TA-50

Department of Energy
National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544

AUG 25 2003

Carl Will, RCRA Permits Management Program
Hazardous & Radioactive Materials Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Dear Mr. Will:

Subject: Request for Class 1 Resource Conservation and Recovery Act (RCRA) Permit Modification for Attachment E.5; Closure Plan for Technical Area 50, Building 37, Room 117 (TA-50-37-117)

The objectives of this letter are to request a Class 1 RCRA Permit Modification to Attachment E.5 of the Department of Energy/University of California (DOE/UC) Hazardous Waste Facility Permit, to transmit the modified Attachment E.5, and to propose a method of alternative demonstration of decontamination as allowed by Section E.5.5 of Attachment E.5.

CLOSURE PLAN MODIFICATIONS

Modifications to Attachment E.5 were kept to a minimum. They incorporate a new year of closure, the correction of typing errors, and update the names for those that have changed since the closure plan was written. DOE/UC have identified these modifications to be a Class 1 permit modification pending the New Mexico Environment Department's (NMED) approval according to 20.4.1 NMAC incorporating 40 CFR 270.42. This section states that changes to the expected year of closure and changes to the procedures for decontamination are Class 1 permit modifications with prior approval from NMED.

PROPOSED CLOSURE PROCEDURE

DOE/UC request that sampling for nine of the parameters listed in Table E.5.2 not be conducted during the closure of TA-50-37-117. Those parameters are: Nickel, Beryllium, Phenols, Organochlorine pesticides, Chlorinated herbicides, Cyanides, Ignitability, Reactivity, and pH. It has been determined after a review of the unit's operating record that these parameters are not among the hazardous waste constituents of concern at this unit, and therefore not necessary for decontamination verification. It is our proposal that samples collected during the closure will be analyzed for RCRA toxic metals, volatile organic compounds, and semi-volatile organic compounds.


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As allowed for in Section E.5.5, an alternative demonstration of decontamination may be necessary for the completion of the closure of TA-50-37-117. DOE/UC propose the following alternative demonstrations to complete closure:

- Detectable hazardous waste or hazardous waste constituent concentrations from container storage activities that do not significantly decrease after several wash downs will be allowed to remain if they pose an acceptable risk, as mutually agreed upon with the NMED.
- Analytical results will be compared to the United States Environmental Protection Agency's Region 6 Medium Specific Screening Levels (MSSL) for tap water. If the result is below the MSSL, closure will be considered complete.
- If residual contamination levels found are above the MSSL's, an assessment will be conducted using an occupational risk based scenario.

If you have any comments or questions regarding the information presented in this letter and/or in the enclosure, please contact either Gene Turner, DOE, at (505) 667-5794 or Jack Ellvinger, UC, at (505) 667-0633.

Sincerely,

Joseph C. Vozella
Assistant Manager
Office of Facility Operations

OFO:1GT-017

Enclosures

cc:
See Page 3

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D. Stavert, RRES-EP, LANL, MS-J591
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ENCLOSURE

MODIFIED CLOSURE PLAN

MODIFIED
CLOSURE PLAN
PERMIT ATTACHMENT E.5
NM 0980010515-1

CLOSURE PLAN
PERMIT ATTACHMENT E.5
NM 0980010515-1

E.5 CHEMICAL WASTE INCINERATOR CONTAINER STORAGE AREA

Contained wastes to be incinerated are stored in Room 117 of Building 37, TA-50 (Figure E.5.1). The storage area has a concrete floor with a grated false floor sixteen inches above the concrete. The concrete is coated with Semstone (@). Liquid and solid contained compatible wastes are stored in the area. The waste containers are predominately 55-gallon drums and 330-gallon polyethylene containers, all meeting Department of Transportation (DOT) specifications. Solid wastes may be stored in boxes.

E.5.2 Estimate of Maximum Waste in Storage and Treatment

The maximum inventory of hazardous wastes stored at the TA-50 waste incinerator is estimated at 13 cubic meters (solid wastes plus 3630 gallons of liquids).

E.5.3 Description of Waste Handled

The Laboratory wastes are a mixture of liquid and solid hazardous wastes composed of various organic solvents and liquids as well as chemically contaminated paper, wood, and plastics. The liquids can contain either ignitable or listed wastes containing HWMR-5, Part II, Appendix VIII constituents. The incinerator is fed all HWMR-5, Part II, Appendix VIII constituents with an incinerability ranking equal to or better than carbon tetrachloride.

E.5.4 Closure Procedure

E.5.4.1 Partial Closure

Partial closure of this unit is not expected to occur.

