosures

cc w/enclosures:

Mr. Benito Garcia,
Bureau Chief
Hazardous & Radioactive
Materials Bureau
New Mexico Environment
Department
525 Camino de los Marquez
P. O. Box 26110
Santa Fe, NM 87502

Ms. Barbara Hoditschek,
Program Manager
RCRA Permitting Program
Hazardous & Radioactive
Materials Bureau
New Mexico Environment
Department
525 Camino de los Marquez
P. O. Box 26110
Santa Fe, NM 87502

DRAFT
FACT SHEET FOR MODIFICATIONS
TO HAZARDOUS WASTE FACILITY PERMIT
Los Alamos National Laboratory
December 15, 1994

BACKGROUND

A Hazardous Waste Facility Permit was issued to the Department of Energy and the University of California for the Los Alamos National Laboratory by the New Mexico Environment Department on November 8, 1989. The Permit allows the Laboratory to operate certain hazardous waste management units. The permit includes requirements for: personnel training, inspections, waste analysis, record-keeping, monitoring, accident prevention and emergency response. The hazardous waste management programs at Los Alamos National Laboratory are dynamic, therefore the permit requires periodic modification to remain current with Laboratory conditions and changes in regulatory requirements.

EFFECT OF MODIFICATIONS

By making modifications to the permit, Los Alamos National Laboratory can continue to operate in a manner that protects human health and the environment. Summarized below are the changes that can be found in this set of permit modifications:

- The addition of newly regulated waste codes to the waste analysis plan contained in the Laboratory's permit
- Changes to the waste analysis plan to update and clarify waste segregation procedures
- Changes to the waste analysis plan to correct typographical errors and update organizational and regulatory references
- Change's to language in the permit to clarify performance verification requirements for the Controlled Air Incinerator
- The deletion of the closure plan for the Technical Area (TA) 50 Batch Waste Treatment Unit following completion of the closure of this project
- The amendment of the closure plan for the TA-54, Area L, Hazardous Waste Treatment/Storage tanks following the partial closure of two tanks at this project

Copies of the full text of the permit modification can be reviewed at the following locations:

LANL Community Reading Room
1450 Central Ave., Suite 101
Los Alamos, New Mexico

Santa Fe Public Library
145 Washington Ave.
Santa Fe, New Mexico

Mesa Public Library
1741 Central Ave.
Los Alamos, New Mexico

Española Public Library
314A Oñate Street
Española, New Mexico

PUBLIC NOTICE OF MODIFICATIONS
TO HAZARDOUS WASTE FACILITY PERMIT
FOR LOS ALAMOS NATIONAL LABORATORY

The U.S. Department of Energy (DOE) Los Alamos Area Office and the University of California have requested that the New Mexico Environment Department (NMED) review and approve a set of modifications pertaining to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit.

The New Mexico Administrative Code (20 NMAC 4.1, Subpart IX, 270.42) establishes procedures governing permit modifications requested by the permittee. The modifications being made are considered Class 1 modifications. These modifications involve updating sections of the permit affected by newly regulated wastes, administrative and informational changes, corrections of typographical errors, clarification of performance verification requirements and adjustment of closure plans contained in the permit.

For more information, contact Jon Mack (DOE) at (505) 665-5026, Jack Ellvinger (LANL) at (505) 667-0633, or Barbara Hoditschek (NMED) at (505) 827-4308.

Los Alamos National Laboratory
P.O. Box 1663, MS A117
Los Alamos, New Mexico 87545

**PROPOSED CLASS ONE MODIFICATIONS
TO LOS ALAMOS NATIONAL LABORATORY
RCRA OPERATING PERMIT**

December 14, 1994

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- I. Incinerator Operational Safety
- J. Hazardous Waste Management Regulations

MODULE I
STANDARD CONDITIONS

MODULE I STANDARD CONDITIONS

I.A. EFFECT OF PERMIT

The Permittee is allowed to incinerate, treat and store on site hazardous waste in accordance with the conditions of this permit. Any incineration, treatment or storage of hazardous waste not authorized in this permit or conducted under interim status, as defined by the Resource Conservation and Recovery Act (RCRA), is prohibited. Compliance with this permit constitutes compliance, for purposes of enforcement, with the New Mexico Hazardous Waste Act (Section 74-4-1 et seq. NMSA 1978) and the New Mexico Hazardous Waste Management Regulations (HWMR-5, as amended 1989), Parts V, VII and IX only for those management practices specifically authorized by this permit. The Permittee is also required to comply with HWMR-5, Parts I, II, III and IV to the extent the requirements of those Parts are applicable. The Permittee must also comply with all applicable self-implementing provisions imposed by the Resource Conservation and Recovery Act statute and/or the HWMR-5, Part VIII. A complete RCRA permit consists of this permit and a US EPA permit issued under the provisions of the Hazardous and Solid Waste Amendments of 1984 (HSWA) which addresses the portion of the RCRA program for which the State is not authorized. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any action brought under Sections 3008(a), 3008(h), 3013 or 7003 of RCRA; Sections 106(a), 104 or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA); Sections 74-4-1 et seq. NMSA 1978, or any other law governing protection of public health or the environment.

I.B. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause as specified in HWMR-5, as amended 1989, Part IX, Subpart B, included herein by reference. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the permittee, does not stay the applicability or enforceability of any permit condition. Review of any application for a permit renewal shall consider improvements in the state of control and measurement technology as well as changes in applicable regulations and laws.

1. The Permittee shall provide to the New Mexico Environment Department semiannual updates to identify changes in names, addresses, titles, or phone numbers of coordinators or other persons or agencies identified in Attachments to this Permit.

I.C. SEVERABILITY

The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

I.D. DUTIES AND REQUIREMENTS

1. Duty to Comply. The Permittee shall comply, in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.30(a), with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit issued in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.61. Any permit noncompliance by any Permittee employee or contractor, other than

noncompliance authorized by an emergency permit, constitutes a violation of the New Mexico Hazardous Waste Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

2. Duty to Reapply. In accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.30(b), if the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee shall submit an administratively complete application for a new permit at least 180 calendar days before this permit expires. [HWMR-5, as amended 1989, Part [IX], 40 CFR section 270.10(h)]
3. Permit Expiration. Pursuant to HWMR-5 Part IX, 40 CFR 270.50, this permit shall be effective for the fixed term of ten years. As long as the state is the permit-issuing authority, this permit and all conditions herein will remain in effect beyond the permit's expiration date, if the Permittee has submitted a timely, complete application (see HWMR-5, Part IX, 40 CFR 270.10, 270.13 through 270.29) and, through no fault of the Permittee, the Director has not issued a new permit, as set forth in HWMR-5, Part IX, 40 CFR 270.51.
4. Need to Halt or Reduce Activity Not a Defense. In accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.30(c), it shall not be a defense for the Permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
5. Duty to Mitigate. In accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.30(d), the Permittee shall take all reasonable steps to minimize or correct any adverse impact on human health or the environment resulting from noncompliance with this permit.
6. Proper Operation and Maintenance. In accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.30(e), the Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control and related appurtenances which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facility or similar systems only when necessary to achieve compliance with the conditions of this permit.
7. Duty to Provide Information. In accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.30(h), the Permittee shall furnish to the Director, within a reasonable time, any relevant information which he may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit. [HWMR-5, as amended 1989, Part V, 40 CFR section 264.74(a)]
8. Inspection and Entry. In accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.30(i), the Permittee shall allow the Director or any authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
 - a. Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

- b. Have access to and copy, at reasonable times, any unclassified records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,
- d. Sample or monitor, at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the New Mexico Hazardous Waste Act, any substances or parameters at any location.
- e. The Director recognizes that the Permittee operates in some cases under security restrictions imposed by the Atomic Energy Act (42 USC 2011 et seq.) and the regulations promulgated thereunder, and by other federal laws and regulations. Should conflict arise under this permit section, the Director and the Permittee shall cooperate in working with the appropriate Federal agency to obtain access approval. Nothing in this permit section shall be construed to deny access authorized by the Resource Conservation and Recovery Act.

9. Monitoring.

- a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be an accepted and appropriate method such as described in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846, 1986, as revised, or an equivalent method. Laboratory analytical methods must be those specified in SW-846, 1986 as revised; Standard Methods for the Examination of Water and Wastewater, Fifteenth Edition, 1980 and 1981 Supplement, or current edition; or an equivalent method, as specified in the Waste Analysis Plan, Permit Attachment A.
- b. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, the certification required by HWMR-5, as amended 1989, Part V, 40 CFR 264.73(b)(9), and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, record, certification, or application. These periods may be extended by request of the Director at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility. The Permittee shall maintain records from all ground-water monitoring wells and associated ground-water surface elevations for the active life of the facility. [HWMR-5, as amended 1989, Part V, 40 CFR 264.74(b) and 270.30(j)(2)]
- c. Pursuant to HWMR-5, Part IX, 40 CFR 270.30(j)(3), records of monitoring information shall specify:
 - i. The dates, exact place, and times of sampling or measurements;
 - ii. The individuals who performed the sampling or measurements;
 - iii. The dates analyses were performed;
 - iv. The individuals who performed the analyses;
 - v. The analytical techniques or methods used; and
 - vi. The results of such analyses.

10. Notice of Planned Physical Facility Changes. The Permittee shall give notice to the Director, as soon as possible, of any planned physical alterations or additions to the permitted facility which may impact any procedure or system of treatment, storage or control, or any related appurtenances, installed or used by the Permittee to achieve compliance with this permit. Physical alterations or additions shall include all hazardous waste activities and associated underground tanks. Construction of new units may not begin until a permit or permit modification has been issued.
11. Certification of Construction or Modification. The Permittee may not commence incineration, treatment or storage of waste at the modified unit until:
 - a. The Permittee has submitted to the Director, by certified mail or hand delivery, a letter signed by the Permittee and a registered professional engineer, stating that the unit has been constructed or modified in compliance with the permit; and
 - b.
 - (i) The Director or his designee has inspected the modified or newly constructed unit and finds it is in compliance with the conditions of the permit; or
 - (ii) The Director, or his designee, has either waived the inspection or has not, within 15 calendar days, notified the Permittee of his intent to inspect.
12. Anticipated Noncompliance. The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
13. Transfer of Permit. This permit may be transferred to a new owner or operator pursuant to HWMR-5, as amended 1989, Part IX, 40 CFR section 270.40. Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of HWMR-5, as amended 1989, Parts III, V and IX; and HSWA.
14. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 calendar days following each schedule date.
15. Other Information. Whenever the Permittee becomes aware that he failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Director, the Permittee shall verbally notify the Director of such fact on the next work day and submit, within thirty calendar days, written correction of such facts or information. The term "Permit Application" includes any information submitted on solid waste management units.

/E. SIGNATORY REQUIREMENTS

All reports or other information requested by the Director shall be signed and certified as required by HWMR-5, as amended 1989, Part IX, 40 CFR section 270.11.

/F. CONFIDENTIAL INFORMATION

The Permittee may claim confidential, in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.12 any information, required to be submitted by this permit.

I.G. DOCUMENTS TO BE MAINTAINED AT FACILITY

The Permittee shall maintain at the facility, until closure is completed and certified by an independent registered professional engineer, the following documents and amendments, revisions and modifications to these documents:

1. This permit and its attachments;
2. Waste Analysis Plan, as required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.13(b) and this permit;
3. Personnel training documents and records required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.16(a) and this permit;
4. Contingency Plan, as required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.53(a) and this permit;
5. Closure Plans required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.112(a) and this permit;
6. Operating record required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.73 and this permit; and
7. Inspection schedules required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.15 and this permit.

I.H. PERMIT CONSTRUCTION

1. Citing. Whenever paragraphs of this permit or of the Hazardous Waste Management Regulations are cited, such cite includes all subordinate 40 CFR sections of the cited paragraph. When subordinate 40 CFR sections are cited, such cite includes all 40 CFR subsections of the cited subparagraph. All such cites shall be considered an inclusion by reference in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.30.
2. Gender. Whenever the pronoun "he" is used in reference to the Secretary of the New Mexico Environment Department or the Permittee, it is to be read as "she," in any instance where the object of the reference is female.
3. Definitions. For purposes of this Permit, terms used herein shall have the same meaning as those in HWMR-5, Parts I, V, VIII, and IX, unless this permit specifically provides otherwise; where terms are not defined in the regulations or the permit, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term. "Regional Administrator" means the Regional Administrator of EPA Region VI, or his designee or authorized representative. "Director" means the Secretary of the New Mexico Environment Department, or his designee or authorized representative.
 - a. References to "Wastes" in this permit mean "Hazardous Wastes" as regulated under RCRA unless specifically designated otherwise at the time of use.
 - b. The term "Knowledge of Process" means a written description of the waste, certified as true and correct by an individual familiar with the process that

generated the waste. Such description shall specify the waste constituents and estimate their concentration or quantity.

- c. The term "On-site" as used in permit paragraph II.B.2. means facilities under the operational control of the Permittee and located within the external perimeter of the Permittee's property. This includes Technical Areas 0, 2, 3, 6, 8, 9, 11, 14, 15, 16, 18, 21, 22, 26, 33, 35, 36, 37, 39, 40, 41, 43, 46, 48, 49, 50, 51, 52, 53, 54, 55, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, and 74. See permit Figure 2 and Table I-1. Solid waste management units associated with Los Alamos National Laboratory undergoing remediation will also be considered "on-site" with regard to wastes generated through the remediation of these sites that are subject to management under the conditions set forth in this permit.
- d. Technical Area Zero (TA-0), includes only the detached sites listed in Table I-1.
- e. The term "Analysis" includes physical analysis, chemical analysis and knowledge of process determinations.
- f. The term "Permittee" as used in this permit applies jointly and severably to the Owner, U. S. Department of Energy, and to the Operator, the University of California Regents, doing business as the Los Alamos National Laboratory.

MODULE II
GENERAL FACILITY CONDITIONS

MODULE II GENERAL FACILITY CONDITIONS

//A. DESIGN AND OPERATION OF THE FACILITY

The Permittee shall maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release to air, soil, or surface water of hazardous waste constituents which could threaten human health or the environment.

//B. REQUIRED NOTICE

1. Foreign Wastes. This permit does not allow the Permittee to accept wastes from a foreign source. If the Permittee is to receive hazardous waste from a foreign source, he shall apply for and receive a permit modification in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.41 or 270.42, if appropriate, prior to accepting such waste.
2. Off-Site Wastes. This permit does not allow the Permittee to accept wastes from an off-site source. "Off-site source" refers to wastes generated by sources other than the Permittee or its contractor(s) operating on-site. For the purposes of this permit, wastes generated by the Permittee at Technical Area 57, the Fenton Hill site, and wastes generated through the remediation of solid waste management units associated with Los Alamos National Laboratory, may be accepted for storage or treatment if all such waste is properly manifested in accordance with permit paragraph II.J. below. If the Permittee is to receive hazardous waste from an off-site source, he shall apply for and receive a permit modification in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.41 or 270.42, if appropriate, prior to accepting such waste.

//C. WASTE ANALYSIS

1. Waste Analysis Plan. The Permittee shall follow the procedures described in Permit Attachment A.
2. Quality Assurance. The Permittee shall verify its waste analysis as part of a written quality assurance program. The quality assurance program shall be in accordance with current accepted practices such as specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846, 1986, as revised, or equivalent methods approved by the Director; and at a minimum ensure that the Permittee maintains proper functional instruments, uses approved sampling and analytical methods, verifies the validity of sampling and analytical procedures, and performs correct calculations. The Permittee will notify any contract laboratory of the requirements of this section and permit.
3. Waste Segregation. The Permittee shall keep available at each place where waste storage for more than ninety days occurs, a copy of EPA-600/2-80-076, *A Method of Determining the Compatibility of Hazardous Waste*.
4. Annual Verification. The Permittee shall annually, by the anniversary date of each quarterly report, verify the accuracy and currency of the waste stream determination made in Permit Attachment I.

//D. SECURITY

The Permittee shall comply with the security provisions of HWMR-5, as amended 1989, Part V, 40 CFR section 264.14.

//E. INSPECTION REQUIREMENTS

1. Inspection Plan. The Permittee shall follow Permit Attachment B. and the inspection requirements in Modules III through VII. The Permittee shall remedy any deterioration or malfunction of equipment or structure discovered by an inspection as required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.15(c). Inspection logsheets may be revised by the Permittee and submitted to the Director for inclusion in this permit by permit modification in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.42
2. Facility Release Inspection.
 - a. The Permittee shall take surface water samples and analyze for metals, volatile and both acid- and base-neutral semivolatile organic hazardous waste constituents in accordance with Table II-2 annually at the sample locations in Table II-1. See Figure 9.
 - b. The sampling and analysis shall be done using EPA-approved procedures as published in the latest issue of SW-846.
 - c. Analysis of Variance (ANOVA) statistical procedures as promulgated in 53 FR 39720 (October 11, 1988) shall be used to compare data between up-gradient and down-gradient stations.
 - d. Records of this inspection shall be kept in accordance with permit paragraph II.K.1.a. below. All analytical results will be recorded and reported. Reports shall be on the form provided in Figure 10.
 - e. Reports of releases detected by this inspection shall be made in accordance with permit paragraph II.K.2.c. below.
 - f. In the event water samples cannot be obtained at one or more sites, the attempt to obtain samples will be documented in the facility record and the Director notified in writing within 30 days of each unsuccessful attempt.

//F. PERSONNEL TRAINING

The Permittee shall conduct personnel training as required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.16. This training program shall follow Permit Attachment C. Permit Attachment C. shall be updated by the Permittee whenever necessary so as to remain current and accurate. A dated copy of the revised training program will be submitted to the Director for the permit files and permit modification in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.42 prior to its implementation. The Permittee shall maintain training documents and records, as required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.16(d) and (e).

//G. REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

The Permittee shall comply with the requirements of HWMR-5, as amended 1989, Part V, 40 CFR section 264.17.

//H. PREPAREDNESS AND PREVENTION

1. Required Equipment. At a minimum, the Permittee shall equip the facility with the equipment set forth in Permit Attachments B. and D.
2. Testing and Maintenance of Equipment. The Permittee shall test and maintain the equipment specified in permit paragraph II.H.1. above annually or more often if necessary to assure its proper operation in time of emergency.
3. Access to Communications or Alarm System. The Permittee shall maintain access to the communications or alarm system(s) as required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.34.
4. Required Aisle Space. The Permittee shall maintain aisle space as required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.35. The minimum aisle shall be twenty four inches. All containers in storage shall be accessible for inspection.

//I. CONTINGENCY PLAN

1. Implementation of Plan. The Permittee shall immediately carry out the provisions of Permit Attachment D. whenever there is an unplanned fire, explosion, or unpermitted release of hazardous waste or hazardous constituents which threatens or could threaten human health or the environment.
2. Amendment of the Plan. The Permittee shall review, as required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.54., and immediately amend if necessary, the Contingency Plan.
3. Copies of the Plan. The Permittee shall comply with the requirements of HWMR-5, as amended 1989, Part V, 40 CFR section 264.53. A dated copy of any amended Contingency Plan will be submitted to the Director for the permit files and permit modification in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.42 prior to its implementation.
4. Emergency Coordinator. The Permittee shall comply with the requirements of HWMR-5, as amended 1989, Part V, 40 CFR section 264.55 concerning the emergency coordinator.

//J. MANIFEST SYSTEM

The Permittee shall comply with the manifest requirements of HWMR-5, as amended 1989, Part V, 40 CFR sections 264.71 and 264.72 for any hazardous wastes received from or shipped off-site by the Permittee for treatment, storage or disposal.

//K. RECORDKEEPING AND REPORTING

1. Facility Operating Record. The Facility Operating Record maintained pursuant to HWMR-5, as amended 1989, Part V, 40 CFR section 264.73 shall be maintained in such manner that any information required to be in the record shall be readily available to an inspector. Readily available means that, upon request by an inspector, the Permittee can provide the requested information within 24 hours or before the end of the inspection, whichever is less; or upon a schedule designated by the inspector.

- a. In accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.30(j), the Permittee shall maintain at the facility until the end of the last closure period, a written record of waste, effluent, water and decontamination wash-water analyses. The following information shall be recorded:
 - (i) The dates, exact place, and times of sampling or measurements;
 - (ii) The individual who performed the sampling or measurements;
 - (iii) The dates analyses were performed;
 - (iv) The individuals or off-site laboratory who performed the analyses;
 - (v) The analytical techniques or methods used; and
 - (vi) The results of such analyses. The results shall include range, mean, standard deviation and detection limits as applicable to facilitate data analysis.

