



## DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 49TH FIGHTER WING (ACC)  
HOLLOMAN AIR FORCE BASE, NEW MEXICO

2 MAY 2000

MEMORANDUM FOR NEW MEXICO ENVIRONMENT DEPARTMENT

ATTN: Mr. James P. Bearzi, Chief  
Hazardous and Radioactive Materials Bureau  
PO Box 26110  
Santa Fe, NM 87502

*Cornelius*



FROM: 49 CES/CD  
550 Tabosa Ave  
Holloman AFB, NM 88330-8458

SUBJECT: Response to Notice of Deficiency (NOD) for RCRA Part B  
Permit Application for Container Storage Unit  
EPA ID No. NM 6572124422

1. This letter contains Holloman AFB's response to subject NOD received 1 Feb 00. The table titled "Holloman AFB's Response to Notice of Deficiency," Atch 1, details each point in the NOD and describes how we addressed each point. In some cases, the requested information already existed in the Sections identified, as explained in Atch 1. Additionally, the following items were addressed:

- Atch 2 contains the topographic map to incorporate into Part A and Figure B-3 of the Permit Application (4 hard copies total) and minor text changes to Section B-3.
- Atch 3 contains revised Section D-6 addressing management of material releases.
- Atch 4 contains a minor correction to Section G-2. Also, the details in Atch 1, comment 2, point out sections of the Permit Application that include the same information found in the current operating permit.
- Atch 5 contains revised Section K-10 addressing time allowed for closure; a revised Table K-1 is also included.
- Atch 6 contains revised Section G-5 describing information on arrangements with local authorities for potential needs during emergencies.
- Atch 7 contains revised Section C, Waste Analysis Plan. This section contains revisions that address numbers 6, 7, 8, 9 and 10 of the NOD, including Table C-1 corrections.
- Atch 8 contains the pages in Section D-1 addressing amount of waste stored in each area.
- Atch 9 contains a revised table of contents.
- Atch 10 contains two 3.5" diskettes with required information

2. As requested, the required information is provided in two hard copies with electronic copies on 3.5" diskettes.

3. If you have any questions, please feel free to contact Ms. Debbie Hartell or Mr. Rodelio Villegas at (505) 572-3931.

  
HOWARD E. MOFFITT  
Deputy Base Civil Engineer

**Attachments:**

1. Table "Holloman AFB's Response to Notice of Deficiency"
2. Topographic Map and Section B-3 correction
3. Section D-6 correction
4. Section G-2 correction
5. Section K-10 correction
6. Section G-5 correction
7. Revised Section C, Waste Analysis Plan
8. Section D correction
9. Revised Table of Contents
10. Two 3.5" diskettes with Required Information

**HOLLOMAN AFB's RESPONSE TO NMED's NOTICE OF DEFICIENCY  
HAFB CONTAINER STORAGE PERMIT RENEWAL APPLICATION  
28 April 2000**

