KAFB 96

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2 July 1996

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Ms. Barbara Hoditschek
RCRA Permitting Program
New Mexico Environment Department
P.O. Box 26110
2044A Galisteo
Santa Fe NM 87502

RE: Closure Plan for Container Storage Unit, Building 615
EPA I. D. Number: NM 9570024423-1

Dear Ms. Hoditschek

Attached is the closure plan for subject building as requested in your May 20, 1996 letter, same subject. If you have any questions, please contact Marsha Carra at (505) 846-7847 or myself at (505) 846-5037. We appreciate your help and cooperation.

Sincerely

Walter S. Darr III

WALTER S. DARR III
Chief of Compliance
Environmental Management
Division

Attachment:
Closure Plan Building 615

KAFB1777

BUILDING 615 CLOSURE PLAN

This plan identifies all steps that will be necessary to completely close the hazardous waste management unit, building 615, located at Kirtland at the end of the intended operating life.

The DRMO will maintain a copy onsite of the approved closure plan and all plan revisions. Revisions will be submitted for approval to the State of New Mexico whenever any modifications are made to the existing equipment, structures or instruments or procedures related to the management of the hazardous waste facility or when required by regulatory changes.

CLOSURE PERFORMANCE STANDARD

The hazardous waste management unit, building 615, will be clean closed. To meet the requirements of "clean closure," all wastes and waste residue will be removed from building 615, soil contaminated with hazardous constituents will be excavated and removed, and steps will be taken to ensure that these closed areas will not become hazardous waste units in the future. Therefore, there will not be postclosure migration of hazardous waste, hazardous waste constituents, or hazardous waste decomposition products to ground or surface waters or the atmosphere. Decontamination activities will ensure the removal of waste residues to "clean-closure". If clean closure is achieved NMED will determine whether or not further maintenance or post closure care should be conducted.

PARTIAL CLOSURE AND FINAL CLOSURE ACTIVITIES

KAFB will notify the Secretary of the NMED, in writing, of its intent to close building 615, at least 90 days before the date on which partial or final closure activities commence. Closure of building 615 will consist of (1) decontaminating and decommissioning all structures and equipment used for hazardous waste treatment; (2) decontaminating the area with the building; and (3) removing any hazardous waste residues to a permitted treatment, storage, or disposal (TSD) facility.

Final closure of building 615 will be complete when (1) all hazardous waste and hazardous waste residues have been removed from building 615 to a permitted TSD for proper management; and (2) all structures, equipment, and surrounding areas have been decontaminated.

SCHEDULE FOR CLOSURE

Building 615 cleaning, sampling, and analytical activities are expected to take 90 days. Total closure time is expected to require 180 days.

Closure will proceed by the schedule below:

ACTIVITY	MAXIMUM TIME REQUIRED
Notify NMED	-90 days
Receive proposals from existing contractors	-90 days
Select contractor and modify contract as required	-10 days
Begin closure activities - building decontamination	Day 0
Collect decon water	Day 0-1
Analysis of wash water	Day 20
Conduct Soil sampling	Day 30
Analysis of samples	Day 60
Verification of sampling analysis	Day 90
Submit final report to 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.

EXTENSIONS FOR CLOSURE TIME

No extension for closure time is anticipated. If, however, an extension would be necessary to properly close building 615, then a petition would be sent to the NMED at least 30 days prior to the effected closure period(s).

INVENTORY DISPOSAL, REMOVAL, AND DECONTAMINATION OF EQUIPMENT

Upon formal notification to proceed with facility closure, no additional hazardous waste will be accepted at the storage facility. All hazardous waste remaining in inventory will be removed in accordance with the contractual agreement to a State and/or EPA-TSD facility or recycling site. If this process cannot be accomplished within the allotted time for closure, the hazardous waste will be transferred to an operational DRMO with an approved TSD permit. The facility will be inspected for loose items, i.e., papers, pallets or empty containers after the final inventory of waste is removed. These items will be removed and properly disposed.

Facility decontamination procedures, sampling and analytical testing will be conducted by trained personnel and will be subject to approval by NMED when closure notification occurs. Trained personnel wearing appropriate protective equipment will remove and clean-up all visible signs of contamination. Then high-pressure steam cleaning equipment will be used to clean the walls and floors of each room. All residue will be collected in DOT approved containers and the residue analyzed. If the analysis indicates that the residue is hazardous, then it will be disposed of as hazardous waste. Kirtland will determine if the residue contains wastes subject to land disposal restrictions and attach the appropriate certification/notification to the manifest. If the analysis shows no evidence of contamination, the wash will be discharged to the sewer system. The load/unload area and catch basin will be cleaned in the same manner after the equipment decontamination has taken place.