- b. The Permittee shall maintain pursuant to HWMR-5, as amended 1989, Part V, 40 CFR section 264.73(b) at the facility until the end of the last closure period, a written record of waste disposal activities. Current EPA approved nomenclature and codes shall be used where appropriate. The following information shall be recorded:
 - (i) Waste Source
 - (ii) Waste Description
 - (iii) Waste Quantity
 - (iv) Current Storage Location
 - (v) Disposal. Properly completed hazardous waste manifests will suffice for wastes shipped off-site.

- c. The Permittee shall maintain at the facility a written record of Contingency Plan implementation reports. The record shall contain at least the information required in permit paragraph II K.2.b. below. These records shall be kept until the end of the last closure period.

- d. The Permittee shall keep at the facility a written record of all inspections conducted in accordance with Permit Attachment B. and permit paragraph II.E. above. These records shall be maintained for a minimum period of three years from the date of the inspection. Records of inspections leading to corrective action shall be retained for three years after the corrective action taken as a result of the inspection.

- e. The Permittee shall keep at the facility training documents and records as required by HWMR-5, as amended 1989, Part V, 40 CFR sections 264.16(d) and 264.16(e), and Permit Attachment C. Records of training shall be kept on all current employees and for three years after an employee leaves the facility owner's or operator's employ.

- f. The Permittee shall maintain at the facility a copy of all biennial reports submitted in accordance with permit paragraph II.K.2. below. These copies shall be kept until the end of the last closure period.
- g. The Permittee shall keep sufficient monitoring records and documentation to demonstrate compliance with this permit. Records unique to one activity may be kept in the vicinity of that activity, subject to the availability requirement in permit paragraph II.K.1. above.
- h. In accordance with HWMR-5, as amended 1989, part V, 40 CFR section 264.74(b), the retention period for all records required by this permit is extended automatically during the course of any unresolved enforcement action regarding the facility, or as directed by the Director.

2. Reports.

- a. The Permittee shall comply with the Biennial Report requirements of HWMR-5, as amended 1989, Part V, 40 CFR section 264.75.
- b. In accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.30(l)(6), the Permittee shall report to the Director any noncompliance with the permit which may endanger human health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:
 - (i) Information concerning the release of any hazardous waste which may endanger public or private drinking water supplies.
 - (ii) Information concerning the release or discharge of any hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health. The description of the occurrence and its cause shall include:
 - (a) Name, address, and telephone number of the owner or operator;
 - (b) Name, address, and telephone number of the facility;
 - (c) Date, time, and type of incident;
 - (d) Name and quantity of materials involved;
 - (e) The extent of injuries, if any;
 - (f) An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and

Estimated quantity and disposition of recovered material that resulted from the incident. The 24-hour report shall be made by calling (505) 827-4358 during normal duty hours or (505) 827-9329, the 24-hour emergency line.
- c. The Permittee shall provide to the Director within five (5) working days of the time the Permittee becomes aware of the circumstances, a written report on the event(s) reported orally in permit paragraph II.K.2.b. above. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance, including exact dates and times; whether the noncompliance has

been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Permittee need not comply with the five-day written notice requirement if the Director waives the requirement and the Permittee submits a written report within fifteen (15) calendar days of the time the Permittee becomes aware of the circumstances. The written report shall be submitted by certified mail to:

Secretary,
New Mexico Environment Department
1190 St. Francis Drive
Harold Runnels Building
Santa Fe, NM 87503

- d. In accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.30(l)(10), the Permittee shall report all other instances of noncompliance, not otherwise required to be reported above, in the annual Environmental Surveillance Report. The reports shall contain the information listed in permit paragraph II.K.2.b. above.

//L. CLOSURE

The provisions of this permit section apply to individual units for partial closure of the facility, as well as total closure of the entire facility. Closure of one unit may or may not affect the remaining units. The impact of such sequential or partial closure may depend on the sequence and circumstances in existence at the time of closure. The Director may direct or the Permittee may request appropriate revisions to the closure plan at that time.

1. Performance Standard. The Permittee shall close the facility as required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.111 and in accordance with each closure plan, Permit Attachment E.
2. Amendment of Closure Plans. The Permittee shall amend each closure plan in accordance with HWMR-5 as amended 1989, Part V, 40 CFR section 264.112(c) whenever necessary.
3. Notification of Closure. The Permittee shall notify the Director at least 60 days prior to the date he expects to begin closure under any Permit Attachment E. closure plan.
4. Time Allowed For Closure. After receiving the final volume of hazardous waste, the Permittee shall treat or remove from site all hazardous waste in accordance with the schedule specified in the closure plan. After receiving the final volume of hazardous waste, the Permittee shall complete closure activities in accordance with the schedule specified in the closure plan.
5. Disposal or Decontamination of Equipment. The Permittee shall properly dispose of or decontaminate all facility equipment, structures, and soils, as required by the closure plan.
6. Certification of Closure. The Permittee shall certify that the facility has been closed in accordance with the specifications in the closure plan.

//M. MOVEMENT RESTRICTION

On-site transportation of hazardous wastes shall at all times be conducted in accordance with U.S. Department of Transportation regulations. Off-site transportation of hazardous wastes shall be conducted by EPA-registered transporters only and shall also be in accordance with U.S. Department of Transportation regulations.

//N. Spills

The Permittee shall take corrective action, as required by Section 74-4-4.2B NMSA 1978, (as amended 1989), for all releases of hazardous wastes or constituents from any solid waste management unit at his facility. Corrective action may include, but shall not be limited to, the following: decontamination and/or removal of all releases, spills and leaks; immediate cleanup of release or spillage of hazardous wastes, or constituent residue or listed chemicals which become wastes; prevention of surface-water or ground-water contamination which could result from a release or spill; and, cleanup of any surface-water or ground-water contamination which results from a release or spill.

MODULE III
STORAGE IN CONTAINERS

MODULE III STORAGE IN CONTAINERS

///.A. DESIGNATED STORAGE UNITS

1. Technical Area 54, Area L. The Permittee may store for more than ninety days hazardous wastes in containers only in the following designated storage areas:
 - a. Containers containing free liquids may be stored on the concrete containment structure, Facility Number 54-32.
 - b. Containers containing free liquids may be stored in the packaging building, Facility Number 54-31.
 - c. Containers not containing free liquids may be stored, on pallets or otherwise elevated four inches, in a single layer in cleared areas within the fenced portion of Area L, subject to the limitations of HWMR-5, as amended 1989, Part V, 40 CFR sections 264.175(c) and 264.175(d). Such containers shall not be stored within five feet of the perimeter fence, nor five feet of any structure, nor five feet of the paved or unpaved roadway. Disposal unit covers designed to serve as storage areas are not subject to this exclusion. See Figure 6.
 - d. Gas cylinders will be stored in cylinder racks, or on specially constructed pallets that provide support and restraint, under a self-supporting canopy located in cleared areas within the fenced portion of Area L within the restrictions of permit paragraph II.G. above.
 - e. The fenceline around Area L as shown in permit Figure 6 shall not be altered without prior notice to the Director and permit modification in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.41 or 270.42 as appropriate.
 - f. Containers containing free liquids may be stored in the modular storage buildings, Model 22 or equivalent, Facility Numbers 54-68, 54-69, located as shown in Figure 6.
2. Technical Area 50. The Permittee may store for more than ninety days hazardous wastes in containers only in the following designated storage areas:
 - a. Containers containing free liquids may be stored on the concrete containment structures, Facility Numbers 50-139 and 50-140, located as shown in Figure 4.
 - b. Building 50-37. Containers may be stored within storage room 117 of the Controlled Air incinerator as shown in Figure 4.
 - c. Containers containing free liquids may be stored in the modular storage buildings, Model 22, or equivalent, Facility Numbers 50-114, 50-137 and 50-138, located as shown in Figure III-2.

///.B. AUTHORIZED WASTES

1. Identification. Only hazardous wastes identified in Permit Attachment G. with the process code "S01" in column D.1. "Processes" shall be stored.

2. Quantities. The cumulative quantity of individual hazardous wastes in storage at any one time at the facility shall not exceed the quantity indicated in Permit Attachment G. Column B. "Estimated Annual Quantity of Waste."
3. Land Ban. The Permittee must also comply with the following regarding storage of its wastes in containers which are prohibited from land disposal. These restrictions are imposed on any waste as it becomes prohibited from land disposal. (HWMR-5, as amended 1989, Part VIII, 40 CFR section 268.50)
 - a. A storage period of one year is permitted. A storage period beyond one year is permitted provided there is proof that such storage is solely for the purpose of accumulation of such quantities as are necessary to facilitate proper recovery, treatment or disposal.
 - b. Each container must be clearly marked as to its contents and the date each period of accumulation begins.
 - c. Hazardous wastes meeting the treatment standards in HWMR-5, Part VIII, 40 CFR sections 268.41, 268.42, 268.43 are not subject to the storage prohibition. Hazardous wastes meeting the treatment standards specified under the variance in HWMR-5, Part VIII, 40 CFR section 268.44 are not subject to the storage prohibition.

III.C. CONTAINERS

1. Capacity.
 - a. Labpacked wastes shall be stored in containers not to exceed 55-gallon nominal capacity.
 - b. Bulk liquids may be stored in drums of a nominal capacity of 55-gallons or less.
 - c. Solidified hazardous wastes not containing free liquids may be stored in containers meeting U.S. Department of Transportation (DOT) requirements for transportation.
 - d. Compressed gases may be stored in any sized cylinder. Small cylinders may be packed in drums or crates complying with DOT shipping regulations.
 - e. Polyethylene containers of 220-gallon or 330-gallon capacity may be used in place of 55-gallon drums as long as secondary containment capacity criteria of HWMR-5, as amended 1989, Part V, 40 CFR section 264.175(b)(3) are not exceeded.
2. Type. Containers must be of a type specified in the DOT hazardous materials regulations, 49 CFR 171 to 179, if those regulations specify a particular container for the waste. As applicable, the containers shall be either: (1) previously unused or certified reconditioned DOT shipping containers; (2) the original shipping containers in which the material was first marketed; or (3) any other suitable container which satisfies the requirements of permit paragraph III.C. If the hazardous wastes are to be received and stored in their original shipping containers, the Permittee must insure that the requirements of permit paragraph III.C. are satisfied. Polyethylene bulk containers shall meet or exceed DOT specification number E9052. Compressed gas cylinders not meeting DOT requirements shall be segregated in a safe area.

3. Quantity. The following quantities include all stored liquid materials, whether regulated or not. Solid materials which do not displace containment capacity may be collocated without affecting these volumes. Solid materials which displace containment volume shall be included in calculating the stored volume as if they were liquids. The Permittee shall keep current accurate records of the quantity of waste in storage at each location below to ensure that these capacities are not exceeded.
 - a. No more than 440 gallons of liquid shall be stored at Technical Area 54, Area L, Building Number 54-31.
 - b. No more than 17,220 gallons of liquid shall be stored at each concrete containment structure: Facility Numbers 54-32, 50-139 or 50-140.
 - c. No more than 3600 containers of 55-gallon capacity or less, or the equivalent volume of 26,470 cubic feet, 980 cubic yards or 749 cubic meters, shall be used to store solidified wastes at Technical Area 54, Area L.
 - d. No more than 3,630 gallons of liquid shall be stored in Building 50-37, Room 117.
 - e. No more than 1,650 gallons of waste shall be stored in each modular storage unit.
4. Condition.
 - a. If a container holding hazardous waste is not in good condition (e.g. severe rusting, structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this permit.
 - b. The Permittee may use overpack containers of more than 55-gallon capacity to manage defective waste storage containers. Each overpacked container shall be recorded in the facility record.
5. Compatibility of Waste with Containers.
 - a. The Permittee shall assure, as required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.172, that the ability of the container to contain the waste is not impaired. When necessary, this shall include procedures for determining whether the hazardous waste is no longer compatible with the shipping container if it is to be stored in its original container (e.g. determination of container adequacy for chemicals that have a finite shelf life or may change in composition upon aging).
 - b. The Permittee shall not place into the polyethylene containers described in permit paragraph III.C.1.e. above, any material for which the manufacturer does not rate the container suitability as "Good" or "Excellent" in the current compatibility technical bulletin issued by the manufacturer. A copy of the current bulletin shall be available at any location where the polyethylene container(s) is (are) filled or stored with contained wastes for more than thirty days.
6. Management. The Permittee shall manage containers as required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.173 and Permit Attachment F.

///.D. CONTAINMENT

The Permittee shall construct and maintain the containment systems for each storage unit in permit paragraphs III.A.1. and III.A.2. above in accordance with the requirements of HWMR-5, as amended 1989, Part V, 40 CFR section 264.175.

///.E. IGNITABLE OR REACTIVE WASTES

The Permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility property line.

///.F. INCOMPATIBLE WASTES

The Permittee shall manage incompatible wastes or incompatible wastes and materials in accordance with the requirements of HWMR-5, as amended 1989, Part V, 40 CFR section 264.177.

///.G. CLOSURE

The Permittee shall comply with the Closure Plan, Permit Attachment E. and permit paragraph II.L. above, for closure of any permitted storage area.

///.H. INSPECTION

1. Inspection Plan. The Permittee shall inspect the storage areas in accordance with Permit Attachment B.
2. Spill Kits. The type, presence, location and quantity of spill kits shall be verified and annotated monthly. If spill kits are locked up, the location of access keys shall be verified.
3. Warning Signs. The legibility and condition of warning signs shall be included in the weekly inspection. Missing or illegible signs shall be promptly replaced within 24 hours of discovery.
 - a. Signs shall be at the entrances to the hazardous waste units. Collocated units may be included within one signed area.
 - b. Signs shall say "Danger, Unauthorized Personnel Keep Out" and "Hazardous Waste Storage Area."
 - c. Signs shall be in both English and Spanish.
 - d. Signs on approachable perimeter fences shall be spaced no more than 50 feet apart.

MODULE IV
TREATMENT IN CONTAINERS AND TANKS

MODULE IV TREATMENT IN CONTAINERS AND TANKS

IV.A. DESIGNATED TREATMENT UNITS

The Permittee may treat hazardous wastes only in the containers and tanks described in this module. No other treatment of hazardous wastes, EPA code T01, is permitted anywhere on the facility. Treatment of wastes subject to the exclusions of HWMR-5, as amended 1989, Part V, 40 CFR section 264.1(g) shall be documented in accordance with Permit Attachment I. A record or listing of all facility treatment units shall be kept by the Permittee. Their regulatory status and the reasons for claiming an exclusion under HWMR-5, as amended 1989, Part V, 40 CFR section 264.1(g) shall be recorded. Laboratory staff neutralizing characteristic wastes in quantities of less than one liter need not be recorded if the resultant discharge is to a wastewater system subject to other regulation.

Technical Area 54 Area L. Wastes may be treated in the two open-top steel tanks located in Area L, or in the Barium Sand Truck-Mounted-Container Treatment System located during operation on the treatment pad at TA 54-35.

IV.B. AUTHORIZED WASTES

1. Identification. Only wastes identified in Permit Attachment G. with the process code "T01," in Column D.1. "Processes" shall be treated, subject to the limitations in permit paragraph IV.B.4. below.
2. Quantities. The quantity of waste awaiting treatment shall not exceed the quantity indicated in Permit Attachment G. Column B. "Estimated Annual Quantity of Waste."
3. Additions to the List of Treated Wastes. The Permittee shall apply for a permit modification in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR sections 270.41 or 270.42 before treating wastes not identified in this permit module.
4. Special Limitation. The limitations in Permit Attachment G, Column D.2. shall apply to choice of treatment unit.
5. Land Ban. The Permittee must also comply with the following regarding storage of its wastes in tanks which are prohibited from land disposal. These restrictions are imposed on any waste as it becomes prohibited from land disposal. (HWMR-5, as amended 1989, Part VIII, 40 CFR section 268.50)
 - a. A storage period of one year is permitted. A storage period beyond one year is permitted provided there is proof that such storage is solely for the purpose of accumulation of such quantities as are necessary to facilitate proper recovery, treatment or disposal.
 - b. Each container or tank must be clearly marked as to its contents, the quantity of hazardous waste received, and the date each period of accumulation begins.
 - c. Hazardous wastes meeting the treatment standards in HWMR-5, as amended 1989, Part VIII, 40 CFR sections 268.41 268.42, 268.43 are not subject to the storage prohibition. Hazardous wastes meeting the treatment standards specified under the variance in HWMR-5, Part VIII, 40 CFR section 268.44 are not subject to the storage prohibition.

IV.C. DESIGN OF TREATMENT CONTAINERS OR TANKS

1. Technical Area 54, Area L Treatment Tanks. The tanks shall be nine feet in diameter and three feet six inches high. They shall be constructed of ten gauge carbon steel and shall be coated inside and out with Carboline Phenoline (@) film or equivalent. The tanks shall be on a containment slab constructed with six inch retaining curbs as in Figure 7.
2. Barium Sand Truck-Mounted-Container Treatment System. The Barium Sand Truck-Mounted-Container Treatment System shall be constructed as shown in Figure 11. When in operation, the truck mounted system shall be placed on the treatment pad providing secondary containment in TA 54-35, in place of two of the present treatment tanks shown in Figure 7.

IV.D. OPERATING REQUIREMENTS

1. Technical Area 54, Area L.
 - a. The tanks shall maintain a minimum of six inches of freeboard at all times. The tanks shall not be left unattended when filling or addition of any material is in process.
 - b. Wastes in the tanks will be sampled before and after treatment and analyzed in accordance with Permit Attachment A.
 - c. Tanks containing hazardous wastes will be covered whenever significant precipitation is imminent or falling. Significant precipitation is one-half inch water equivalent.
 - d. Incompatible wastes shall not be treated in the tanks.
2. Barium Sand Truck-Mounted-Container Treatment System.
 - a. The Truck-Mounted-Container Treatment System shall be operated in accordance with the operating procedures described in Attachment L.
 - b. Only barium-contaminated sands (D005) shall be treated in this container-treatment system.
 - c. Each treatment operation will consist of no more than the equivalent of five 55 gallon drums (275 gallons) of barium-contaminated sands, not including water, sulfuric acid, gypsum, and cement added as part of the treatment operation.
 - d. Precautions outlined in Attachment L to capture and recycle fugitive dust must be in place during operation of the container-treatment system.

IV.E. INSPECTIONS

The Permittee shall inspect the treatment tanks in accordance with Permit Attachment B. and the requirements below.

1. Technical Area 54, Area L.

- a. The type, presence, location and quantity of spill kits shall be verified and annotated monthly. If spill kits are locked up, the location of access keys shall also be verified.
- b. In accordance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.193(c)(4), accumulated liquids discovered in secondary containment structures shall be removed within 24 hours of discovery. In the event inclement weather prevents such removal, the circumstances shall be documented in the facility record and the removal effected not later than the next duty day after the weather allows.
- c. Cracks and/or gaps in secondary containment structures discovered during an inspection will be repaired within seven calendar days of discovery. Cracks determined to be minor and not adversely affecting containment integrity, shall be logged and delay of repairs justified. Repair of minor cracks may be deferred until regularly scheduled maintenance.

2. Barium Sands Truck-Mounted-Container Treatment System.

- a. The type, presence, location and quantity of spill kits shall be verified and annotated monthly. If spill kits are locked up, the location of access keys shall also be verified.
- b. In accordance with HWMR-7, as amended 1992, Part V, 40 CFR section 264.193(c)(4), accumulated liquids discovered in secondary containment structures shall be removed within 24 hours of discovery. In the event inclement weather prevents such removal, the circumstances shall be documented in the facility record and the removal effected not later than the next duty day after the weather allows.
- c. Cracks and/or gaps in secondary containment structures discovered during an inspection will be repaired within seven calendar days of discovery. Cracks determined to be minor and not adversely affecting containment integrity, shall be logged and delay of repairs justified. Repair of minor cracks may be deferred until regularly scheduled maintenance.

3. Warning Signs. The legibility and condition of warning signs shall be included in the weekly inspection. Missing or illegible signs shall be promptly replaced within 24 hours of discovery.

- a. Signs shall be at all entrances to the hazardous waste units. Collocated units may be included within one signed area.
- b. Signs on approachable perimeter fences shall be spaced no more than 50 feet apart.
- c. Signs shall say "Danger, Unauthorized Personnel Keep Out" and "Hazardous Waste Storage Area."
- d. Signs shall be in English and Spanish.

IV.F. RESPONSE TO LEAKS OR SPILLS

The Permittee shall follow the requirements of HWMR-5, as amended 1989, Part V, 40 CFR section 264.196 in response to a leak or spill.

IV.G. CERTIFICATION OF REPAIRS

All major repairs to any tank or associated plumbing shall be certified in accordance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.196(f) prior to being placed back in service.