E.5.4.2 Final Closure

Personnel involved in ~~decontaiminating~~decontaminating the storage area will wear protective equipment, including, acid/solvent resistant coveralls, head protection, neoprene coated gloves, and boots, Wrists and ankles are to be taped to protect against upward and inward splash. As a minimum protection, face shields will be worn. Full face respirators or other protective equipment will be used if specified by the Laboratory's Industrial Hygiene Group, ~~HSE~~HSR-5, following a field inspection.

All remaining wastes will be incinerated before closing the storage area. If for some reason it is not possible to incinerate all the waste on the site, the waste will be sent to a designated off site treatment or disposal facility.

Following removal of all ~~sotred~~stored waste, the floor and grate of Room 117 will be washed and rinsed with a warm Liquinox(@) and Alconox(@) solution in water. The wash water will be picked up and put into approved DOT containers using a drum pump, rags and/or mops, wringing the excess water into an approved DOT container. This water will be sampled to demonstrate decontamination and transferred to TA-54, Area L for sampling, analysis and off site disposal at a permitted facility.

The protective clothing and tools used during the wash down will be cleaned with detergent and water. The wash water will be collected and analyzed. If the wash water is not hazardous, the water will be discharged to the industrial waste water sewer. If the wash water contains hazardous constituents, it will be treated on site or ~~transpoted~~transported off site to a permitted facility. Mops and rags used for clean up will be placed in approved DOT containers for transport to TA-54, Area L, for sampling, analysis, storage and off site disposal at a permitted facility.

E.5.5 Decontamination Verification

Before the first wash down, two samples will be taken of the clean Liquinox(@) or Alconox(@) solution in water and analyzed for the constituents listed in Table E.5.2. One additional clean solution sample will be taken for each additional wash down event. These analytical results provide background data for decontamination verification.

Dirty wash down solutions will also be analyzed for the constituents listed in Table E.5.2. Analytical procedures will conform to methods found in SW 846. Equipment will be considered to be contaminated if the used wash solutions show a significant increase in the listed constituents over the clean wash solution.

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 wash water or background sample.

An alternative demonstration of decontamination may be proposed and justified at the time of closure as circumstances indicate. The Director 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.5.6 Closure Schedule

Characterization of the final delivery of hazardous waste may require up to 30 days. An estimated 60 days will be required to schedule and process the final wastes received. The year of closure for the TA-50-37 container storage area is ~~2100~~2003. Closure will observe the schedule given in Table E.5.1.

E.5.7 Closure Certification

An independent registered professional engineer and the Permitee 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 facility 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 ~~orignial~~original copy submitted by the DOE to the Director of ~~NMEID~~NMED. One copy shall be maintained at the DOE office and one copy maintained by the ~~HSE-8~~ Risk Reduction and Environmental Stewardship Division's Solid Waste Regulatory Compliance ~~Section~~Group.

E.5.8 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 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.5.8.1 Soil and Solid Residue Sampling

Under normal circumstances soil sampling will be inapplicable. If, however, a spill should occur outside the building, sufficient sampling and analysis will be required to ensure that hazardous constituents do not remain after closure. 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.

Units emplaced over impervious surfaces, concrete or asphalt, need not be sampled for spill residues from past handling practices. Units emplaced over absorbent surfaces such as soil will have a minimum of three soil samples to a depth of six inches taken in the area of each access door. The samples will be separately analyzed for the parameters in Table E.5.2. If contamination is discovered, a three foot grid centered on the locus of contaminated points will be sited and samples taken and analyzed to determine the extent of contamination. Analyses for this investigation can be made for the constituent(s) found in the initial survey. All contaminated soils shall be removed.

Surface soil samples will be collected with a trowel or scoop. To sample below 3 in. (8cm), samples will be collected ~~wiht~~with a Veihmeyer soil sampler. Solid residues in drums will also be sampled with a core sampler or Veihmeyer sampler. Drums not able to be sampled will be assumed to be hazardous waste.

E.5.8.1.1 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(@) ~~et~~ or Alconox(@) solution, rinsed several times with tap water, rinsed with distilled water, drained of excess water, and sir-dried or wiped dry. Prevention of cross contamination is of particular importance in these samples.

E.5.8.1.2 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 handle (hammer) until it just clears the two ear-like protusions 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.5.8.2 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 ~~useed~~used in cleaning equipment. The recommended model of the Coliwasa is shown in Figure E.5.2, 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.8.8.2.1 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 sir-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 the 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 an protected area.

E.5.8.2.2. 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 non-representative 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 ~~jplastic~~plastic bags for subsequent disposal.

E.5.8.3 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 label is shown in Figure E.5.4.

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 ~~imprtant~~important when the sample is to be introduced as evidence in litigation. This is a two page record with the original accompanying ~~shipmemnt~~shipment and the "copy" retained by the Laboratory. An example of this form is shown in Figure E.5.5.

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-I/1 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 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 ~~smapling~~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 with out 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 ~~completyed~~completed by the laboratory personnel when the sample is received.