Comment #	Section/ Page	Paragraph/ Line	NMED Notice of Deficiency	Holloman AFB Response
✓ 1.	Section B-3, Page B-5	Topographic Map	The topographic map (scale 1:62,500), that HAFB incorporated into Part A Permit Application and Figure B-3 do not satisfy the requirements of New Mexico Hazardous Waste Management Regulations. The purpose of the topographic map is to understand surface water drainage patterns. Please submit to HRMB, a topographic map which: Shows the terrain for a distance of 1,000 feet (radius) outside the Container Storage Unit (CSU), at a map scale of 1 inch equal to not more than 200 feet, <u>with appropriate contour lines shown on the map</u> , as per 20 NMAC 4.1.900 incorporating 40 CFR §270.14(b)(19). Indicate the location of the CSU.	A topographic map has been prepared and will be provided for submittal with both the Part A (Figure B-3, page B-5) and Part B (Figure B-3, page B-6) of the permit application that shows a distance of 1000 feet around the facility at a scale of 1 inch equal to not more than 200 feet. The contours shown on the map will be at a sufficient interval to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility, and the location of the CSU will be identified in accordance with 40 CFR §270.14(b)(19). Reference to the contoured map has been added to Section B-3, page B-5.
✓ 2.			Provide information about the storage and management of material released at the CSU. This information is in the current operating Permit but is missing from the permit renewal application. Discuss the equipment maintenance at the CSU following emergencies.	The third paragraph of Section D-6, <i>Container Use and Management</i> , page D-10, provides discussion on the storage and management of material released at the CSU. However, additional information describing the management of released waste has been added to Section D-6. Under the fourth bullet, page H-7 of Section H, <i>Contingency Plan</i> , it is stated in Holloman AFB's Permit Application that the CSU Environmental Coordinator will ensure that: all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed. This is the same information contained in the current operating permit at page G-25.
✓ 3.	Section K-1: Closure Plan	Time allowed for Closure	Provide information on the time allowed for closure, and HAFB's plans to request for extension of closure time/activities beyond the regulatory 180 calendar days stipulated in 40 CFR §264.113.	Section K-10, <i>Closure Schedule</i> , page K-8, and Table K-1, <i>Schedule for Closure at the DRMO CSF</i> , provide information on the time allowed for closure. The following text has been added to the end of the paragraph to address the request for extension of closure time/activities beyond the regulatory 180 calendar days: "If Holloman AFB is unable to complete closure activities in accordance with the approved closure plan and within 180 days, as stipulated under the regulations, an extension will be requested from the New Mexico Environment Department in accordance with 40 CFR §264.113(b)."

Response to Comments (continued)

Comment #	Section/ Page	Paragraph/ Line	NMED Notice of Deficiency	Holloman AFB Response
4.	Section H: Contingency Plan		Provide information on arrangements with local authorities (e.g., the City of Alamogordo Fire Department, Police, etc.) for potential needs of other organizations during emergencies at, and around HAFB, as specified by 20 NMAC 4.1.500 (incorporating 40 CFR §264.37). (The information contained in HAFB's response to HRMB's RSI may be added in the remaining space on page H-8 of the 1997 Permit Application, and submitted for incorporation into the Permit Application).	<p>The following text has been added to Section G-5 of the Permit Application:</p> <p>"Although Holloman AFB is the primary emergency responder for incidents that occur on base, provisions have been made for including off-base organizations in the response organization. In the event that on-base spill response resources and expertise are insufficient, or when off-base water, land, or air are adversely affected, off-base spill response resources can be incorporated into the spill response team, as needed. Holloman AFB has a mutual aid agreement with several organizations to provide assistance in the event it should be needed. These organizations are listed below and discussed in Annex A, Appendix 5, Tab A of the <i>Holloman AFB Disaster Preparedness Readiness Plan 32-1</i>.</p> <ul style="list-style-type: none"> <li>• City of Alamogordo Fire Department;</li> <li>• Village of Cloudcroft;</li> <li>• Alamo West Fire Rescue; and</li> <li>• White Sands Missile Range Emergency Control Center.</li> </ul> <p>A copy of Plan 32-1 is distributed to each of these responders, as outlined in Annex Z, to familiarize response teams with the layout of the base, the properties of hazardous waste handled at the facility and associated hazards, work areas, entrances and roadways on base, and evacuation routes."</p>
5.	Section H: Contingency Plan		Provide a detailed discussion on emergency response procedures, identification of hazardous waste, hazard assessment, and control procedures. [This information, which can be found in the current operational Permit was not included in the Permit renewal application.]	Section H-6, <i>Emergency Procedures</i> , page H-6, presents a detailed discussion of the emergency response procedures Holloman AFB will implement in the event of an emergency. Hazardous waste identification is presented in bullet #2, page H-6, in accordance with 40 CFR §264.56(b). Hazard assessment is presented in bullet #3, page H-6, in accordance with 40 CFR §264.56(c). Control procedures are presented in bullets #1-4, page H-7, in accordance with 40 CFR §264.56(e), (f), (g), and (h). This information fulfills the regulatory requirements of 40 CFR §264.56 and NMED concurred at the June 4, 1999, meeting.