IV.H. CLOSURE

The Permittee shall close the tanks in accordance with Permit Attachment E, permit paragraph II.L. above and this permit module.

1. Technical Area 54 Area L.

- a. At closure, all hazardous waste residues shall be removed from the tanks and the containment structure in accordance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.197(a).
- b. Any component not decontaminated shall be disposed of as hazardous waste in accordance with HWMR-5, as amended 1989, Part V, 40 CFR section 264. 197(b).

2. Barium Sands Truck-Mounted-Container Treatment System.

- a. At closure, all hazardous waste residues shall be removed from the Truck-Mounted-Container Treatment System and the containment structure in accordance with HWMR-7, as amended 1992, Part V, 40 CFR section 264.197(a).
- b. Any component not decontaminated shall be disposed of as hazardous waste in accordance with HWMR-7, as amended 1992, Part V, 40 CFR section 264. 197(b).

MODULE V

CONTROLLED AIR INCINERATOR OPERATION

MODULE V CONTROLLED AIR INCINERATOR OPERATION

V.A. GENERAL CONDITIONS

1. Authorized Unit. The unit is the modified Environmental Control Products model ECP 500-T Controlled Air Incinerator (CAI) located in Technical Area 50, Building 37 and configured as shown in Figure 8.
2. Destruction and Removal Efficiency. The incinerator and associated effluent control system shall be operated to achieve a minimum destruction and removal efficiency (DRE) of 99.99% calculated in accordance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.343(a). A minimum DRE of 99.9999% shall be achieved whenever waste F027 is incinerated.
3. Regulatory Compliance. In accordance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.343(d), compliance with the operating conditions of this permit will be regarded as compliance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.343. Evidence that compliance with these conditions is insufficient to ensure compliance with the performance standards of HWMR-5, as amended 1989, Part V, 40 CFR section 264.343, shall be information justifying permit modification in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.41 or 270.42 or permit revocation in accordance with HWMR-5, as amended 1989, Part IX, 40 CFR section 270.43.

V.B. WASTE IDENTIFICATION

1. Authorized Wastes.
 - a. Only wastes identified in Permit Attachment G. with the process code "T03" in column D.1. "Processes" shall be incinerated at the CAI.
 - b. Only wastes generated at the Permittee's facility shall be incinerated. See permit paragraph II.B.2. above.
2. Prohibited Wastes.
 - a. The following listed hazardous wastes shall not be incinerated unless chemical analysis shows them to not exceed one hundred micrograms per gram concentration in the waste:
 - (i) U121 Trichloromonofluoromethane (Freon 11)
 - (ii) U225 Tribromomethane
 - (iii) U075 Dichlorodifluoromethane (Freon 12)
 - b. Any future listed hazardous waste with a heat of combustion less than 0.24 kilocalories per gram shall not be incinerated unless chemical analysis shows it to not exceed one hundred micrograms per gram concentration in the waste.
 - c. Wastes generated off-site shall not be incinerated. See permit paragraph II.B.2.above.
3. Physical Form. Wastes in gaseous, liquid, solid, or semi-solid sludge forms may be incinerated.

V.C. WASTE ANALYSIS

1. Waste Analysis Plan. The Permittee shall follow Permit Attachment A. Each knowledge of process determination shall be documented and justified. Each batch of waste shall be analyzed in accordance with Permit Attachment A.4.1.2.
2. Analysis of Waste Blends. Waste blends of previously analyzed materials shall not require reanalysis unless:
 - a. Physical properties are expected to vary more than five percent (5%) from those of the original feedstock, and
 - b. Those physical properties cannot be calculated based on previous analytical knowledge of the individual components or blends forming the new mixture.
 - c. Five percent (5%) of the waste blends not analyzed on an annual basis shall be subject to analysis as a quality control check of the calculated values. Agreement between analytical data and calculated values of ten percent (10%), based on the analytical data, shall be acceptable. Disagreement shall be investigated for cause and documented in the record, along with appropriate corrective actions. The next waste blend created after a disagreement shall be analyzed to confirm corrective action.
 - d. Waste blends may not be incinerated prior to receipt of analytical data.
3. Determination of Radionuclides Content. Each batch of waste treated under this permit shall be surveyed to determine its radionuclide content. Knowledge of Process shall not be used for this survey.
4. Metals Standards. Each batch of liquid waste treated under this permit shall be analyzed to determine its metal content. For each metal, the waste feed rate, in grams/sec, should not exceed that dictated by the emissions screening limits for noncarcinogenic and carcinogenic metals for facilities in complex terrain determined by using the terrain adjusted effective stack height according to the EPA "Guidance on Metals and Hydrogen Chloride Controls for Hazardous Waste incinerators, Vol. IV, March, 1989" or the succeeding guidance documents. Knowledge of Process analyses may be used on no more than 80% by volume of the wastes treated.

V.D. PRINCIPAL ORGANIC HAZARDOUS CONSTITUENTS

1. Routine Operations. For all hazardous waste burns the following constituents are designated as POHCs unless chemical or physical analysis shows they comprise less than 100 micrograms per gram of the waste:
 - a. U044 Chloroform
 - b. U228 Trichloroethylene
 - c. U226 1,1,1-trichloromethane
 - d. U211 Tetrachloroethane
2. Bulk-Feed Operations. Whenever the hazardous waste feed contains ten percent by weight or more of any listed hazardous waste, each such constituent is designated a POHC.

V.E. MONITORING

For each hazardous waste burn, the continuous monitoring and/or recording devices below shall be observed hourly by an operator during waste feed operation and the observation recorded in the operating record. For purposes of this requirement, permanent charts which are made a part of the record may be initialed to document such observation. A log identifying the full name associated with the initials shall be included with the record.

1. Flue gas scrubber solution pH, "Process Sump pH Out";
2. Primary Combustion Chamber Temperature, "Lower Chamber Temperature";
3. Secondary Combustion Chamber Temperature, "Upper Chamber Temperature";
4. Waste Feed Rate;
5. Flue gas carbon monoxide content;
6. Secondary combustion chamber oxygen content, "Upper Chamber Oxygen";
7. Combustion airflow rate, "Final Flow Totalizer";
8. Scrubber water recycle flow rate, "Absorber Liquid Flow" and "Quench Liquid Flow."
9. Total hydrocarbon reading from the exhaust stack.
10. Radioactivity from the exhaust stack.

V.F. OPERATION

During hazardous waste feed operations the following operational limits shall be observed:

1. Total Chloride Content. The aggregate chlorine content of the waste plus fuel shall not exceed 99.4 pounds per hour input to the CAI. Each batch of waste shall meet this standard.
2. Waste Feed Rates.
 - a. Liquid hazardous wastes shall be introduced at a rate not to exceed 1.5 million Btu per hour total thermal input. Total thermal input shall include contributions from auxiliary fuel, hazardous and nonhazardous wastes.
 - b. Solid hazardous wastes shall be introduced at a rate not to exceed 1.5 million Btu per hour total thermal input. Total thermal input shall include contributions from auxiliary fuel, hazardous and nonhazardous wastes. Of this feed rate, solid hazardous waste mixtures shall not exceed 125 pounds per hour.
3. Venturi Scrubber. The pressure drop across the venturi scrubber shall be a minimum of forty inches W.C.
4. High Efficiency Particulate Air Filters. The pressure drop across both on-line incinerator exhaust gas HEPA filter banks shall be a minimum of one-tenth inch W.C. or alternative equivalent manufacturer's performance specification.
5. Operating Temperatures.
 - a. The incinerator shall be brought to operating temperature in both the primary and secondary combustion chambers before hazardous wastes are introduced.
 - b. Primary chamber operating temperature shall be a minimum of 1400 degrees Fahrenheit, measured at the hot duct between the primary and secondary chambers.

- c. Secondary chamber operating temperature shall be a minimum of 2000 degrees Fahrenheit, measured at the chamber exit to the high temperature duct.
 - d. Temperatures shall be maintained above these minimums as long as hazardous wastes remain in the incinerator, except that during an emergency shutdown these temperatures need not be maintained after waste feed is terminated.
6. Effluent Control System Solution.
- a. The effluent control system (ECS) scrubber solution shall be recycled to the packed column absorber at a minimum flow rate of 10 gallons per minute.
 - b. The ECS scrubber solution shall be controlled with either sodium hydroxide or potassium hydroxide to a Ph range above $1.0 \pm 3\%$.
7. Combustion Air.
- a. Exhaust gas flow shall not exceed:
 - (i) 3654 pounds per hour during solid or semisolid waste incineration, or
 - (ii) 3933 pounds per hour during liquid waste incineration.
 - b. Carbon monoxide concentration, as measured by the continuous recording carbon monoxide analyzer, shall not exceed 100 parts per million by volume, except that for a period not to exceed five minutes, the system may continue to burn waste if the carbon monoxide concentration does not exceed 500 parts per million.
 - c. Oxygen concentration in the secondary combustion chamber shall be a minimum of seven and one-half percent (7.5%) for solids and six percent (6%) for liquids. Measurement accuracy shall be $\pm 3\%$.
8. Total Hydrocarbon.
- a. Total hydrocarbon reading in the exhaust gas shall not exceed 20 parts per million corrected to dry stack gas for more than one hour rolling average where the stack gas is sampled at least 4 times per minute.
 - b. Total hydrocarbon reading in the exhaust gas shall not exceed 100 parts per million for more than one minute.
 - c. Total hydrocarbon reading in the exhaust gas shall not exceed 500 parts per million for any reading.
9. Radioactivity.
- a. The exhaust gas radioactivity measured during operation under this permit shall not exceed the background by ten percent (10%) for more than one minute.
 - b. The exhaust gas radioactivity measured during operation under this permit shall not exceed the background by fifty percent (50%).
 - c. Background is defined as that level of radiation read when the incinerator is operating at the parameters required for hazardous waste treatment but no waste feed occurring measured prior to hazardous waste treatment.

10. Automatic Shutdown.

- a. The Permittee shall install and properly maintain a system of monitors and automatic waste feed cutoff so that hazardous waste feed is shutdown whenever the operating conditions in permit paragraphs V.F.3. through V.F.9. above are not met.
- b. Hazardous wastes shall not be reintroduced to the incinerator until the cause of any automatic shutdown is determined and appropriate corrective action is taken.

11. Waste Handling Practices.

- a. Wastes to be incinerated shall be stored only at storage areas authorized in permit paragraph III.A. above.
- b. Liquid and solid feed preparation operations which take place at the CAI shall be performed in accordance with the provisions of:
 - (1) Los Alamos National Laboratory Manual, Chapter 1, Health and Safety, Current edition. A copy shall be readily available to the operator.
 - (2) Permit Attachment J, "Incinerator Operational Safety." A copy shall be readily available to the operator.
 - (3) The operating manual for the Controlled Air Incinerator. A copy shall be readily available to the operator.
 - (4) The applicable Operating Instruction(s), Safe Operating Procedures, and/or Special Work Permit(s) required for the particular operation being conducted. A copy of the applicable document(s) shall be readily available to the operator.
- c. Sampling of wastes for analysis in accordance with Permit Attachment A. shall be done at the place of storage or at the incinerator waste feed tanks. Periodic quality control spot sampling may be done elsewhere in the incinerator area at the discretion of the inspector and with the approval of the incinerator supervisor.

V.G. EFFLUENT CONTROL

The incinerator effluent controls shall be operational at all times the incinerator is burning hazardous wastes.

1. Ash Control. Ash resulting from a listed waste burn shall be cemented and disposed of off site as a hazardous waste. Ash resulting from incineration of characteristic wastes or wastes listed solely due to characteristic shall be disposed of as a hazardous waste or analyzed for alternate disposition. If such analysis demonstrates the waste is no longer characteristic as defined in HWMR-5, as amended 1989, Part II, 40 CFR section 261, subpart C, it may be disposed of in accordance with other applicable regulations.
2. Effluent Control System. Effluent control system wastewater and filters shall be disposed of as a hazardous waste in accordance with applicable regulations. "Filters" as used herein applies to both the HEPA filters and the carbon absorber materials. The carbon absorber unit materials shall be replaced at intervals no longer than 2000 operating hours.

V.H. INSPECTION

The Permittee shall inspect the incinerator in accordance with Permit Attachment B. and the requirements below.

1. Spill Kits. The type, presence, location and quantity of spill kits shall be verified and annotated monthly. If spill kits are locked up, the location of access keys shall be verified.
2. Instrumentation. All gauges and instruments shall be inspected for calibration dates prior to incineration of wastes. No instrument or gauge shall be used if it has not been calibrated in accordance with its manufacturers, recommendations.
3. Warning Signs. The legibility and condition of warning signs shall be included in the quarterly inspection. Missing or illegible signs shall be promptly replaced within 24 hours of discovery.
 - a. Signs shall be at the entrances to the hazardous waste units. Collocated units may be included within one signed area.
 - b. Signs shall say "Danger, Unauthorized Personnel Keep Out" and "Hazardous Waste Storage Area."
 - c. Signs shall be in English and Spanish.
 - d. Signs on approachable fences shall be spaced no more than 50 feet apart.
4. Automatic Cutoff. The automatic cutoff system shall be tested every 2000 operating hours to demonstrate proper operation.

V.I. RECORDKEEPING

1. Waste History. The incinerator operating record shall include the source, date of receipt, description, quantity and rate of incineration for each batch of hazardous waste incinerated.
2. Waste Analysis. Records of waste analysis shall be kept in accordance with permit paragraph II.K.1.a. above.
3. Inspections. Records of inspection shall be kept for three years from the date of the last action taken as a result of the inspection.
4. Automatic Waste Feed Cutoff. Whenever the automatic waste feed cutoff system required by permit paragraph V.F.8. above operates, the cause, time and remedy or repair shall be entered in the operating record. This record shall include the testing or demonstration operations required by permit paragraph V.H.4. above.
5. Effluent Analysis.
 - a. Whenever sampling and analysis of the incinerator combustion exhaust or effluent control system scrubber solution are done, the sampling date, individual(s), methods and analytical results shall be entered in the operating record.

- b. The destruction and removal efficiency (DRE) shall be reverified after incinerator modifications affecting the DRE, upon accumulation of eight thousand hours of hazardous waste incineration time or five years after the effective date of this permit, whichever occurs first or if NMED determines that new information requires further testing of the incinerator. Subsequent to a modification subject to this paragraph the time calculation shall be restarted.
- c. Results of calculations of the DRE associated with effluent analysis shall be entered in the operating record.

V.J. CLOSURE

The incinerator shall be closed in accordance with HWMR-5, as amended 1989, Part V, Subpart G and Part V, 40 CFR section 264.351, permit paragraphs II.L. and V.J. and Permit Attachment E.

1. Incinerator Components. The waste feed components and combustion chambers, along with interconnecting plumbing, may be steam cleaned with a detergent solution. The spent cleaning solution shall be collected and analyzed for hazardous constituents. If no hazardous constituents are detected, those components may be considered closed. If hazardous constituents are detected, the steam cleaning may be repeated until no detectable hazardous constituents are found.
2. Effluent Control System. The ECS may be drained and flushed with a detergent solution. The spent cleaning solution shall be collected and analyzed for hazardous constituents. If no hazardous constituents are detected, those components may be considered closed. If hazardous constituents are detected, the cleaning may be repeated until no detectable hazardous constituents are found.
3. Waste Storage Tanks. The waste storage tanks may be either drained and washed with a detergent solution or steam cleaned. The spent cleaning solution shall be collected and analyzed for hazardous constituents. If no hazardous constituents are detected, those components may be considered closed. If hazardous constituents are detected, the cleaning may be repeated until no detectable hazardous constituents are found.
4. Closure Residues.
 - a. All final cleaning solutions used for closure shall be tested for POHCs designated in permit paragraph V.D. above. Solutions showing detectible POHC(s) or hazardous waste characteristics shall be disposed of as hazardous wastes.
 - b. Any component not decontaminated in accordance with permit paragraph V.J. above shall be disposed of as hazardous waste.

MODULE VI
STORAGE IN TANKS

MODULE VI STORAGE IN TANKS

VI.A. DESIGNATED STORAGE UNITS

The Permittee may store for more than ninety days hazardous wastes in tanks only in Technical Area 54, Area L.

VI.B. AUTHORIZED WASTES

1. Identification. Only hazardous wastes identified in Permit Attachment G. with the process code "S02" in column D.1. "Processes" shall be stored.
2. Quantities. No more than 2860 gallons of liquid waste shall be stored at any one time.

VI.C. TANK DESCRIPTION

1. Capacity. The tanks shall be nine feet in diameter and three feet six inches high, holding approximately 1660 gallons.
2. Type. They shall be constructed of ten-gauge carbon steel and shall be coated inside and out with Carboline Phenoline (@) film or equivalent.
3. Quantity. No more than two tanks shall be used for storage.
4. Condition. If a tank holding hazardous waste is not in good condition (e.g. severe rusting, structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such tank to a tank or container that is in good condition or otherwise manage the waste in compliance with the conditions of this permit.
5. Compatibility of Waste with Tanks. The Permittee shall assure, as required by HWMR-5, as amended 1989, Part V, 40 CFR section 264.199, that the ability of the tank to contain the waste is not impaired.

VI.D. CONTAINMENT

The Permittee shall construct and maintain the secondary containment systems for the tank storage unit in accordance with the requirements of HWMR-5, as amended 1989, Part V, 40 CFR section 264.193.

VI.E. IGNITABLE OR REACTIVE WASTE

The Permittee shall not locate tanks holding ignitable or reactive waste within 15 meters (50 feet) of the facility property line. The provisions of HWMR-5, as amended 1989, Part V, 40 CFR section 264.198 will be followed.

VI.F. INCOMPATIBLE WASTES

The Permittee shall manage incompatible wastes or incompatible wastes and materials in accordance with the requirements of HWMR-5, as amended 1989, Part V, 40 CFR section 264.199.

V.G. CLOSURE

The Permittee shall comply with the Closure Plan, Permit Attachment E. and permit paragraph II.L. above, for closure of permitted storage tanks.

V.H. INSPECTION

1. Inspection Plan. The Permittee shall inspect the tank storage areas in accordance with Permit Attachment B.
2. Spill Kits. The type, presence, location and quantity of spill kits shall be verified and annotated monthly. If spill kits are locked up, the location of access keys shall be verified.
3. Accumulated Liquids. In accordance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.193(c)(4), accumulated liquids discovered in secondary containment structures shall be removed within 24 hours of discovery. In the event inclement weather prevents such removal, the circumstances shall be documented in the facility record and the removal effected not later than the next duty day after the weather allows.
4. Repairs to Secondary Containment Structure. Cracks and/or gaps in secondary containment structures discovered during an inspection will be repaired within seven calendar days of discovery. Cracks determined to be minor and not adversely affecting containment integrity, shall be logged and delay of repairs justified. Repair of minor cracks may be deferred until regularly scheduled maintenance.
5. Warning Signs. The legibility and condition of warning signs shall be included in the quarterly inspection. Missing or illegible signs shall be promptly replaced within 24 hours of discovery.
 - a. Signs shall be at the entrances to the hazardous waste units. Collocated units may be included within one signed area.
 - b. Signs on approachable perimeter fences shall be spaced no more than 50 feet apart.
 - c. Signs shall say "Danger, Unauthorized Personnel Keep Out," and "Hazardous Waste Storage Area."
 - d. Signs shall be in English and Spanish.
6. Freeboard. The tanks shall maintain a minimum of six inches of freeboard at all times.

V.I. RESPONSE TO LEAKS OR SPILLS

The Permittee shall follow the requirements of HWMR-5, as amended 1989, Part V, 40 CFR section 264.196 in response to a leak or spill.

V.J. CERTIFICATION OF REPAIRS

All major repairs to any tank or associated plumbing shall be certified in accordance with HWMR-5, as amended 1989, Part V, 40 CFR section 264.196(f) prior to being placed back in service.

MODULE VII
INDUSTRIAL INCINERATOR OPERATION

MODULE VII INDUSTRIAL INCINERATOR OPERATION

VII.A. GENERAL CONDITIONS

1. Authorized Unit. The unit is the Spronz Incinerator Corporation, model RL80-P incinerator located in Technical Area 16 and listed as structure 16-1409.
2. Destruction and Removal Efficiency. Emissions from the incinerator shall meet all Federal and State air standards and regulations.

VII.B. WASTE IDENTIFICATION

1. Authorized wastes.
 - a. Wastes listed as hazardous waste solely because they are ignitable, corrosive or both (D001 and D002).
 - b. Wastes listed as hazardous waste solely because they are reactive (D003).
 - c. Wastes listed as hazardous wastes solely because they exhibit the characteristic (s) of ignitability, corrosivity, or both.
 - d. Wastes listed as hazardous wastes solely because they exhibit the characteristic of reactivity.
2. Prohibited wastes.
 - a. No hazardous wastes other than those identified in permit paragraph VII.B.1. above shall be incinerated in this unit.
 - b. No off-site wastes shall be incinerated.