E.5.9 Quality Assurance/Quality Control

The Permitee 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 shall be prepared and ~~follwoed~~followed, with variations from the plan documented and explained. The designated in individual shall prepare a written statement for the final report commenting on the adequacy of the analysis showing decontamination.

E.5.10 Final Closure Report

Upon completion of the closure activities, the Permitee ~~shal~~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 paragraph E.5.7.

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 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 unregulated residues.

G. A certification of accuracy of the report.

TABLE E.5.1.
CLOSURE SCHEDULE

Activity	Maximum Time Required
Notify ~~EID~~ NMED of closure	-90 Days
Advertise for proposals	-90 Days
Receive proposals	-30 Days
Select contractor and award contract	-10 Days
Begin closure activities	Day 0
Internal wash down complete	Day 30
External wash down complete	Day 50
Unit disassembly as required	Day 80
Floor wash down	Day 100
Final clean up	Day 120
Decontamination verification	Day 150
Submit final report to ~~EID~~NMED	Day 180

NOTE: The schedule above indicates calendar days from the beginning by which activities will be completed. Some activities may be conducted simultaneously.

TABLE E.5.2.
ANALYTICAL PARAMETERS

Metals	Organics	Other
Arsenic	Halogenated volatile organics	Cyanides
Barium	Nonhalogenated volatile organics	Ignitability
Cadmium	Acid-extractable semivolatile organics	Reactivity
Selenium	Base-neutral extractable semivolatile organics	pH
Lead	Phenols	
Mercury	Organochlorine pesticides	
Beryllium	Chlorinated herbicides	
Chromium		
Silver		
Nickel		

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 Extraction Procedure Toxicity shall be analyzed by Extraction Procedure Toxicity procedures. Both data shall be reported in the final report.

TABLE E.5.3
SAMPLING SUMMARY

Material Sampled	Metals	Organics	Other
Washwater before use	X	X	X
Washwater after use	X	X	X
Protective clothing washwater		X	
Soil sampling[a]	X	X	X

NOTE: Analytical parameters are given in Table E.5.2.

[a]As required. See paragraph E.5.8.1.