Response to Comments (continued)

Comment #	Section/ Page	Paragraph/ Line	NMED Notice of Deficiency	Holloman AFB Response
6.	Page C-6, Sections C-3.1.1 through C-3.5	"C-3.1.1 - Paint Related Material Waste" C-3.1.5 - Photocopying Operations"	Provide the average amount/volume of each waste type accepted from the generating station on HAFB for storage, the average size, and the total number of samples tested each year, as specified by 20 NMAC 4.1.500 (incorporating 40 CFR §264.13(a)(1-2) and (3)(I)).	The regulatory requirements do not specify that amounts generated must be included in a Waste Analysis Plan (WAP). This information is provided to NMED in Annual Waste Summaries and Biennial Reports. See the WAP Guidance document, Section 2.1.2, "Identification/ Classification and Quantities of Hazardous Waste Generated or Managed at Your Facility." Even though the title mentions quantity, the body of the section does not discuss quantities or provide any examples for inclusion in WAP text or tables. 40 CFR §270.13(j) states that the Part A must include "an estimate of the waste to be treated, stored, or disposed at the facility." 40 §CFR 270.14 does not specify requirements to submit additional data about estimated waste volumes. Holloman AFB will comply with EPA guidance and select representative samples capable of producing scientifically viable data. The EPA guidance for WAP does not specify a recommended sample size. The regulations cited by NMED do not specify volume, size of samples, or number of samples. A permit is a living document that establishes performance requirements for current and future operations and not a history of past practices. Nevertheless, Holloman AFB has provided additional text in Section C-4.1 that discusses the fact that the total number of samples varies from year to year and is steadily diminishing as a result of waste minimization programs.
			Describe the method that will be used to obtain representative hazardous waste samples for analysis as specified by 20 NMAC 4.1.500 (incorporating 40 CFR §264.13(b)(3)).	See revised text in Section C-4.2.
			Describe the frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is up to date and accurate, as specified by 20 NMAC 4.4.500 (incorporating 40 CFR §264.13(b)(4)).	Text requested by NMED has been added to Section C-4.1, page C-18.

OK ✓  
P.C-18

✓  
K.  
C-1  
✓

Response to Comments (continued)

Comment #	Section/ Page	Paragraph/ Line	NMED Notice of Deficiency	Holloman AFB Response
			Explain how the waste is tracked from the time it is generated to the time it leaves the permitted Container Storage unit. Specify how Holloman reviews, documents and updates the waste analysis information to ensure that each container of waste is characterized accurately and is up to date, in a manner protective of human health and the environment, as specified by 20 NMAC 4.1.900 (incorporating 40 CFR §270(32)(b)(2)). Provide examples of the waste tracking documents (e.g., waste profile forms, container labels, bar codes), as agreed to at the HRMB/HAFB meeting of June 4, 1999.	Text describing how waste is tracked during transfer has been included in Section C-2.3. A flow chart detailing waste tracking procedures is included as Figure C-1. Examples of tracking documents are also included as agreed with NMED. Fig. C-2 found.
7.	Page C-7, Section 3-3.3	First paragraph, third sentence	“Aircraft, Vehicle, and Equipment Maintenance Waste.” “VOCs and SVOCs are also typical components of fuels and lubricants and should be tested for in uncharacterized waste streams associated with fuel or lubricant use.” Describe how the uncharacterized hazardous waste mentioned above will be sampled, and the frequency with which each waste stream will be sampled as specified by 40 CFR §264.13(b) and §270.32(b)(2):	Text has been added to Section C-3.1.3 to include the information requested by NMED. Table C-1 has been revised to include VOCs and SVOCs as parameters for analysis.
8.	Page C-16	Table C-1, Column 1, "Waste Category"	Provide the following information for each of the Waste Categories/Waste Streams listed in column 1, as specified by 40 CFR §264.13(b) and §270.32(b)(2): 1) Process Generating Each Waste Category, and 2) Locations at which waste is generated.	Table C-1 has been modified to include the information requested by NMED.
9.	Page C-16	Table C-1, Column 2, "Waste Type"	Re-organize Column 2 of Table C-1 to contain both the waste type and the characteristic under it, as specified by 20 NMAC 4.1.500 and .900 (incorporating 40 CFR §264.13(b) and §270.32(b)(2)).	Table C-1 has been modified to include the information requested by NMED.
10.			Since the WAP does not identify the specific waste streams that will be characterized based on process knowledge, HAFB must provide an extra column in Table C-1 indicating the Basis for Hazard Classification as shown in the Table under item #9 above (i.e., process knowledge, analysis or both).	Table C-1 has been modified to include a column setting forth the information requested by NMED.
11.			Provide an additional column to Table C-1, indicating whether or not the bulk contaminate concentration of each waste stream Exceed or Doesn't Exceed LDR Standards	By agreement with NMED, Table C-1 has been modified to include a column indicating LDR - Wastewater or Non-wastewater determinations for each waste stream. All currently generated waste streams are designated as non-wastewater.