VII.C. WASTE ANALYSIS

1. Waste Analysis Plan. The Permittee shall follow Permit Attachment A. where applicable.
2. Batch analysis. Each batch to be incinerated shall be inspected by a knowledgeable individual for the presence of ignitable, corrosive or reactive wastes and the absence of prohibited wastes. A signed record of each inspection shall be retained in the facility records.
3. Initial Analysis. Each new mixture of wastes not previously analyzed shall be analyzed prior to incineration for:
 - a. Heating value,
 - b. Viscosity or physical form,
 - c. Identification of any hazardous constituent,
 - d. An approximate quantification of any hazardous constituent, and

- e. The absence of any HWMR-5, as amended 1989, Part II, Appendix VIII constituent in a concentration in excess of one hundred micrograms per gram of waste.

VII-D. WASTE STORAGE

Wastes to be incinerated shall be stored in Technical Area 16, Building 290. Building 290 shall not accumulate hazardous wastes for greater than ninety days. All the requirements of HWMR-5, as amended 1989, Part III, 40 CFR section 262.34 shall be met.

VII-E. RECORD KEEPING

1. Waste History. The incinerator operating record shall include the source, date of receipt, description, quantity and date of incineration for each batch of hazardous waste incinerated.
2. Waste Analysis. Where applicable, the sampling date, individual(s), method and analytical results for each batch sampled at the incinerator shall be entered in the operating record.
3. Closure. The final disposition of the closure residues shall be recorded.

VII-F. CLOSURE

The incinerator shall be closed in accordance with the requirements of HWMR-5, as amended 1989, Part V, 40 CFR section 264.351 and Permit Attachment E.

TABLE I-1

TECHNICAL AREA ZERO GENERATION SITES

DESIGNATION	DESCRIPTION	ANTICIPATED WASTES
0-480	Pajarito School Engineering offices	D001, D002
0-1197	Mesa School Training offices/classrooms	Any training materials
0-1237	Pueblo Complex Environmental laboratory	Any sample or analysis reagents

NOTE:

No other sites are included in the on-site definition in permit paragraph I.H.3.c.

TABLE II-1

ENVIRONMENTAL MONITORING LOCATIONS

STATION	N-S Coordinate (LANL Grid)	E-W Coordinate (LANL Grid)	Map No.
Los Alamos Reservoir	N105	W090	7
Frijoles	S280	E180	9
Canada del Buey	N010	E150	46
Water Canyon at Beta	S090	E090	48
Acid Weir	N125	E070	49
Pueblo - 2	N120	E155	51
Pueblo - 3	N085	E315	53
DPS - 1	N090	E160	57
SCS - 2	N060	E140	66
Pajarito Stream	S180	E140	35
Ancho Stream	S295	E340	36
Frijoles Stream	S365	E235	37
Pajarito Canyon (PCO-3)	S098	E293	104
LAO-4.5	N065	E270	64
MCO-3	N040	E110	69
MCO-8	N030	E190	74
Basalt Spring	N065	E395	56

TABLE II-2
SAMPLING PARAMETERS

TOTAL METALS

Arsenic
Barium
Cadmium
Chromium
Lead
Mercury
Selenium
Silver
Nickel
Beryllium
Copper
Zinc
Iron

ORGANICS

Halogenated volatile organics
Nonhalogenated volatile organics
Acid-extractable semivolatile organics
Base-neutral extractable semivolatile organics
Phenols

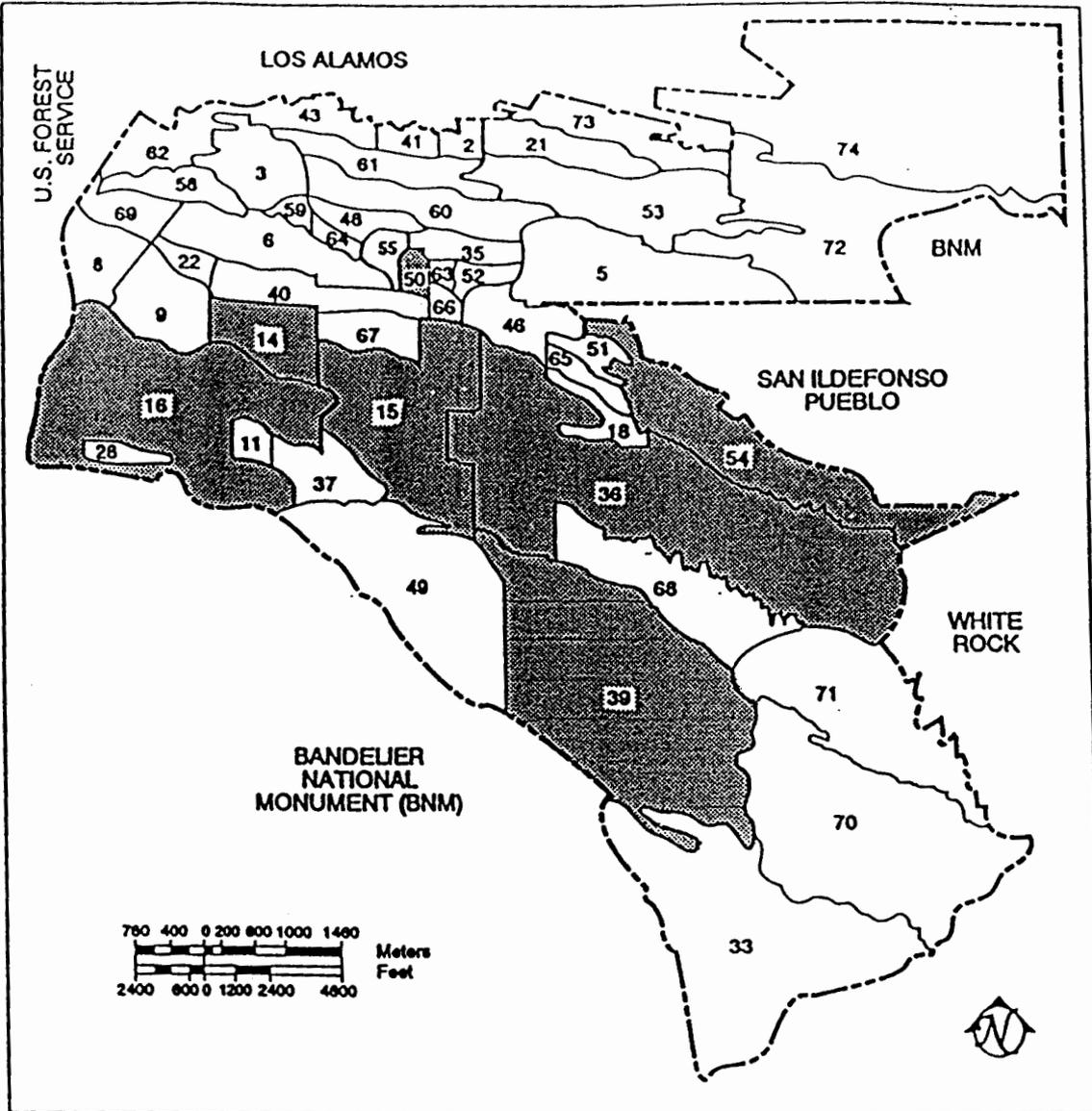
OTHER

Cyanide
pH

All methods are as published in US EPA SW-846, 3rd Edition or later.

If any metal's total concentration exceeds that metal's standard for Extraction Procedure Toxicity, a determination of the Extraction Procedure Toxicity concentration for that metal will be performed. Both data will be recorded and reported.

301215.01.09 A16



 SHADING INDICATES TECHNICAL AREAS IN WHICH WASTE MANAGEMENT UNITS ARE LOCATED

FIGURE 2
LOS ALAMOS
TECHNICAL AREAS
PREPARED FOR
LOS ALAMOS
NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO
IT CORPORATION

FIGURE 2
Technical Area Map

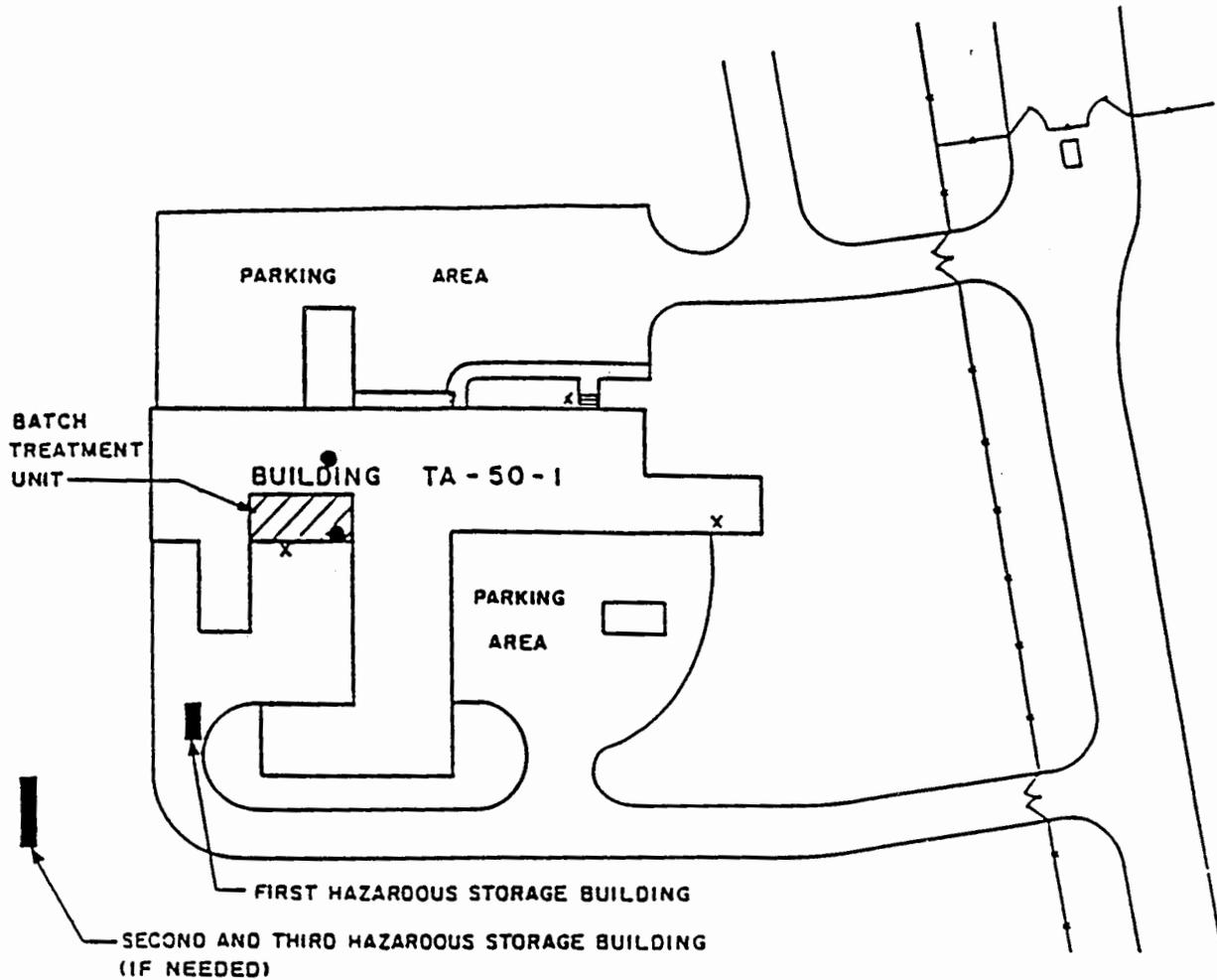


FIGURE 3 BATCH TREATMENT UNIT BUILDING TA-50-1

FIGURE 3

Batch Treatment Unit Building TA-50-1
(slated for closure, 1984)

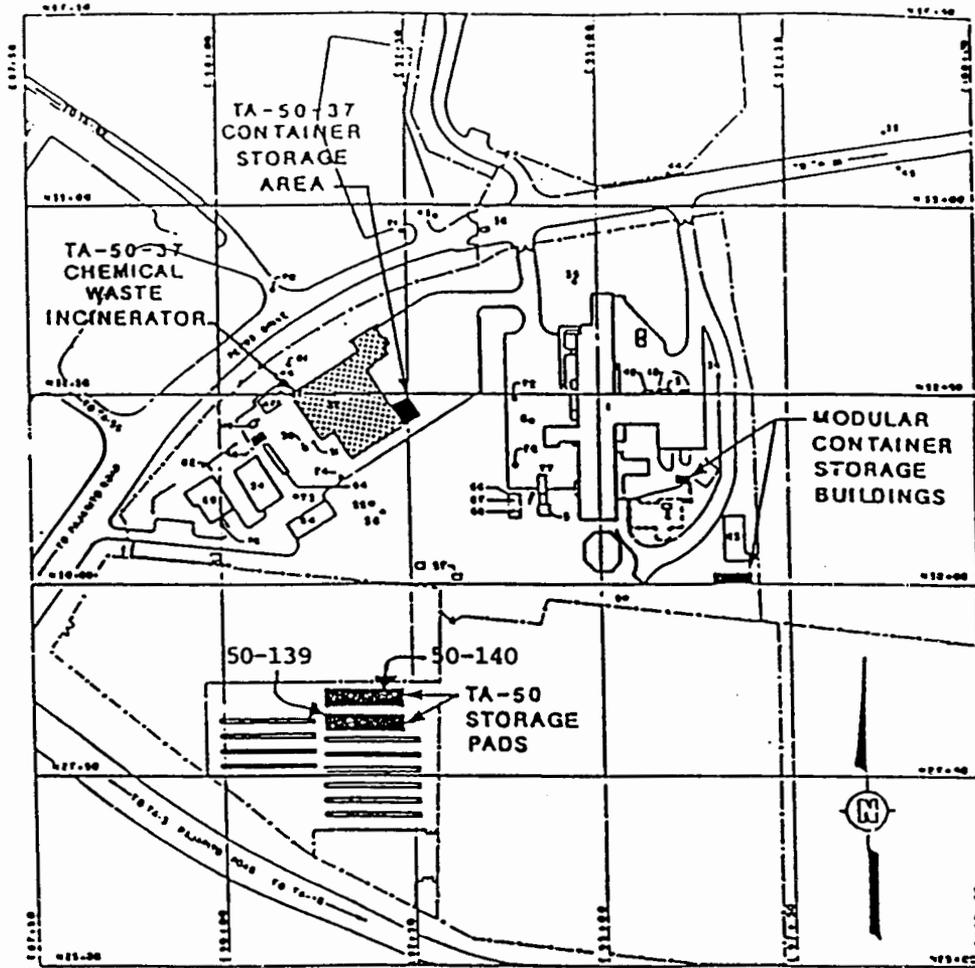


FIGURE 4
LOCATIONS OF TA-50
CHEMICAL WASTE INCINERATOR
AND CONTAINER STORAGE
UNITS

PREPARED FOR
LOS ALAMOS
NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO

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FIGURE 4
Technical Area 50-37