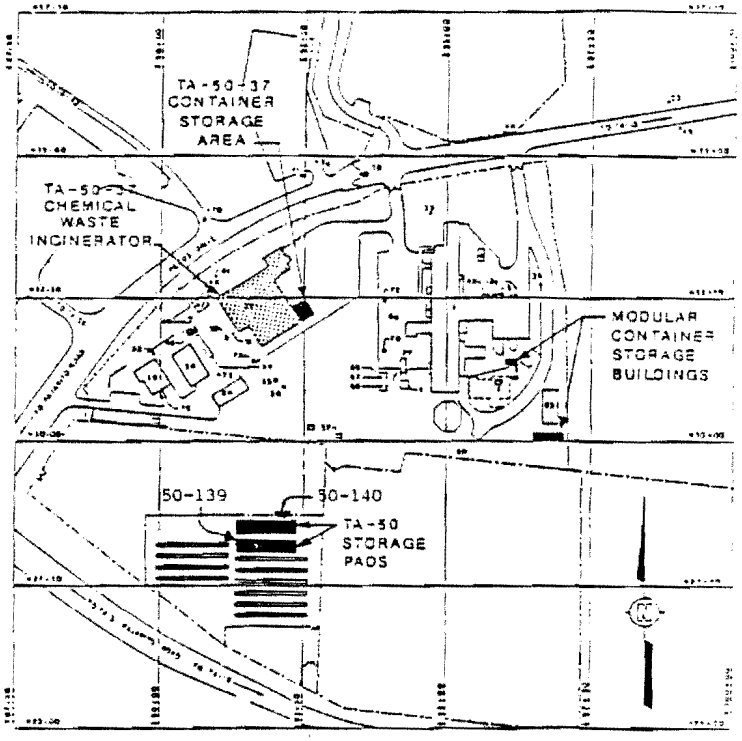

FIGURE E.5.1

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

PREPARED FOR

LOS ALAMOS
NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO

INTERNATIONAL
TECHNOLOGY
CORPORATION

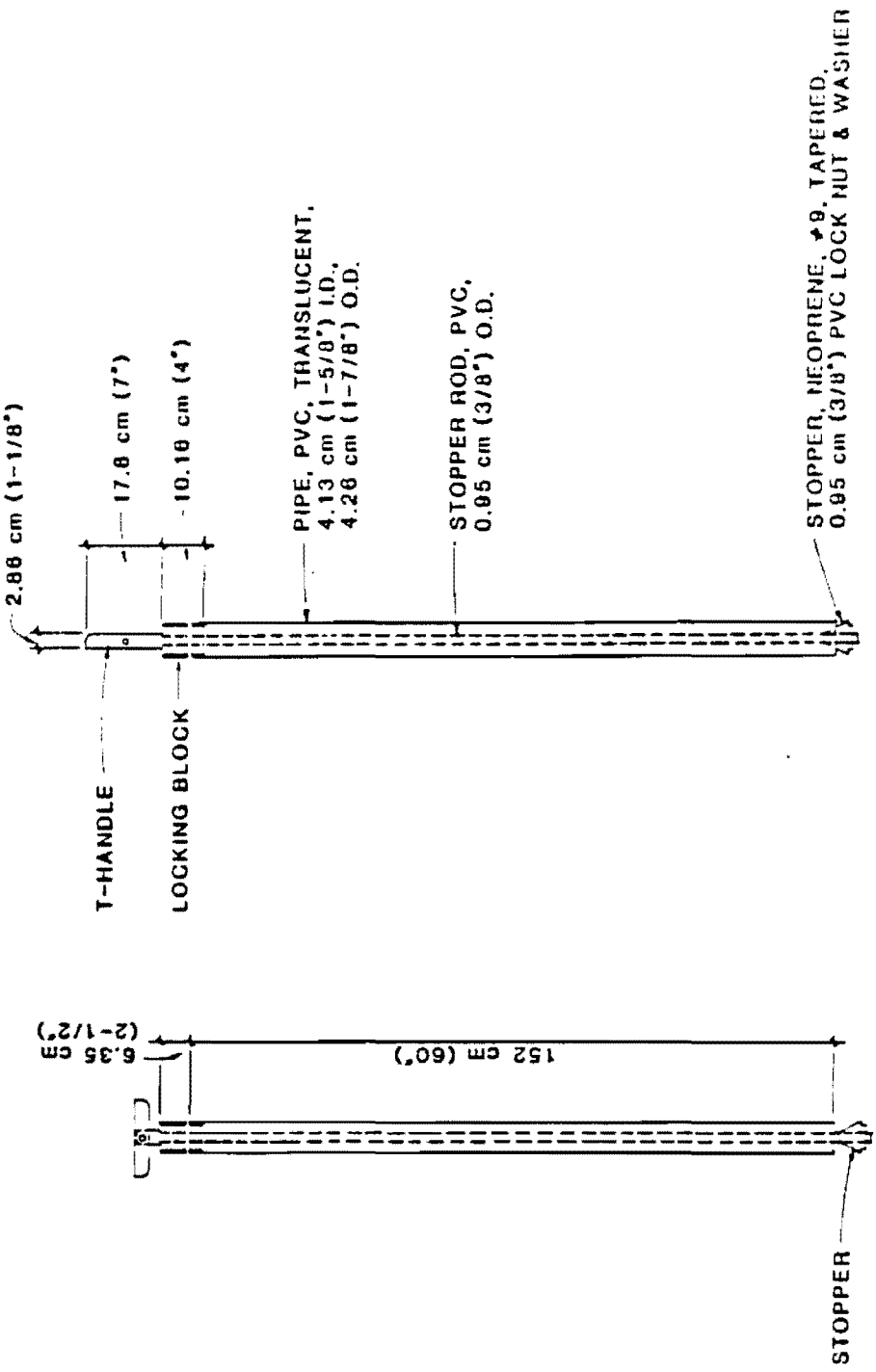

FIGURE E-5.1 COMPOSITE LIQUID WASTE SAMPLER (CLLWASA)

FIGURE E.3.4
EXAMPLE OF SAMPLE SEAL

OFFICIAL SAMPLE SEAL

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

Date Collected_____ Time Collected_____

Place Collected_____

_____

_____

FIGURE E.3.5
EXAMPLE OF SAMPLE LABEL
OFFICIAL SAMPLE LABEL

OFFICIAL SAMPLE LABEL

Collector_____ Collector's Sample No._____

Place of Collection_____

_____

Date Sampled_____ Time Sampled _____

Field Information_____

_____

_____

FIGURE E.3.6
EXAMPLE CHAIN OF CUSTODY RECORD

Hazardous Materials
Collector's Sample No.

Location of Sampling: ☐ Producer ☐ Hauler
☐ Disposal Site ☐ Other: _____

Company's Name _____ Telephone (___) _____

Address _____
Number Street City State Zip

Collector's Name _____ Telephone (___) _____

Date Sampled _____ Time Sampled _____

Type of Process Producing Waste _____

Waste Type Code _____ Other _____

Field Information _____

Sample Allocation:

1. _____
(Name of Organization)

2. _____
(Name of Organization)

3. _____
(Name of Organization)

Chain of Possession:

1. _____ _____ _____
Signature Title Inclusive Dates

2. _____ _____ _____
Signature Title Inclusive Dates

3. _____ _____ _____