All equipment which has come into contact with hazardous waste will be decontaminated at closure, or shipped offsite to a permitted hazardous waste disposal site. Equipment, where applicable, will be steamed cleaned and the residue collected. Disposable equipment and other equipment not readily decontaminated (e.g. brushes, mops, protective clothing, pump hose and fittings) will be drummed and disposed of as indicated by the sampling of the residue. Building 615 is totally enclosed to prevent contamination of the surrounding soil in the event there is an accidental spill inside the building. If an accident occurs involving release of hazardous waste in the building, on a load/unload area or on the soil, then the Contingency Plan would be activated. By following the Contingency Plan, any hazardous waste discharged to the soil would be thoroughly cleaned up to comply with current standards.

All containers will be sealed and labeled prior to shipment in accordance with 40 CFR Parts 261 and 262. Professional Engineer (PE) certification of closure will be submitted to the EPA Regional Administrator and the state of New Mexico within sixty (60) days of final closure.

SAMPLING PROCEDURES

This section describes procedures and methods for soil and liquid sampling applicable to closure activities. While the procedures and methods are specific, other applicable procedures or methods given in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846) may be used if conditions or experience show the alternate method to be more appropriate. All sampling procedures actually used will be annotated in the final closure report. Sampling will be conducted in accordance with procedures given in "Samplers and Sampling Procedures for Hazardous Waste Streams" (EPA 600/2-80-018) or SW-846.

SOIL SAMPLING

The sampling procedure outlines below will be used to determine the amount of hazardous material, if any, that have been deposited in the soil, the leaching rate of the material, or the residue level in the soil.

The samples will be analyzed for the parameters listed in Table 1-1. If contamination above background is discovered at a 1-foot (0.3m) depth, a 3-foot (0.9m) grid centered on the locus of contaminated points will be sited, and additional soil samples will be collected until the area of contamination is defined. If contamination is found at the outside grid sampling locations, the limits of the grid will be expanded to determine the horizontal extent of contamination.

Surface soil samples and a sample from the 1-foot (0.3m) depth will be collected with a wooden or Teflon TM trowel or scoop. To collect samples below the 1-foot (0.3m) depth, a veihmeyer soil sampler or core sampler will be used. Sampling will proceed as follows:

Trowel or Scoop

- •Take small, equal portions of sample from the surface and at the 1-foot depth.
- •Place each sample in a sample container appropriate for the required analysis (see Table 1-2).
- •Cap the container, attach a label and seal, preserve as required, record in field logbook, complete the request for analysis and chain-of-custody forms, and deliver the samples to a certified laboratory for analysis.

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.
- •Record the length of the tube that penetrated the material.
- •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 the puller jack 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.

•Label the sample, affix the seals, record in the field logbook, complete the request-for-analysis and chain-of-custody forms, and deliver to a certified laboratory for analysis.

It is important to clean the samplers after each sampling event. An unused, disposable sampler may be presumed clean if still in factory-sealed wrapper. Unsealed samplers will be cleaner prior to use. The samplers will be washed with a warm detergent and water solution, rinsed several times with tap water, rinsed with distilled water, drained of excess water, and air-dried or wiped dry.

If analysis shows that soil contamination exists, all contaminated soils will be excavated and removed or a risk assessment performed to demonstrate that any contaminants remaining do not pose a threat to human health or the environment. If this demonstration cannot be made, a postclosure plan will be submitted.

LIQUID SAMPLING

A Coliwasa sampler or similar device will be used to sample the wash water used in cleaning equipment. 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 after each sample collected, thus eliminating the potential for cross contamination.

LIQUID SAMPLING WITH A COLIWASA SHALL PROCEED AS FOLLOWS:

•Make sure that the Coliwasa sampler is clean.
•Assemble the Coliwasa sampler.
•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 level 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.

•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.

•Add preservative, if required by method; cap the glass container; attach a label and seal; place immediately in an insulated container with ice, if required, 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.

Appropriate Sample Containers and Preservatives

Samples will be placed in containers compatible with the intended analysis and will be properly prepared and preserved to maintain sample integrity. The most recent version of SW-846 lists the proper container, preservative, and holding time for each chemical parameter of interest, and these requirements will be followed for all samples collected during the closure process.