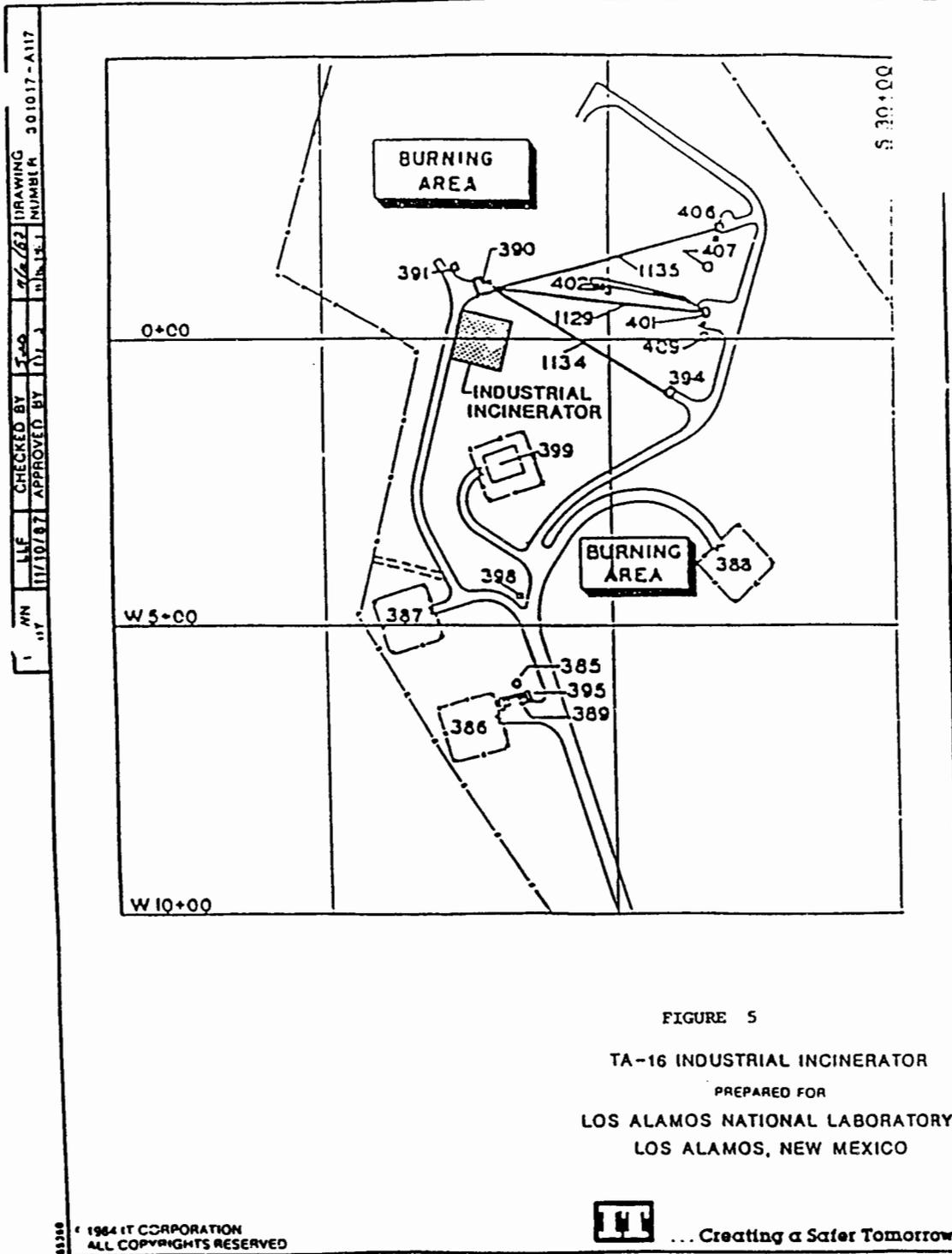


FIGURE 5

Technical Area 16 Incinerator

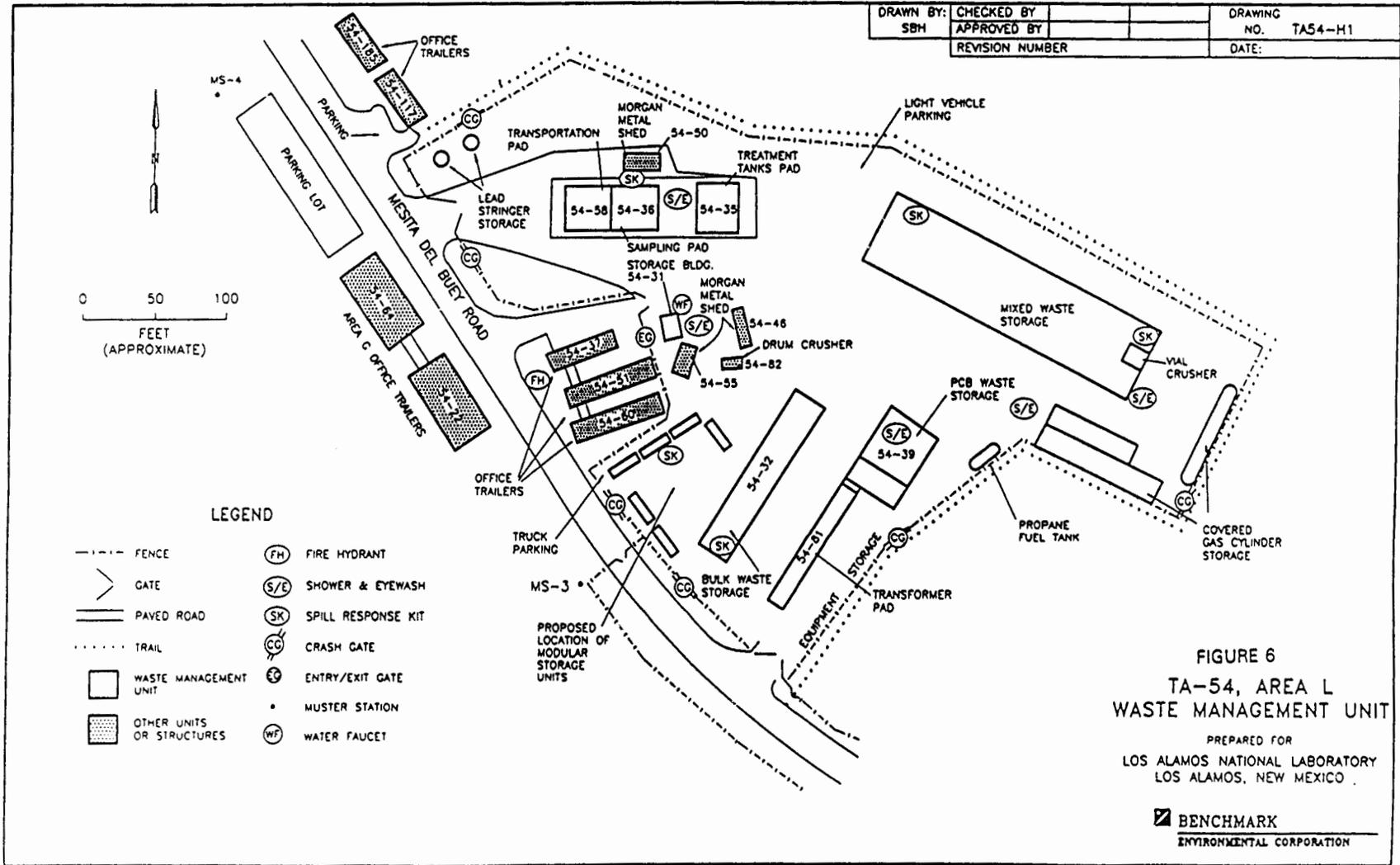


FIGURE 6

Technical Area 54 Area I Treatment Tanks Plan

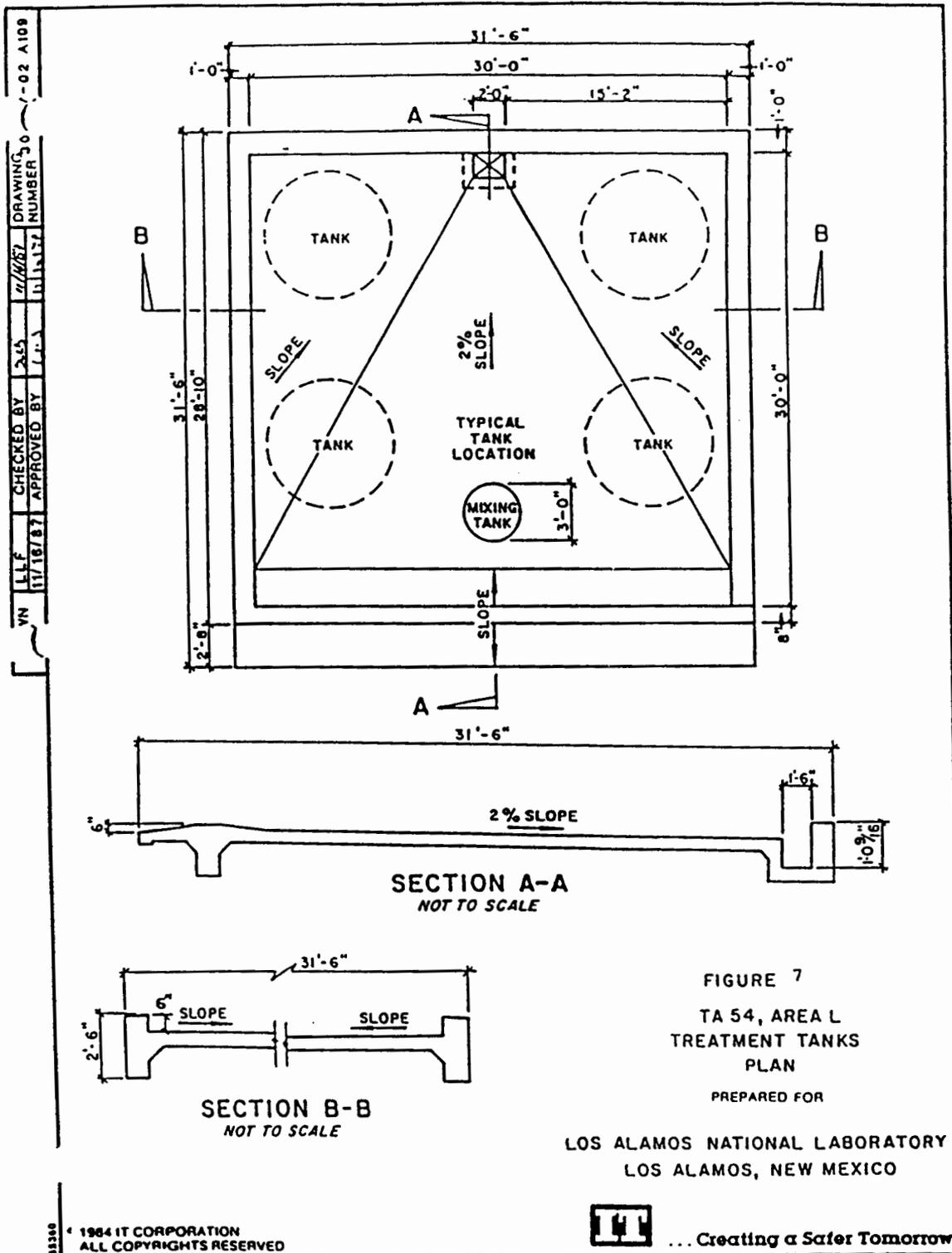


FIGURE 7

Technical Area 54 Area L Treatment Tanks Plan

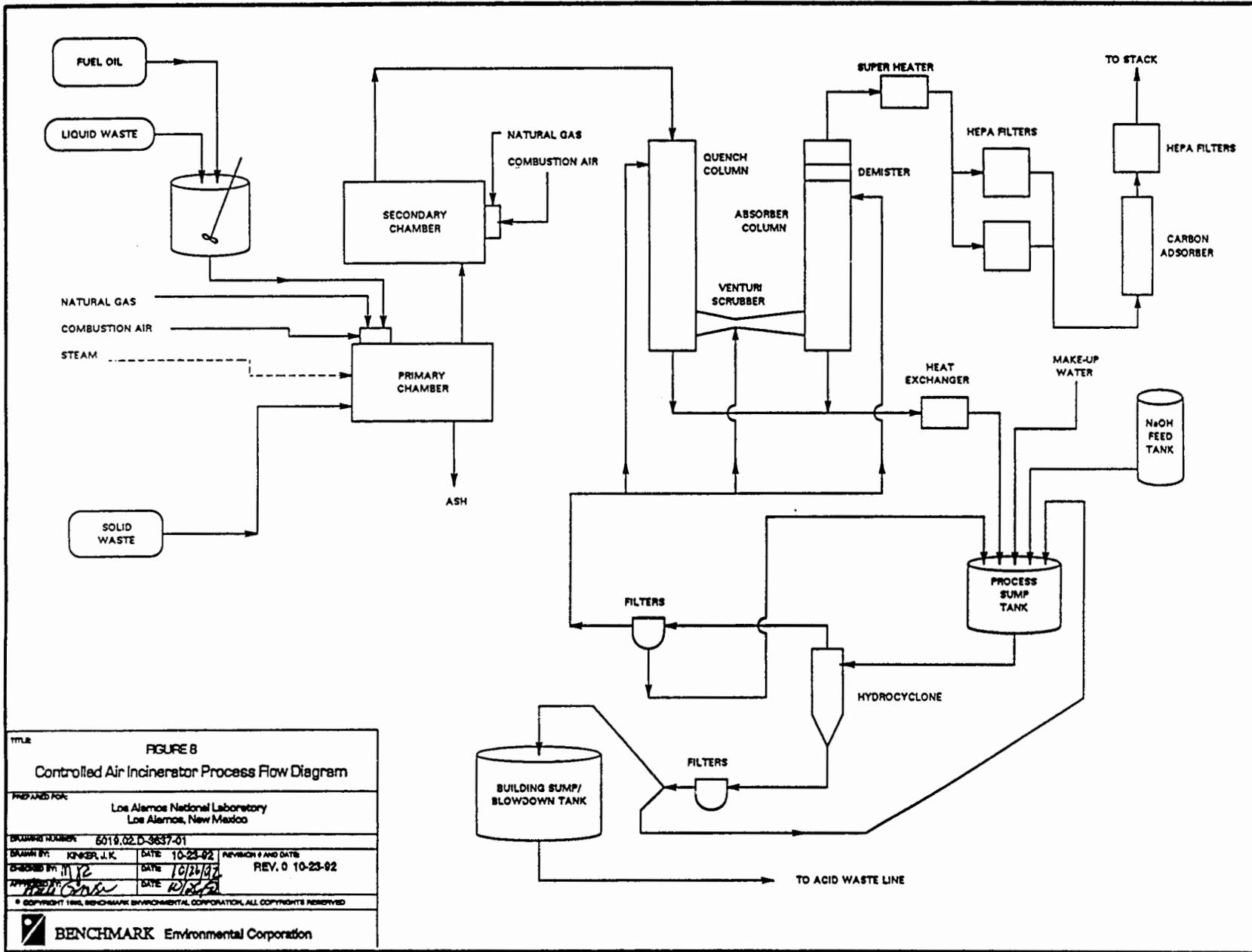


FIGURE 8

Incinerator Process Diagram

LOS ALAMOS NATIONAL LABORATORY
 ENVIRONMENTAL SURVEILLANCE 1987

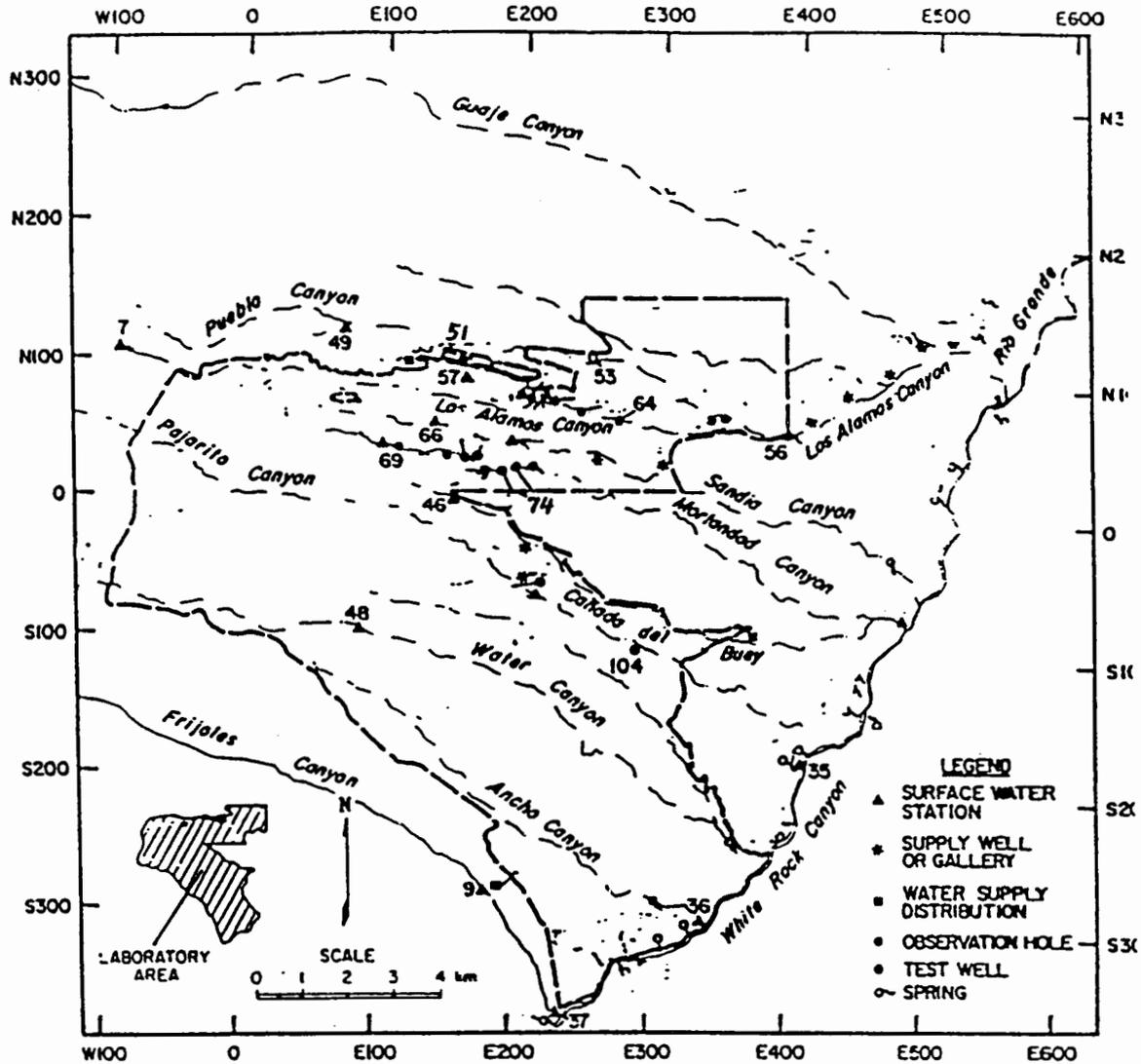


Fig. 9 Surface and ground water sampling locations on and near the Laboratory site.

FIGURE 9

Surface and Groundwater Sampling Locations

FIGURE 10

FACILITY RELEASE INSPECTION REPORT

Submit to:
Secretary,
New Mexico Environment Department
1190 St. Francis Drive
Santa Fe, NM 87503

SAMPLE LOCATION _____
SAMPLE DATE _____
SAMPLE NUMBER _____
SAMPLE COLLECTOR _____

METALS (Totals)

TRT. *		CODE	UNITS	QUANTITY	DATE ANALYZED
___	Arsenic	01002	ug/l	_____	_____
___	Barium	01007	ug/l	_____	_____
___	Cadmium	01027	ug/l	_____	_____
___	Chromium	01034	ug/l	_____	_____
___	Lead	01051	ug/l	_____	_____
___	Mercury	71900	ug/l	_____	_____
___	Selenium	01147	ug/l	_____	_____
___	Silver	01077	ug/l	_____	_____
___	Copper	01042	ug/l	_____	_____
___	Iron	01045	ug/l	_____	_____
___	Beryllium	01012	ug/l	_____	_____
___	Nickel	01067	ug/l	_____	_____
___	Zinc	01092	ug/l	_____	_____

* Annotate field treatment as follows: **NF** = no filtration and/or **A** = 5 ml HNO₃

ORGANICS

SUBSTANCE	CODE	UNITS	QUANTITY	DATE ANALYZED
_____	___	___	_____	_____
_____	___	___	_____	_____
_____	___	___	_____	_____
_____	___	___	_____	_____
_____	___	___	_____	_____
_____	___	___	_____	_____

(Continue on a separate sheet if required)

ATTACHMENT E
CLOSURE PLANS

**ATTACHMENT E.8
PARTIAL CLOSURE
TA-54 AREA L HAZARDOUS WASTE TREATMENT/STORAGE TANKS**

MODIFICATION SUMMARY:

Proposed Modification Class - 1

Class Citation - 40 CFR Appendix 1 to §270.42, A.1 and D.1.c

Summary of Changes -

The proposed partial closure at TA-54 Area L Hazardous Waste Treatment/Storage Tanks will result in the removal of two of the existing four tanks, with the remaining two tanks remaining in service. The change in date of closure of the two tanks from the year 2100 to 1994 reflects a decision by the Laboratory to partially close this unit. Other proposed modifications include simple clarifications in language, corrections of typographical errors, and changes in organizational titles or affiliations.

**CLOSURE PLAN
E.8
PARTIAL CLOSURE
TA-54 AREA L HAZARDOUS WASTE TREATMENT/STORAGE TANKS**

**CLOSURE PLAN
PARTIAL CLOSURE
PERMIT ATTACHMENT E.8
NM 0890010515-1**

E.8. Partial Closure for TA-54 Area L Hazardous Waste Treatment/Storage Tanks

E.8.1. Unit description

Two 1,660-gallon, 10-gauge steel treatment/storage tanks located at Area L will be closed. They are lined with plastic (except when treating reactive wastes) and used to neutralize, oxidize, and evaporate waste. The tanks are located on a bermed concrete pad. (Figure E.8.1) This closure plan addresses only the two tanks indicated (Figure E.8.2).

The remainder of TA-54, Area L storage units consist of a single-story metal transfer/storage building, a roofed concrete storage pad, six transportable storage buildings and specified areas within the fenced portions of Area L for storage of solid containerized waste. These areas are used for the accumulation, packing, and storage of waste containers, which are generated throughout the laboratory and delivered to the facility routinely. Liquid wastes are segregated into compatible types and placed inside the transfer/storage building or within one of the storage cells of the roofed concrete pad. Wastes in small containers are put into one of the transportable storage buildings or the transfer/storage building for placing into lab packs. Wastes suitable for recycling are consolidated into drums, and any damaged or leaking drums are repacked into larger drums in this area. Solid containerized wastes are stored on pallets, or otherwise elevated four inches, in cleared areas within the fenced portions of Area L.

E.8.2. Estimate of Maximum Waste in Storage and Treatment

The maximum amount of waste that could be stored in the tanks is 3,320 gallons if the tanks were filled with no freeboard. The expected maximum volume of waste is 2,860 gallons.

E.8.3. Description of Waste Handled

The wastes treated or stored normally at the tanks are ammonium bifluoride and lithium hydride. Occasionally plating bath treatment residues from treating F003, F004, F005 and F006 wastes are also treated here. Potentially, any wastes or clean up wastes amenable to evaporation may be treated in the tanks. Therefore, any waste generated at the laboratory potentially has, or could be, treated or stored in the tanks.

E.8.4. Partial Closure

Partial closure of two of the existing four tanks will take place. All portions of this plan addressing tank decontamination shall apply to the closing of two tanks.

E.8.5. Closure Procedure

Cleanup and closure will be done in sequential order, culminating in the disposal of any residues or contaminated material by shipment off site to a permitted facility. Before decontamination, all wastes in storage will either be treated on site or disposed of off site. Given the diversity of wastes handled, it is not possible to estimate the exact wastes on hand at the initiation of closure and, therefore, the final disposition of the wastes. In general, recyclable wastes will be reused internally or recycled to users off site. Permitted wastes will be burned at the permitted incinerator at TA-50-37. Any wastes compatible with permitted treatment at the TA-50-I Batch Waste Treatment Unit will be so treated.

The remaining wastes will be transported off site to a permitted disposal facility. If on site treatment is not possible due to prior closure of the permitted units, off site disposal will occur.

E.8.5.1. Waste Removal

The waste of concern at the start of closure consist of liquids and residues in the treatment tanks. Following removal of the tank liners and residual wastes, the tanks will be decontaminated. The wash water will be removed, placed in drums, sampled, analyzed and transported off site to a permitted facility for treatment or disposal. All wastes shipped off site will be manifested in accordance with the facility permit. All waste transporters will have an EPA identification number in accordance with HWMR-5, Part IV, Section 263.11.

E.8.5.2. Storage/Treatment Decontamination

Following removal of the two tank liners and residual wastes, the two tanks will be decontaminated by scraping and washing with Liquinox(®) or Alconox(®) in water. The wash water will be removed, placed in drums, sampled, analyzed and transported off site to a permitted facility for treatment or disposal. The tanks will be then be scraped and brushed to remove residue and the residue will be collected and placed in drums. The tanks will be removed and the concrete pad on which the two treatment tanks are placed will be washed with a Liquinox(®) or Alconox(®) solution in water. The wash water will be contained with the curbed concrete pad, collected, sampled, and analyzed. If the wash water is not hazardous or requires only neutralization, it will be removed with a vacuum truck and transported to an industrial sewer which drains to the facility industrial wastewater treatment plant at TA-50-1. If the water contains hazardous constituents, it will be removed, placed in drums and transported off site to a permitted facility for treatment or disposal. Wash-down of the two tanks and pad will be repeated until decontamination is demonstrated.

E.8.5.3. Soil Decontamination

Partial closure of this unit will result in the removal of two of the existing four tanks, with the remaining two tanks continuing in service. Therefore, soil sampling, as described in section E.8.9, will be conducted to determine if hazardous wastes have been tracked outside of contaminated areas at the time of final closure of this unit. When final closure is initiated eight soil samples will be collected around the edge of the bermed concrete pad beneath the treatment tanks as shown in Figure E.8.2. Each sample will be made up of six inch deep cores taken six inches off the edge and equally spaced to cover each edge. Soil and sediment samples will be analyzed for Table E.8.2 parameters. Analysis and quality assurance/quality control will follow methods defined in SW-846.

If the sample survey indicates that there are no contaminated soil areas, no further soil decontamination action will be taken at the site. If contamination is found in any of these samples, the limits of the sampling area will be expanded by establishing a three foot sampling grid around a single contamination point, or centered on the area defined by the locus of multiple contamination points, to determine the outside perimeter of the contamination. Sampling will be continued until the extent of contamination is determined. Background samples will be taken in the same manner as the initial closure soil survey.

Once the limits of the contaminated area are determined, the contaminated soil will then be removed to a depth of 6 inches and handled as a regulated waste. Contaminated soil will be placed in drums or sealed in dump trucks for off site disposal at a permitted facility. The adequacy of decontamination is determined by additional sampling. Sampling, analysis, and documentation procedures are detailed in section E.8.9. In order to demonstrate final decontamination, soil samples will be analyzed for all Table E.8.2 parameters. Analysis and quality assurance/quality control will follow methods defined in SW-846.

E.8.5.4. Personnel Protection

Personnel who are washing equipment will wear rubber gloves, neoprene acid/solvent resistant coveralls, rubber boots, and a face shield. The Laboratory's Industrial Hygiene Group (HR-5) will review the site survey analytical data and recommend additional protective clothing if necessary.

E.8.5.5. Equipment Decontamination

Shovels, drum trucks and other equipment used for decontamination will be scraped and brushed to remove residue, and the residue collected will be placed in drums for disposal off site at a permitted facility. The equipment will be placed on a 30 mil plastic sheet that is bermed to contain liquids and pressure washed with water and detergent. Large equipment such as backhoes and forklifts will also be washed. Testing will be performed on this water to determine if decontamination is adequate. Washing is considered adequate to decontaminate the equipment. The wash water will be allowed to evaporate and the plastic and residue will be packed in drums for off site disposal at a permitted facility.

E.8.6. Decontamination Verification

E.8.6.1. Wash water Decontamination Verification

A minimum of two samples of the clean Liquinox(®) or Alconox(®) solution will be sampled as background for wash water and, along with the wash water samples, analyzed for the constituents listed in Table E.8.2. Successful decontamination is defined as:

1. No detectable hazardous constituents in the final sample, or
2. Detectable hazardous constituents in the final sample are equal to or less than, at the 0.01 confidence level, their concentration in the unused washwater or background sample. Hazardous constituents detected in the background sample will invalidate that sample as true background unless adequate explanation of their source is provided.

An alternative demonstration of decontamination may be proposed and justified at the time of closure as circumstances indicate. The Secretary will evaluate the proposed alternative in accordance with the standards and guidance then in effect and, if approved, incorporate by permit modification the alternative into the closure plan.

E.8.6.2. Soil Decontamination

The Criteria for determining contaminated soil are the same as discussed in Section E.8.6.1. Regulated constituent concentrations will be compared to background concentrations. Soils containing levels of contamination above the background will be considered contaminated and removed as hazardous waste.

Decontamination of the site soil will be demonstrated by additional sampling. Because removal of contaminated soil will leave an exposed surface, the disturbed surface will be resampled in the same places used to define the contaminated area. Analysis and the determination of contamination is as previously discussed, and reanalysis will be conducted only for those constituents that caused the area to be determined contaminated.

E.8.7. Closure Schedule

The year of closure is 1994. Soil survey, contracting and closure activities will observe the schedule given in Table E.8.1. Some soil sampling and the decontamination contractor selection will be completed before closure begins. Because several of the closure steps will occur simultaneously, closure is estimated to take 210 days.

Contracts for analytical work and, if necessary, soil removal are expected to exceed \$100,000. The Laboratory is required by policy to put the work out for bid, and ninety days are required to solicit and process the bids. The location of the site is prone to snow cover in the winter months. The closure may be delayed until the site is free of snow and the ground is thawed adequately to allow the soil sampling and other closure operations. The schedule includes a weather factor to allow for this delay.

E.8.8. Closure Certification

An independent, registered professional engineer and the Permittee shall witness closure of the two tanks and ensure that the closure follows this plan. Upon completion of closure, the engineer and the DOE shall prepare a letter certifying that the two tanks have been closed in accordance with this plan. The letter shall be dated and signed by each party, stamped by the registered engineer, and the original copy submitted by the DOE to the Secretary of the NMED. One copy shall be maintained at the DOE office and one copy maintained by the ESH-8 Regulatory Compliance Section.

E.8.9. Sampling and Analytical Procedure

The following section defines procedures and methods for sampling, analysis and documentation applicable to closure plans. While the procedures and method are specific, any applicable procedure or method given in SW-846 or other EPA approved procedure may be used if conditions or experience shows the alternate method to be more appropriate. Disposable samplers may be used.

Sample containers appropriate for the requested analyses will be used for all samples. Sampling will be conducted in accordance with procedures given in *Samplers and Sampling Procedures for Hazardous Waste Streams*, EPA 600/2-80-018 and/or SW-846. Samples will be taken, placed in bottles, sealed, tagged, and immediately packed in vermiculite, sawdust, or, if refrigeration is required, an insulated container with ice. One sample for every ten samples will be either duplicated or split. The duplicated or split sample will be identified by a code so that its source is not available to the analytical laboratory, but analytical results can be compared to its twin.

E.8.9.1. Soil and Solid Residues Sampling

The sampling procedures outlined below are used to determine the amount of hazardous material deposited on a particular area of land, or to determine the leaching rate of the material, or determine the residue level on the soil. Adequate preparation ensures that proper sampling is accomplished.

Surface soil samples will be collected with a trowel or scoop. To sample below 3 in. (8 cm), samples will be collected with a Veihmeyer soil sampler. Drums of solid residues will be sampled with a core sampler or Veihmeyer soil sampler. Drums not capable of being sampled will be assumed to be reactive hazardous waste.

E.8.9.1.1. Cleaning of Sampler

It is important to clean the samplers after each site is sampled. An unused disposable sampler may be presumed clean if still in a factory sealed wrapper. Unsealed samplers will be cleaned prior to use. The samplers will be washed with a warm Liquinox(®) or Alconox(®) solution, rinsed several times

with tap water, rinsed with distilled water, drained of excess water, and air-dried or wiped dry. Prevention of cross contamination is of particular importance in these samples.

E.8.9.1.2. Sampling Procedures Trowel or Scoop

- Take small, equal portions of sample from the surface or near the surface of the material to be sampled.
- Combine the samples in a glass container.
- Cap the container, attach a label and seal, record in field log book, and complete the sample analysis request sheet and chain-of-custody record.

Veihmeyer Sampler

- Assemble the sampler by screwing in the tip and drive head on the sampling tube.
- Insert the tapered handle (drive guide) of the drive hammer through the drive head.
- Place the sampler in a perpendicular position on the material to be sampled.
- With the left hand holding the tube, drive the sampler into the material to the desired sampling depth by pounding the drive head with the drive hammer. Do not drive the tube further than the tip of the hammer's drive guide.
- Record the length of the tube that penetrated the material.
- Move the drive hammer onto the drive head. In this position, the hammer serves as a handle for the sampler.
- Rotate the sampler at least two revolutions to shear off the sample at the bottom.
- Lower the sampler handle (hammer) until it just clears the two ear-like protrusions on the drive head and rotate about 90 degrees.
- Withdraw the sampler from the material by pulling the handle (hammer) upwards. When the sampler cannot be withdrawn by hand, as in deep soil sampling, use a pullerjack and grip.
- Dislodge the hammer from the sampler, turn the sampler tube upside down, tap the head gently against the hammer, and carefully recover the sample from the tube. The sample should slip out easily.
- Store the core sample in a 1,000 or 2,000 ml (1 qt or 1/2 gal) sample container.
- Label the sample, affix the seals, record in the field log book, complete the sample analysis request sheet and chain-of-custody record, and deliver the samples to the laboratory for analysis.

E.8.9.2. Liquid Sampling

A Coliwasa sampler or similar device will be used to sample water solutions in order to determine background parameters before washing the area; it will also be used to sample the dirty wash water used in cleaning equipment. The recommended model of the Coliwasa is shown in Figure E.8.3., the

main parts consisting of the sampling tube, the closure-locking mechanism, and the closure system. As an alternative to the Coliwasa, glass tubes may be used to sample liquids. The primary advantage in using a glass tube is that the tube will be disposed of as hazardous waste after each sample is collected, thus eliminating the potential for cross contamination.

E.8.9.2.1. Cleaning of Sampler

The sampler must be clean before use. An unused disposable sampler may be presumed clean if still in a factory sealed wrapper. Unsealed samplers will be cleaned prior to use. The used sampler must be washed with a warm detergent solution (Liquinox(®) or Alconox(®)), rinsed several times with tap water, rinsed with distilled water, drained of excess water, and air-dried or wiped dry. A necessary piece of equipment for cleaning the tube of the Coliwasa is a bottle brush that fits tightly inside the diameter of the tube. The brush is connected to a rod of sufficient length to reach the entire length of the sampler tube. Using this ramrod and fiber reinforced paper towels, the Coliwasa tube may be quickly cleaned. Improper cleaning of sample equipment will cause cross contamination of samples. Prevention of contamination is of particular importance in these samples. Clean samplers should be stored in polyethylene plastic tubes or bags in a clean and protected area.

E.8.9.2.2. Sampling Procedures

- Assemble the Coliwasa sampler.
- Make sure that the Coliwasa sampler is clean.
- Check to make sure the sampler is functioning properly. Adjust the locking mechanism, if necessary, to make sure the neoprene rubber stopper provides a tight closure.
- Wear necessary protective clothing and gear and observe required sampling precautions.
- Put the sampler in the open position by placing the stopper rod handle in the T-position and pushing the rod down until the handle sits against the sampler's locking block.
- Slowly lower the Coliwasa sampler into the liquid at a rate that permits the levels of the liquid inside and outside the sampler tube to be about the same. If the level of the liquid in the sampler tube is lower than that outside the sampler, the sampling rate is too fast and will result in a nonrepresentative sample.
- When the sampler stopper hits the bottom of the liquid container, push the sampler tube downward against the stopper to close the sampler. Lock the sampler in the closed position by turning the T-handle until it is upright and one end rests tightly on the locking block.
- Slowly withdraw the sampler from the container with one hand while wiping the sampler tube with a disposable cloth with the other hand.
- Carefully discharge the sample into a glass container by slowly opening the sampler. This is done by slowly pulling the lower end of the T-handle away from the locking block while the lower end of the sampler is positioned in the glass container.
- Cap the glass container, attach a label and seal, record in the field log book, and complete the sample analysis request sheet and chain-of-custody record.

- Unscrew the T-handle of the sampler and disengage the locking block. Clean the sampler on site or store the contaminated parts of the sampler in a plastic storage tube or bag for subsequent cleaning. Store used rags in plastic bags for subsequent disposal.

E.8.9.3. Sample Handling and Documentation

Soil and liquid samples will be analyzed either at LANL or at a commercial laboratory. In either case, each sample will be labeled, sealed, and accompanied by a chain-of-custody and a sample analysis request form.

The sample container must be sealed with a gummed paper seal attached to the container in such a way that the seal must be broken in order to open the container. The seal and sample tag must be completed with a waterproof pen. An example of a sample seal is shown in Figure E.8.4.

The sample label is necessary to prevent misidentification of samples and shall include, if applicable, the grid number referenced to positions staked on the site perimeter. The "field information" in the case of soil sampling, shall include observations such as the soil texture and surface appearance, ambient temperature and cloud cover at time of sampling, and precipitation conditions 24 hours before sampling. An example of a sample label is shown in Figure E.8.5.

The chain-of-custody form is necessary to trace sample possession from the time of collection and must accompany every sample. This record becomes especially important when the sample is to be introduced as evidence in litigation. This is a two page record with the original accompanying shipment and the "copy" retained by the Laboratory. An example of this form is shown in Figure E.8.6.

A separate closure sampling field log book will be kept and will contain all information pertinent to field surveys and sampling. The log book shall have bound and consecutively numbered pages in 8-1/2 by 11-inch format. Minimum entries include:

- a. Purpose of sample (routine sampling, special sampling),
- b. Location of sampling (coordinates referenced to staked field points, if soil sample),
- c. Name and business address of person making log entry,
- d. Type of process producing waste,
- e. Number and volume of sample,
- f. Description of each sampling location, sampling methodology, equipment used, etc.,
- g. Date and time of sample collection,
- h. Sample destination and transporter's name (name of laboratory, UPS, etc.),
- i. Map or photograph of the sampling site, if any,
- j. Field observations (ambient temperature, sky conditions, past 24-hour precipitation, etc.),
- k. Field measurements, if any (pH, flammability, conductivity, explosivity, etc.),
- l. Collector's sample identification number(s), and
- m. Signature of person responsible for the log entry.

Sampling situations vary widely. No general rule can be given as to the extent of information that must be entered in the log book. A good rule, however, is to record sufficient information so that someone can reconstruct the sampling situation without relying on the collector's memory.

The sample shipment and chain-of-custody record is accompanied by a sample analysis request sheet. The request sheet has two parts: field and laboratory. The field portion of this form must be completely by the person collecting the sample and include most of the pertinent information noted in the log book. The laboratory portion is intended to be completed by the laboratory personnel when the sample is received.

E.8.10. Quality Assurance/Quality Control

The Permittee shall designate a qualified individual or individuals to independently oversee the closure activities and report directly to senior management on the quality of the performance of this closure. This individual will personally observe a portion of the key activities, assure that sample blanks are used and analyzed and review the analysis reports for accuracy and adequacy. A written QA/QC plan prepared in accordance with SW-846 guidance shall be prepared and followed, with variations from the plan documented and explained. The designated individual shall prepare a written statement for the final report commenting on the adequacy of the analysis showing decontamination.

E.8.11. Final Closure Report

Upon completion of the closure activities, the Permittee shall submit a Final Closure Report to the Secretary. The report shall document the final closure and contain, at a minimum, the following:

- A. The certification described in paragraph E.8.8.
- B. Any variance from the approved activities and the reason for the variance.
- C. A tabular summary of all sampling results, showing:
 1. Sample identification
 2. Sampling location
 3. The datum reported,
 4. Detection limit for each datum,
 5. A measure of analytical precision (e.g. uncertainty, range, variance),
 6. Identification of analytical procedure, and
 7. Identification of analytical laboratory.
- D. A QA/QC statement on the adequacy of the analyses and the decontamination demonstration.
- E. The location of the file of supporting documentation:
 1. Field log books,
 2. Laboratory sample analysis reports,
 3. The QA/QC documentation, and
 4. Chain of custody records.
- F. Disposal location of all regulated and non-regulated residues.
- G. A certification of accuracy of the report.

TABLE E.8.1

CLOSURE SCHEDULE

PRECLOSURE ACTIVITIES	Maximum Time Required
Notify NMED of the closure	-45 days
Conduct first soil sampling survey	-45 days
Analyze first soil samples	-30 days
Conduct second soil survey if needed	-20 days
Analyze second soil set of soil samples	-10 days
CLOSURE ACTIVITIES	
Begin Closure	Day 0
Analyze first soil samples	Day 30
Conduct second soil samples survey, if needed	Day 45
Treat or remove final wastes	Day 50
Analyze second soil samples, if needed	Day 65
Evaporate waste water from treatment tanks	Day 90
Soil decontamination, if necessary	Day 105
Remove soil	Day 130
Dispose of tanks and residue	Day 140
Weather delay contingency	Day 175
Conduct verification samples	Day 200
Analyze samples	Day 200
Submit final report to NMED	Day 210

NOTE:

The calendar days given above are completion dates for each activity. In some cases more than one activity may occur simultaneously.

This schedule applies to both partial and final closure.

TABLE E.8.2.
ANALYTICAL PARAMETERS

METALS

Arsenic
Barium
Cadmium
Chromium
Lead
Mercury
Selenium
Silver
Nickel
Beryllium

ORGANICS

Halogenated volatile organics
Nonhalogenated volatile organics
Acid-extractable semivolatile organics
Base-neutral extractable semivolatile

OTHER

Cyanides
pH

NOTES:

Analytical methods are taken from *Test Methods for Evaluating Solid Waste*, EPA SW-846, and may be superseded by more current methods from SW-846 or alternate EPA-approved methods.

Metals may be analyzed for total content. Any metal whose total concentration exceeds the standard for Toxic Characteristic Leaching Procedure (TCLP) shall be analyzed by using TCLP procedures. Both data shall be reported in the final report.

TABLE E.8.3
SAMPLING SUMMARY

MATERIAL SAMPLED	METALS	ORGANICS	OTHER
Washdown solutions before use	X	X	X
Washdown solutions after use	X	X	X
Soils background	X	X	X
Soil samples	X	X	X
Final decontamination samples	X	X	X

NOTES:

Analytical parameters are given in Table E.8.2.

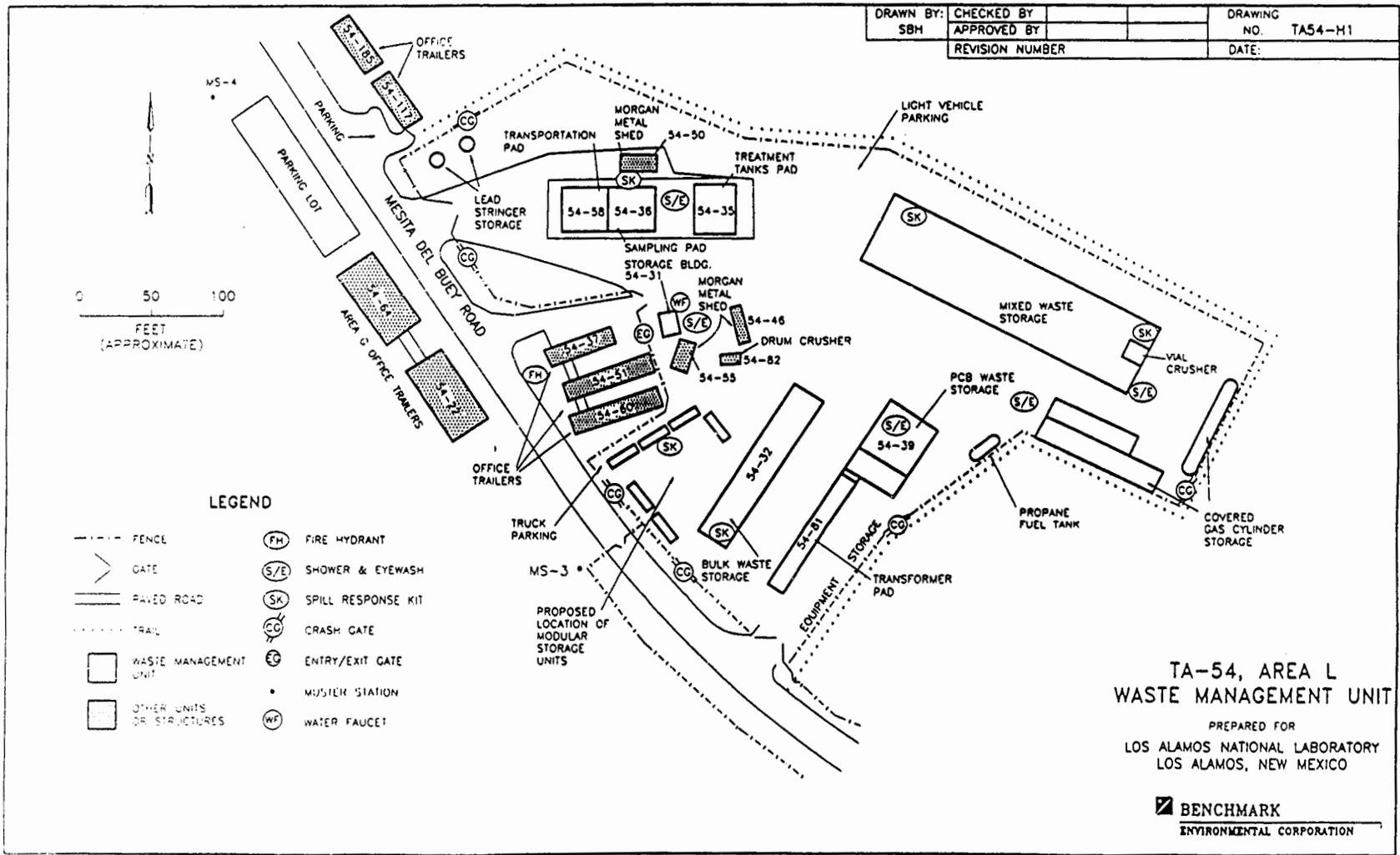
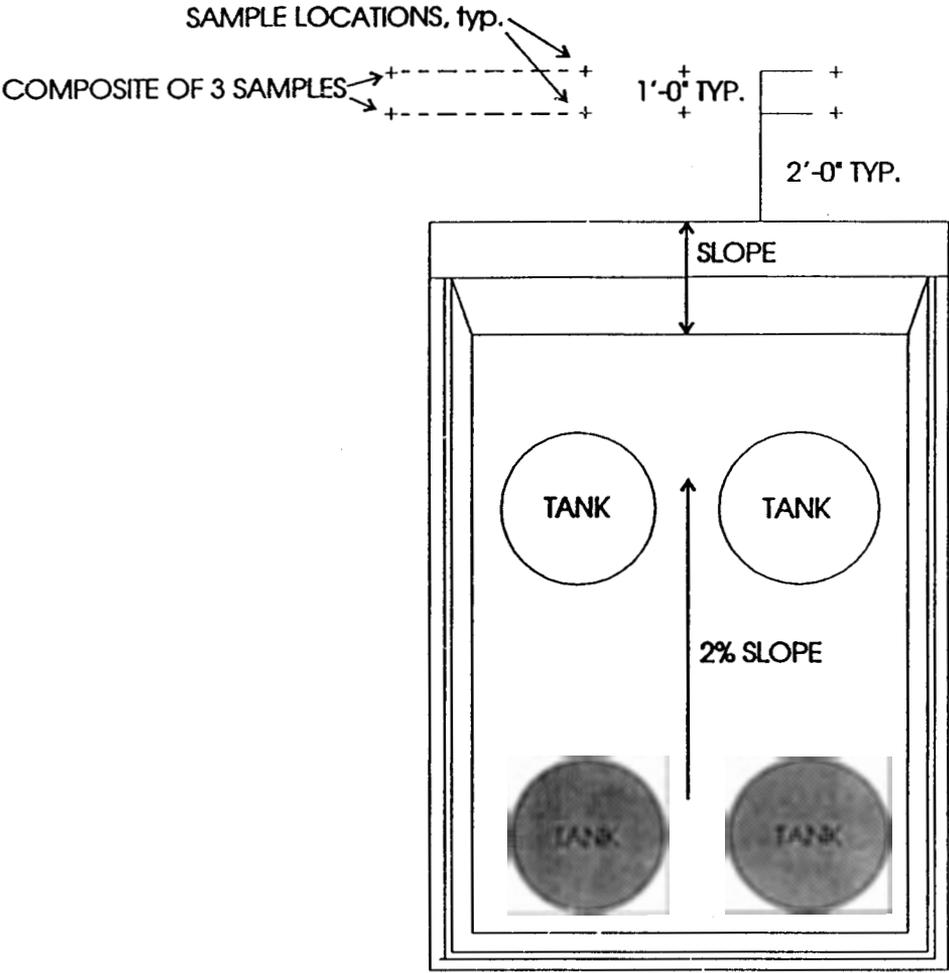