Sampling Handling and Documentation

Samples will be analyzed at a commercial laboratory. Each sample will be labeled, sealed, and accompanied by a chain-of-custody and a request-for-analysis form. A chain-of-custody form will be used to track samples from collection through analysis to ensure that analytical results can be attributed to specific closure activities or specific areas. The procedures followed will be equivalent to those provided in SW-846 or the edition current at closure. Important aspects of the procedures are presented below.

A chain-of-custody form will be prepared for all samples collected for laboratory analyses. The form includes:

•sample number
•signature of sample collector
•date and time of sample collection
•location at which sample was collected
•type of waste (e.g., salt, brine, etc.)
•signatures of persons who have samples in their possession
•dates and times of possession

This form will be initiated at the point of sample collection and will then remain with the sample during transfer to the laboratory. The form will be completed upon receipt at the laboratory and returned to KAFB for inclusion in facility records. The chain-of-custody form will include a request-for-analysis form that lists all analyses to be performed for the identified samples and all special instruction relating to sample management or analysis. Potential hazards posed by the samples will be listed in the request-for analysis 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. The sample label is necessary to prevent misidentification of samples and shall include the following information: a unique sample number, sample collection date and time, sample location, sample type, depth and description.

A closure sampling field log book will be kept and will contain all information pertinent to field surveys and sampling. The log book shall have the following entries:

- Purpose of sample
- Location of sampling (coordinates referenced to staked field points, if soil sample)
- Name and business address of person making log entry
- Number and volume of sample
- Description of each sampling location, sampling methodology, equipment used, etc.
- Date and time of sample collection
- Sample destination and transporter's name (name of laboratory, UPS, etc.)
- Map or photograph of the sampling site, if any
- Field observations (ambient temperature, sky conditions, past 24-hour precipitation, etc.)
- Field measurements, if any (pH, flammability, conductivity, explosivity, etc.)
- Collector's sample identification number(s)
- 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 laboratory is required to have procedures for minimizing cross contamination of samples and securing sample custody within the laboratory.

Sample Shipping

Closure samples will be analyzed by an approved laboratory. Samples will be packaged and shipped in accordance with DOT shipping requirements (49 CFR Parts 100-199, Transportation). The type of packaging will depend on the protection that must be provided during handling, shipping, and storage. The packaging requirements vary with sample type, media, hazardous substances present, analysis required, and handling and storage conditions.

Proper packaging will include consideration of:
Regulatory requirements
Type and composition of inner packaging (e.g., plastic bags, metal cans, absorbent packing material, and frozen gel for preservation)
Type and composition of overpacks (e.g., metal drum or plastic ice chest)
Method of overpack sealing (e.g., custody tape)
Marking and labeling or overpacks (e.g., laboratory address, any appropriate DOT hazard class label(s), and handling instructions).

Sample Analysis

Test methods for analysis of all samples will be performed according to procedures documented in SW-846. Recommended analytical methods, detection limits, and instrumentation are provided in Table 1-3 for metals analysis and in Table 1-4 for organics analysis.

Maximum calibration, operation, quality control (bias, precision, blank and matrix effects) and requirements for laboratory analyses shall be performed as listed in the individual analytical methods of SW-846. All laboratory analyst notebooks, log sheets, instrument printouts, charts, and calculations relevant to analyses of these samples shall be identified and remain accessible. This information may be identified and remain accessible. This information may be requested for independent review and validation.

Quality Assurance/Quality Control Program

Because decisions about closure activities may be based, in part, on analyses of potentially contaminated surfaces and media, a program to ensure reliability of analytical data is essential. Data reliability will be ensured by documenting sample management so that analyses are traceable to specific areas of potential contamination and by following a quality assurance/quality control (QA/QC) program that mandates documentation of the precision and accuracy of laboratory analyses. Field QC activities will include collection of QC samples in addition to

field documentation requirements. QC samples to be collected include duplicate samples, trip blanks, field blanks, and rinsate blanks.

Blanks and duplicate samples will be collected to determine potential errors introduced in the data from sample collection and handling activities. To determine the potential for cross-contamination, rinsate blanks consisting of rinsate from decontamination sampling equipment will be collected and analyzed. At least one rinsate blank will be collected for every twenty samples. Duplicate samples will be collected at a frequency of one duplicate sample for every twenty field samples. In no case will less than one rinsate blank or duplicate sample be collected for a sampling effort. These blank and duplicate samples will be identified and treated as separate samples. Acceptance criteria for QA/QC sample analyses will be compatible with the most recent version of SW-846 or other applicable EPA guidance.