FIGURE E-8.1 - TA-54 AREA L WASTE MANAGEMENT UNITS



 Tanks slated for closure

FIGURE E.8.2 TA-54 AREA L TREATMENT TANKS SAMPLE LOCATIONS

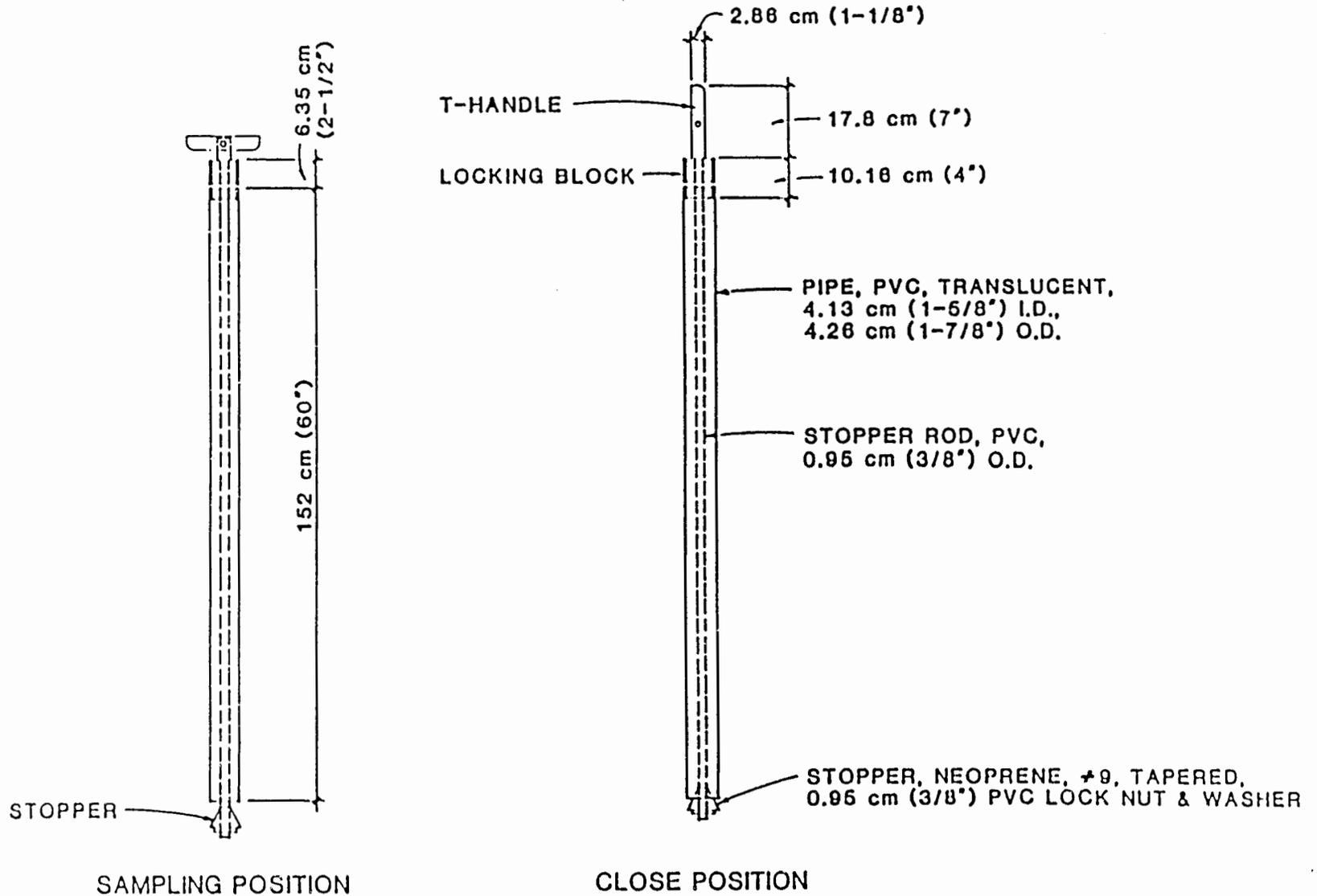


FIGURE E.8.3. COMPOSITE LIQUID WASTE SAMPLER (COLIWASA)

**FIGURE E-8.4
EXAMPLE OF SAMPLE SEAL**

OFFICIAL SAMPLE SEAL

Collected by _____ Collector's sample No. _____
(Signature)

Date Collected _____ Time Collected _____

Place Collected _____

**FIGURE E-8.5
EXAMPLE OF SAMPLE LABEL**

OFFICIAL SAMPLE LABEL

Collector _____ Collector's Sample No. _____

Place of Collection _____

Date Sampled _____ Time Sampled _____

Field Information _____

**ATTACHMENT E.8a
REVISED CLOSURE PLAN
TA-54 AREA L HAZARDOUS WASTE TREATMENT/STORAGE TANKS**

MODIFICATION SUMMARY:

Proposed Modification Class - 1

Class Citation - 40 CFR Appendix 1 to §270.42, A.1 and D.1.c

Summary of Changes -

The revised closure plan for TA-54 Area L Hazardous Waste Treatment/Storage Tanks has been updated to reflect closure requirements for the tanks remaining active after two tanks are closed out. This revised closure plan also includes a change from a 240 day closure notification to NMED to a 45 day notification period.

REVISED CLOSURE PLAN

E.8a

TA-54 AREA L HAZARDOUS WASTE TREATMENT/STORAGE TANKS

**CLOSURE PLAN
PERMIT ATTACHMENT E.8a
NM 0890010515-1**

E.8a TA-54 Area L Hazardous Waste Treatment/Storage Tanks

E.8a.1 Unit description

Two 1,660-gallon, 10-gauge steel treatment/storage tanks are located at Area L. They are lined with plastic (except when treating reactive wastes) and used to neutralize, oxidize, and evaporate waste. The tanks are located on a bermed, sealed concrete pad (Figure E.8a-1). This closure plan addresses only these two tanks (Figure E.8a-1).

E.8a.2 Estimate of Maximum Waste in Storage and Treatment

The maximum amount of waste that could be stored in the tanks is 3,320 gallons if the tanks were filled with no freeboard. The expected maximum volume of waste is 2,860 gallons.

E.8a.3 Description of Waste Handled

The wastes treated or stored normally at the tanks are ammonium bifluoride and lithium hydride. Occasionally plating bath treatment residues from treating F003, F004, F005 and F006 wastes are also treated here. Potentially, any wastes or clean up wastes amenable to evaporation may be treated in the tanks. Therefore, any waste generated at the laboratory potentially has, or could be, treated or stored in the tanks.

E.8a.4 Partial Closure

Should a single tank be closed, all portions of this plan addressing tank decontamination shall apply to the closing tank.

E.8a.5 Closure Procedure

Cleanup and closure will be done in sequential order, culminating in the disposal of any residues or contaminated material by shipment off site to a permitted facility. Before decontamination, all wastes in storage will either be treated on site or disposed of off site. Given the diversity of wastes handled, it is not possible to estimate the exact wastes on hand at the initiation of closure and, therefore, the final disposition of the wastes. In general, recyclable wastes will be reused internally or recycled to users off site. Permitted wastes will be burned at the permitted incinerator at TA-50-37. The remaining wastes will be transported off site to a permitted disposal facility. If on site treatment is not possible due to prior closure of the permitted units, off site disposal will occur.

E.8a.5.1 Waste Removal

The waste of concern at the start of closure consist of liquids and residues in the treatment tanks. Following removal of the tank liners and residual wastes, the tanks will be decontaminated. The wash water will be removed, placed in drums, sampled, analyzed and transported off site to a permitted facility for treatment or disposal. All wastes shipped off site will be manifested in accordance with the facility permit. All waste transporters will have an EPA identification number in accordance with HWMR-5, Part IV, Section 263.11.

E.8a.5.2 Storage/Treatment Decontamination

Following removal of the tank liners and residual wastes, the tanks will be decontaminated by scraping and washing with Liquinox(®) or Alconox(®) in water. The wash water will be removed, placed in drums, sampled, analyzed and transported off site to a permitted facility for treatment or disposal. The tank will be then be scraped and brushed to remove residue and the residue will be collected and placed in drums. The tanks will be removed and the concrete pad on which the treatment tanks are placed will be washed with a Liquinox(®) or Alconox(®) solution in water. The wash water will be contained with the curbed concrete pad, collected, sampled, and analyzed. If the wash water is not hazardous or requires only neutralization, it will be removed with a vacuum truck and transported to an industrial sewer which drains to the facility industrial wastewater treatment plant at TA-50-1. If the water contains hazardous constituents, it will be removed, placed in drums and transported off site to a permitted facility for treatment or disposal. Wash-down of the tanks and pad will be repeated until decontamination is demonstrated.

E.8a.5.3 Soil Decontamination

Soil sampling, as described in Section E.8a.9, will be conducted to determine if hazardous wastes have been tracked outside of contaminated areas. Eight soil samples will be collected around the edge of the bermed concrete pad beneath the treatment tanks as shown in Figure E.8a-2. Each sample will be made up of six inch deep cores taken six inches off the edge and equally spaced to cover each edge. Soil and sediment samples will be analyzed for Table E.8a-2 parameters. Analysis and quality assurance/quality control will follow methods defined in SW-846.

If the sample survey indicates that there are no contaminated soil areas, no further soil decontamination action will be taken at the site. If contamination is found in any of these samples, the limits of the sampling area will be expanded by establishing a three foot sampling grid around a single contamination point, or centered on the area defined by the locus of multiple contamination points, to determine the outside perimeter of the contamination. Sampling will be continued until the extent of contamination is determined. Background samples will be taken in the same manner as the initial closure soil survey.

Once the limits of the contaminated area are determined, the contaminated soil will then be removed to a depth of 6 inches and handled as a regulated waste. Contaminated soil will be placed in drums or sealed in dump trucks for off site disposal at a permitted facility. The adequacy of decontamination is determined by additional sampling. Sampling, analysis, and documentation procedures are detailed in Section E.8a.9. In order to demonstrate final decontamination, soil samples will be analyzed for all Table E.8a-2 parameters. Analysis and quality assurance/quality control will follow methods defined in SW-846.

E.8a.5.4 Personnel Protection

Personnel who are washing equipment will wear rubber gloves, neoprene acid/solvent resistant coveralls, rubber boots, and a face shield. The Laboratory's Industrial Hygiene Group (HR-5) will review the site survey analytical data and recommend additional protective clothing if necessary.

E.8a.5.5 Equipment Decontamination

Shovels, drum trucks and other equipment used for decontamination will be scraped and brushed to remove residue, and the residue collected will be placed in drums for disposal off site at a permitted facility. The equipment will be placed on a 30 mil plastic sheet that is bermed to contain liquids and pressure washed with water and detergent. Large equipment such as backhoes and forklifts will also be washed. Testing will be performed on this water to determine if decontamination is adequate.

Washing to considered adequate to decontaminate the equipment. The wash water will be allowed to evaporate and the plastic and residue will be packed in drums for off site disposal at a permitted facility.

E.8a.6 Decontamination Verification

E.8a.6.1 Wash water Decontamination Verification

A minimum of two samples of the clean Liquinox(®) or Alconox(®) solution will be sampled as background for wash water and, along with the wash water samples, analyzed for the constituents listed in Table E.8a-2. Successful decontamination is defined as:

1. No detectable hazardous constituents in the final sample, or
2. Detectable hazardous constituents in the final sample are equal to or less than, at the 0.01 confidence level, their concentration in the unused washwater or background sample. Hazardous constituents detected in the background sample will invalidate that sample as true background unless adequate explanation of their source is provided.

An alternative demonstration of decontamination may be proposed and justified at the time of closure as circumstances indicate. The Secretary will evaluate the proposed alternative in accordance with the standards and guidance then in effect and, if approved, incorporate by permit modification the alternative into the closure plan.

E.8a.6.2 Soil Decontamination

The Criteria for determining contaminated soil are the same as discussed in Section E.8a.6.1. Regulated constituent concentrations will be compared to background concentrations. Soils containing levels of contamination above the background will be considered contaminated and removed as hazardous waste.

Decontamination of the site soil will be demonstrated by additional sampling. Because removal of contaminated soil will leave an exposed surface, the disturbed surface will be resampled in the same places used to define the contaminated area. Analysis and the determination of contamination is as previously discussed, and reanalysis will be conducted only for those constituents that caused the area to be determined contaminated.

E.8a.7 Closure Schedule

The year of closure for TA-54 Area L hazardous waste treatment/storage tanks is 2100. Soil survey, contracting and closure activities will observe the schedule given in Table E.8a-1. Some soil sampling and the decontamination contractor selection will be completed before closure begins. Because several of the closure steps will occur simultaneously, closure is estimated to take 210 days.

Contracts for analytical work and, if necessary, soil removal are expected to exceed \$100,000. The Laboratory is required by policy to put the work out for bid, and ninety days are required to solicit and process the bids. The location of the site is prone to snow cover in the winter months. The closure may be delayed until the site is free of snow and the ground is thawed adequately to allow the soil sampling and other closure operations. The schedule includes a weather factor to allow for this delay.

E.8a.8 Closure Certification

An independent, registered professional engineer and the Permittee shall witness the closure and ensure that the closure follows this plan. Upon completion of closure, the engineer and the DOE shall prepare a letter certifying that the unit has been closed in accordance with this plan. The letter shall be dated and signed by each party, stamped by the registered engineer, and the original copy submitted by the DOE to the Secretary of the NMED. One copy shall be maintained at the DOE office and one copy maintained by the ESH-8 Regulatory Compliance Section.

E.8a.9 Sampling and Analytical Procedure

The following section defines procedures and methods for sampling, analysis and documentation applicable to closure plans. While the procedures and method are specific, any applicable procedure or method given in SW-846 or other EPA approved procedure may be used if conditions or experience shows the alternate method to be more appropriate. Disposable samplers may be used.

Samples will be taken, placed in bottles, sealed, tagged, and immediately packed in vermiculite, sawdust, or, if refrigeration is required, an insulated container with ice. One sample for every ten samples will be either duplicated or split. The duplicated or split sample will be identified by a code so that its source is not available to the analytical laboratory, but analytical results can be compared to its twin.

Sample containers appropriate for the requested analyses will be used for all samples. Sampling will be conducted in accordance with procedures given in *Samplers and Sampling Procedures for Hazardous Waste Streams*, EPA 600/2-80-018 and/or SW-846.

E.8a.9.1 Soil and Solid Residues Sampling

The sampling procedures outlined below are used to determine the amount of hazardous material deposited on a particular area of land, or to determine the leaching rate of the material, or determine the residue level on the soil. Adequate preparation ensures that proper sampling is accomplished.

Surface soil samples will be collected with a trowel or scoop. To sample below 3 in. (8 cm), samples will be collected with a Veihmeyer soil sampler. Drums of solid residues will be sampled with a core sampler or Veihmeyer soil sampler. Drums not capable of being sampled will be assumed to be reactive hazardous waste.

E.8a.9.1.1 Cleaning of Sampler

It is important to clean the samplers after each site is sampled. An unused disposable sampler may be presumed clean if still in a factory sealed wrapper. Unsealed samplers will be cleaned prior to use. The samplers will be washed with a warm Liquinox(®) or Alconox(®) solution, rinsed several times with tap water, rinsed with distilled water, drained of excess water, and air-dried or wiped dry. Prevention of cross contamination is of particular importance in these samples.

E.8a.9.1.2 Sampling Procedures Trowel or Scoop

- Take small, equal portions of sample from the surface or near the surface of the material to be sampled.
- Combine the samples in a glass container.

- Cap the container, attach a label and seal, record in field log book, and complete the sample analysis request sheet and chain-of-custody record.

Veihmeyer Sampler

- Assemble the sampler by screwing in the tip and drive head on the sampling tube.
- Insert the tapered handle (drive guide) of the drive hammer through the drive head.
- Place the sampler in a perpendicular position on the material to be sampled.
- With the left hand holding the tube, drive the sampler into the material to the desired sampling depth by pounding the drive head with the drive hammer. Do not drive the tube further than the tip of the hammer's drive guide.
- Record the length of the tube that penetrated the material.
- Move the drive hammer onto the drive head. In this position, the hammer serves as a handle for the sampler.
- Rotate the sampler at least two revolutions to shear off the sample at the bottom.
- Lower the sampler handle (hammer) until it just clears the two ear-like protrusions on the drive head and rotate about 90 degrees.
- Withdraw the sampler from the material by pulling the handle (hammer) upwards. When the sampler cannot be withdrawn by hand, as in deep soil sampling, use a pullerjack and grip.
- Dislodge the hammer from the sampler, turn the sampler tube upside down, tap the head gently against the hammer, and carefully recover the sample from the tube. The sample should slip out easily.
- Store the core sample in a 1,000 or 2,000 ml (1 qt or 1/2 gal) sample container.
- Label the sample, affix the seals, record in the field log book, complete the sample analysis request sheet and chain-of-custody record, and deliver the samples to the laboratory for analysis.

E.8a.9.2 Liquid Sampling

A Coliwasa sampler or similar device will be used to sample water solutions in order to determine background parameters before washing the area; it will also be used to sample the dirty wash water used in cleaning equipment. The recommended model of the Coliwasa is shown in Figure E.8a-3., the main parts consisting of the sampling tube, the closure-locking mechanism, and the closure system. As an alternative to the Coliwasa, glass tubes may be used to sample liquids. The primary advantage in using a glass tube is that the tube will be disposed of as hazardous waste after each sample is collected, thus eliminating the potential for cross contamination.

E.8a.9.2.1 Cleaning of Sampler

The sampler must be clean before use. An unused disposable sampler may be presumed clean if still in a factory sealed wrapper. Unsealed samplers will be cleaned prior to use. The used sampler must be washed with a warm detergent solution (Liquinox(@) or Alconox(@)), rinsed several times with tap

water, rinsed with distilled water, drained of excess water, and air-dried or wiped dry. A necessary piece of equipment for cleaning the tube of the Coliwasa is a bottle brush that fits tightly inside the diameter of the tube. The brush is connected to a rod of sufficient length to reach the entire length of the sampler tube. Using this ramrod and fiber reinforced paper towels, the Coliwasa tube may be quickly cleaned. Improper cleaning of sample equipment will cause cross contamination of samples. Prevention of contamination is of particular importance in these samples. Clean samplers should be stored in polyethylene plastic tubes or bags in a clean and protected area.

E.8a.9.2.2 Sampling Procedures

- Assemble the Coliwasa sampler.
- Make sure that the Coliwasa sampler is clean.
- Check to make sure the sampler is functioning properly. Adjust the locking mechanism, if necessary, to make sure the neoprene rubber stopper provides a tight closure.
- Wear necessary protective clothing and gear and observe required sampling precautions.
- Put the sampler in the open position by placing the stopper rod handle in the T-position and pushing the rod down until the handle sits against the sampler's locking block.
- Slowly lower the Coliwasa sampler into the liquid at a rate that permits the levels of the liquid inside and outside the sampler tube to be about the same. If the level of the liquid in the sampler tube is lower than that outside the sampler, the sampling rate is too fast and will result in a nonrepresentative sample.
- When the sampler stopper hits the bottom of the liquid container, push the sampler tube downward against the stopper to close the sampler. Lock the sampler in the closed position by turning the T-handle until it is upright and one end rests tightly on the locking block.
- Slowly withdraw the sampler from the container with one hand while wiping the sampler tube with a disposable cloth with the other hand.
- Carefully discharge the sample into a glass container by slowly opening the sampler. This is done by slowly pulling the lower end of the T-handle away from the locking block while the lower end of the sampler is positioned in the glass container.
- Cap the glass container, attach a label and seal, record in the field log book, and complete the sample analysis request sheet and chain-of-custody record.
- Unscrew the T-handle of the sampler and disengage the locking block. Clean the sampler on site or store the contaminated parts of the sampler in a plastic storage tube or bag for subsequent cleaning. Store used rags in plastic bags for subsequent disposal.

E.8a.9.3 Sample Handling and Documentation

Soil and liquid samples will be analyzed either at LANL or at a commercial laboratory. In either case, each sample will be labeled, sealed, and accompanied by a chain-of-custody and a sample analysis request form.

The sample container must be sealed with a gummed paper seal attached to the container in such a way that the seal must be broken in order to open the container. The seal and sample tag must be completed with a waterproof pen. An example of a sample seal is shown in Figure E.8a-4.

The sample label is necessary to prevent misidentification of samples and shall include, if applicable, the grid number referenced to positions staked on the site perimeter. The "field information" in the case of soil sampling, shall include observations such as the soil texture and surface appearance, ambient temperature and cloud cover at time of sampling, and precipitation conditions 24 hours before sampling. An example of a sample label is shown in Figure E.8a-5.

The chain-of-custody form is necessary to trace sample possession from the time of collection and must accompany every sample. This record becomes especially important when the sample is to be introduced as evidence in litigation. This is a two page record with the original accompanying shipment and the "copy" retained by the Laboratory. An example of this form is shown in Figure E.8a-6.

A separate closure sampling field log book will be kept and will contain all information pertinent to field surveys and sampling. The log book shall have bound and consecutively numbered pages in 8-1/2 by 11-inch format. Minimum entries include:

- a. Purpose of sample (routine sampling, special sampling);
- b. Location of sampling (coordinates referenced to staked field points, if soil sample);
- c. Name and business address of person making log entry;
- d. Type of process producing waste;
- e. Number and volume of sample;
- f. Description of each sampling location, sampling methodology, equipment used, etc.;
- g. Date and time of sample collection;
- h. Sample destination and transporter's name (name of laboratory, UPS, etc.);
- i. Map or photograph of the sampling site, if any;
- j. Field observations (ambient temperature, sky conditions, past 24-hour precipitation, etc.);
- k. Field measurements, if any (pH, flammability, conductivity, explosivity, etc.);
- l. Collector's sample identification number(s); and
- m. Signature of person responsible for the log entry.

Sampling situations vary widely. No general rule can be given as to the extent of information that must be entered in the log book. A good rule, however, is to record sufficient information so that someone can reconstruct the sampling situation without relying on the collector's memory.

The sample shipment and chain-of-custody record is accompanied by a sample analysis request sheet. The request sheet has two parts: field and laboratory. The field portion of this form must be completed by the person collecting the sample and include most of the pertinent information noted in the log book. The laboratory portion is intended to be completed by the laboratory personnel when the sample is received.

E.8a.10 Quality Assurance/Quality Control

The Permittee shall designate a qualified individual or individuals to independently oversee the closure activities and report directly to senior management on the quality of the performance of this closure. This individual will personally observe a portion of the key activities, assure that sample blanks are used and analyzed and review the analysis reports for accuracy and adequacy. A written QA/QC plan prepared in accordance with SW-846 guidance shall be prepared and followed, with variations from the plan documented and explained. The designated individual shall prepare a written statement for the final report commenting on the adequacy of the analysis showing decontamination.

E.8a.11 Final Closure Report

Upon completion of the closure activities, the Permittee shall submit a Final Closure Report to the Director. The report shall document the final closure and contain, at a minimum, the following:

- A. The certification described in Section E.8a.8.
- B. Any variance from the approved activities and the reason for the variance.
- C. A tabular summary of all sampling results, showing:
 - 1. Sample identification
 - 2. Sampling location
 - 3. The datum reported,
 - 4. Detection limit for each datum,
 - 5. A measure of analytical precision (e.g. uncertainty, range, variance),
 - 6. Identification of analytical procedure, and
 - 7. Identification of analytical laboratory.
- D. A QA/QC statement on the adequacy of the analyses and the decontamination demonstration.
- E. The location of the file of supporting documentation:
 - 1. Field log books,
 - 2. Laboratory sample analysis reports,
 - 3. The QA/QC documentation, and
 - 4. Chain of custody records.
- F. Disposal location of all regulated and non-regulated residues.
- G. A certification of accuracy of the report.

TABLE E.8a-1
Closure Schedule

ACTIVITIES	Maximum Time Required
Notify NMED of closure	-45 days
Conduct first soil sampling survey	-45 days
Analyze first soil samples	-30 days
Conduct second soil survey if needed	-20 days
Analyze second soil set of soil samples	-10 days
Begin Closure	Day 0
Analyze first soil samples	Day 30
Conduct second soil samples survey, if needed	Day 45
Treat or remove final wastes	Day 50
Analyze second soil samples, if needed	Day 65
Evaporate waste water from treatment tanks	Day 90
Soil decontamination, if necessary	Day 105
Remove soil	Day 130
Dispose of tanks and residue	Day 140
Weather delay contingency	Day 175
Conduct verification samples	Day 200
Decontamination verification	Day 200
Submit final report to NMED	Day 210

NOTE:

The calendar days given above are completion dates for each activity. In some cases more than one activity may occur simultaneously.

This schedule applies to both partial and final closure.

TABLE E.8a-2

Analytical Parameters

METALS

Arsenic
Barium
Cadmium
Chromium
Lead
Mercury
Selenium
Silver
Nickel
Beryllium

ORGANICS

Halogenated volatile organics
Nonhalogenated volatile organics
Acid-extractable semivolatile organics
Base-neutral extractable semivolatile organics

OTHER

Cyanides
pH

NOTES:

Analytical methods are taken from *Test Methods for Evaluating Solid Waste*, EPA SW-846, and may be superseded by more current methods from SW-846 or alternate EPA-approved methods.

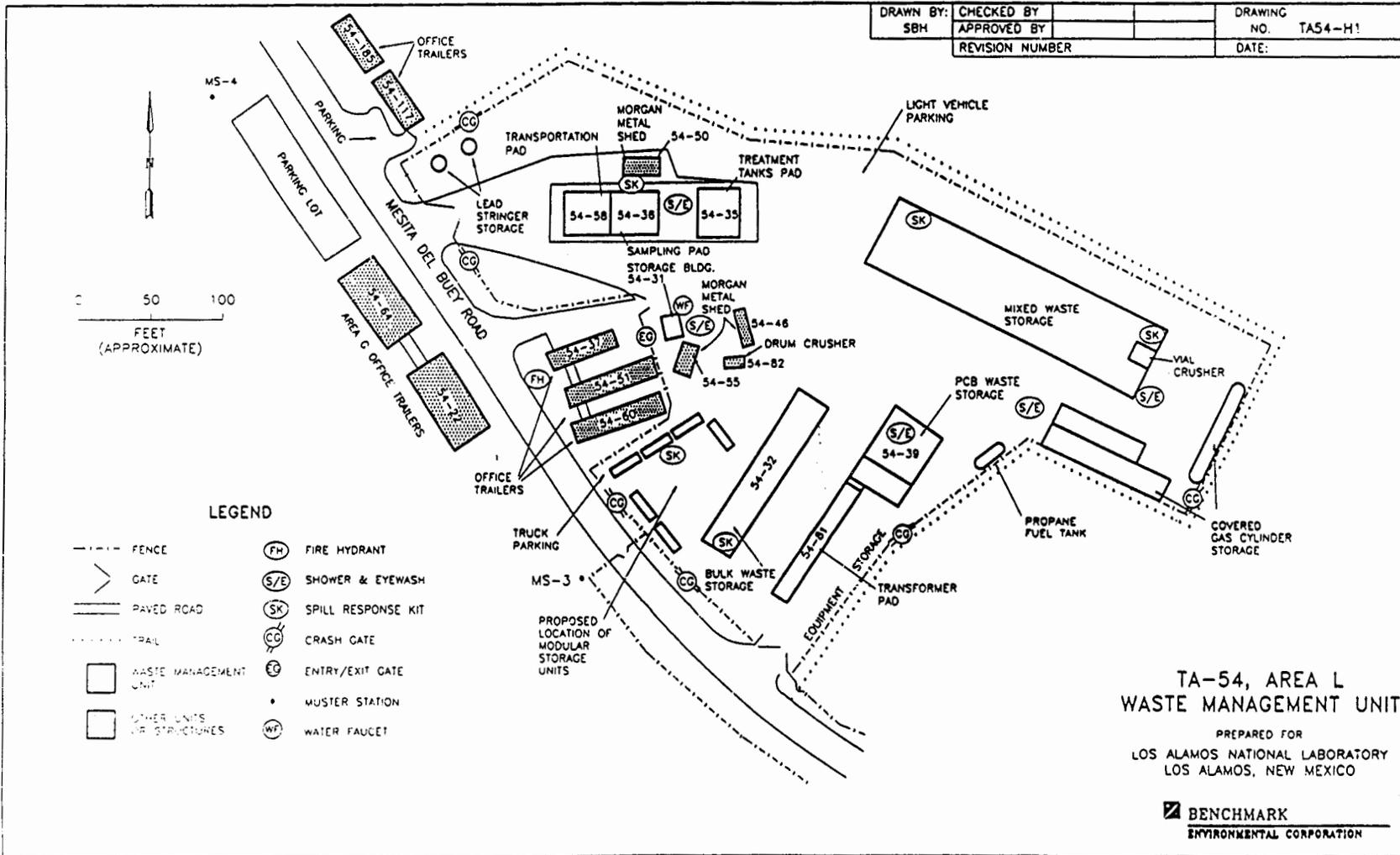
Metals may be analyzed for total content. Any metal whose total concentration exceeds the standard for Toxic Characteristic Leading Procedure (TCLP) shall be analyzed by using TCLP procedures. Both data shall be reported in the final report.

TABLE E.8a-3
Sampling Summary

MATERIAL SAMPLED	METALS	ORGANICS	OTHER
Washdown solutions before use	X	X	X
Washdown solutions after use	X	X	X
Soils background	X	X	X
Soil samples	X	X	X
Final decontamination samples	X	X	X

NOTES:

Analytical parameters are given in Table E.8a-2.



DRAWN BY: SBH	CHECKED BY:	DRAWING NO. TA54-H1
APPROVED BY:	REVISION NUMBER:	DATE:

FIGURE E.8a-1

TA-54 Area L Waste Management Units

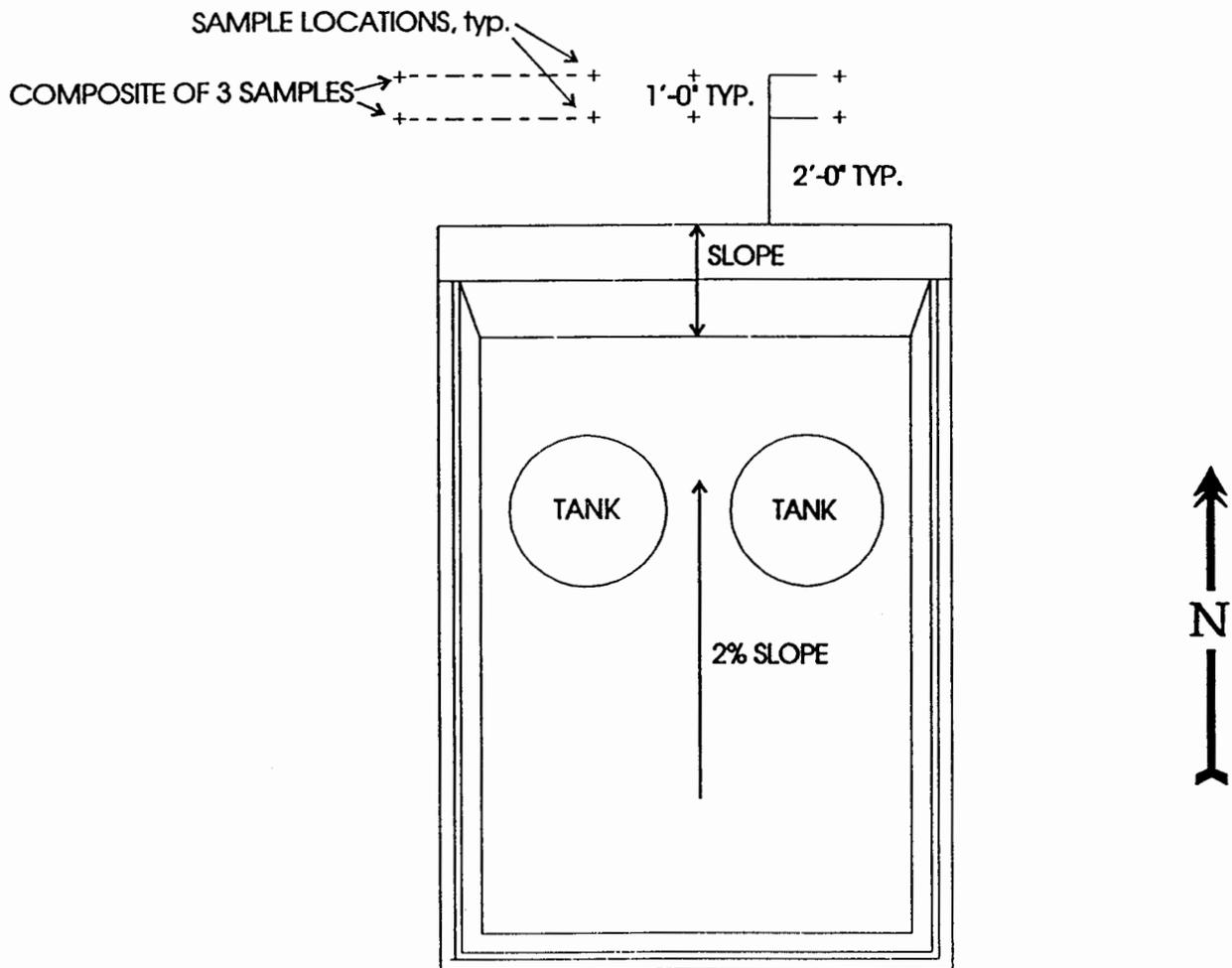
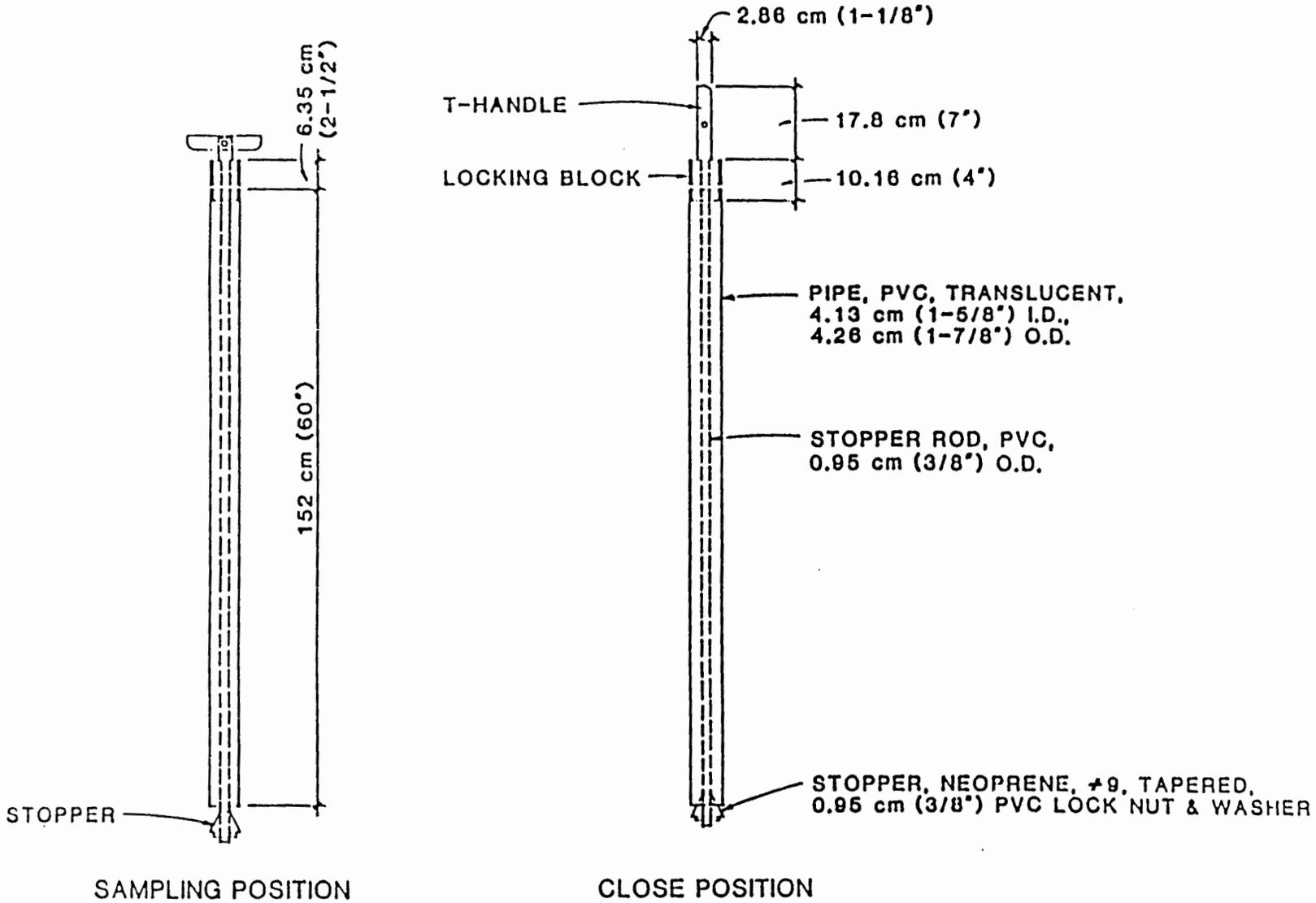


FIGURE E.8a-2

TA-54 Area L Treatment Tanks Sample Locations



Composite Liquid Waste Sampler (Coliwasa)

OFFICIAL SAMPLE SEAL

Collected by _____ Collector's sample No. _____
(Signature)

Date Collected _____ Time Collected _____

Place Collected _____

FIGURE E.8a-4

Example of Sample Seal

OFFICIAL SAMPLE LABEL

Collector _____ Collector's Sample No. _____

Place of Collection _____

Date Sampled _____ Time Sampled _____

Field Information _____

FIGURE E.8a-5

Example of Sample Label