The analytical laboratory shall operates under a QA program plan (QAPP) that meets the requirements of SW-846.

TABLE 1-1
Target Detection Limits, Analytical Methods, and Instrumentation for Metals Analysis

ANALYTE GROUP	EPA SW-846 ANALYTICAL METHOD	INSTRUMENTATION[a]
Volatiles	8240	ICP
Semi-Volatiles	8270	ICP
Metals	6010	ICP
PCBs	1016, 1221, 1232, 1242, 1248, 1254, 1260	ICP
Flash Point	1010	ICP
Mercury	7470, 7471	CVAA
ph	9045	ICP
Reactive	7.3, 8.3	ICP
Pesticides	8080	ICP

[a]ICP = Inductively Coupled Plasma Emission Spectroscopy
CVAA = Cold Vapor Atomic Absorption Spectroscopy

TABLE 2-2
Sample Containers, Preservation, and Holding Times

	Water			Sediment/Soil/Sludge		
Analyte Group	Container	Preservative	Holding Time	Container	Preservative	Holding Time
Target Analyte Metals	1 liter P	HNO3 to pH <2	180 days (hg-28 days)	8oz. WM-G	Cool 4°C	180 days (Hg-28 days)
Target Compound Volatile Organics	2 X 40 mL AG septa vials	HCL, Cool 4°C to pH<2	14 days-preserved 7 days unpreserved	2 X 120 mL G vial Teflon ™ lined cap, no headspace	Cool 4°C	14 days
Target Compound Semivolatile Organics	2 X 1 liter AG	Cool 4°C	7 days extraction, plus 40 days for analysis	8oz. WM-G	Cool 4°C	14 days extraction plus 40 days for analysis
Target Compound PCBs	2 X 1 liter AG	Cool 4°C	7 days extraction, plus 40 days for analysis	8oz. WM-G	Cool 4°C	14 days extraction plus 40 days for analysis
Target Compound Flash Point	4 oz	Cool 4°C	14 days	4 oz glass	Cool 4°C	14 days
Target Compound Mercury	1 Liter P	HNO3 to pH2	28 days	4 oz glass	Cool 4°C	28 days
Target Compound PH	100 mil P	Cool 4°C	immediate	4 oz glass	Cool 4°C	immediately
Target Compound Reactives	1 Liter G/P	Cool 4°C	ASAP	ASAP	ASAP	ASAP
Target Compound Pesticides	2 X 1 liter AG	Cool 4°C	7 days extraction, plus 40 days for analysis	8oz. WM-G	Cool 4°C	14 days extraction plus 40 days for analysis

P = Polyethylene
WM-G = Wide-mouth glass
AG = Amber Glass
G = Glass

TABLE 1-3
CONSTITUENT ANALYSIS

ANALYTE GROUP	EPA SW-846 ANALYTICAL METHOD	INSTRUMENTATION[a]
Volatiles	8240	GC/MS[b]
Semi-Volatiles	8270	GC/MS[b]
Metals	6010	ICP[c]
PCBs	1016, 1221, 1232, 1242, 1248, 1254, 1260	GC/ECD[d]
Flash Point	1010	Pensky-Martens
Mercury	7470, 7471	CVAA
ph	9045	Electrode
Reactive	7.3, 8.3	Spectrophymeter
Pesticides	8080	GC/ECD[d]

[a]ICP = Inductively Coupled Plasma Emission Spectroscopy
CVAA = Cold Vapor Atomic Absorption Spectroscopy
[b]GC/MS = Gas chromatography/mass spectrometry
[c]ICP = Inductively Coupled Plasma
[d]GC/ECD = Gas chromatography/Election Capture Detector

TABLE 1-4

TARGET DETECTON LIMITS[a], ANALYTICAL METHODS, AND INSTRUMENTATION FOR ORGANICS ANALYSIS

Analyte (Group)	Target Detection Limits	EPA SW-846 Analytical Method	Instrumentation
Target Compound List Volatiles + 10 Tentatively Identified Compounds (TIC)	10 µg/L water 10-120 µg/kg sediment	8240 or 8260	GC/MS[b]
Target Compound Semivolatile + 20 TICs	10 µg/L water 330-50,000 µg/kg sediment	8270	GC/MS[b]

[a]Detection limits expressed as practical quantitation limits. µg/L = micrograms per kilogram
[b]GC/MS = Gas chromatography/mass spectrometry