Table C-1  
OK  
OK  
OK

OK  
OK

**Response to Comments (continued)**

*of the Permit Application*

Comment #	Section/ Page	Paragraph/ Line	NMED Notice of Deficiency	Holloman/AFB Response
12.	Page B-10	Figure B-6, "Layout of Container Storage Facility"	Submit information on how much waste is stored at the "indoor covered container storage building", and also how much waste is stored at the "outdoor container storage area" illustrated in Figure B-6.	Information concerning volume of waste that will be stored in the indoor and outdoor container storage areas is contained in Table D-1 on page D-2. Text describing the waste volume capacity for each area has been added to Section D-1, CSF Design, page D-1.

**B-2 CSF Location Information [40 CFR 264.18]**

The CSF is located on the east side of the Base, approximately 1,400 feet (ft) inside the eastern boundary of the Base. The street address is 241 Arkansas Avenue, Holloman AFB, New Mexico 88330. The CSF is located on approximately 400,000 ft<sup>2</sup> of land designated for use by DRMO as shown in Figure B-3.

Seismic Standards

The CSF is located in Otero County, which is not among the political jurisdictions designated in 40 CFR Part 264 Appendix VI for seismic considerations; therefore, the CSF is exempt from seismic considerations.

Floodplain Standards

The CSF is not located within the 100-year or 500-year floodplains of intermittent streams in the area. Additional information related to surface drainage patterns is provided in B-3 of this section.

**B-3 Topographic Map [40 CFR 270.14(b)(19)]**

A map showing the CSF and the surrounding area is presented in Figure B-3. This map indicates that the facility is located on relatively flat terrain. The facility is also located above the 100-year floodplain boundaries. No permanent surface water of constant flow conditions is located in the area.

The map shows the CSF and surrounding land to a distance of 1,000 ft, on a scale of one inch (2.5 centimeters) equal to 200 ft (61.0 meters) with sufficient contour intervals to show the pattern of surface water run-off/drainage in the vicinity of the CSF, and shows the following, as required in 40 CFR 270.14(b)(19):

- Map scale and date;
- Orientation of map;
- Unit boundaries; and
- Distance to nearest residential buildings, public roadways, and passenger railroad.

The nearest buildings are the DRMO Administration buildings located approximately 320 ft northwest of the CSF. Military housing units are located more than 500 ft from the CSF.

**D-6 Container Use and Management [40 CFR Part 264, Subpart I and 270.15]**

Marking and Labeling

While in storage at the CSF, containers are to be properly marked and labeled with a properly completed RCRA hazardous waste label. Before waste is shipped off site, appropriate DOT markings and labels must be applied to the containers. Each container is clearly marked with the name of its contents.

Container Condition

All containers are in good condition (e.g., no rust, dents, visual structural damage, etc.). Containers must be inspected weekly as described in Section F. The inspection schedule provides criteria to ensure that all containers are in good condition.

Releases From Containers

If a container is leaking, the contents will immediately be transferred to another DOT-approved container or overpacked in an appropriate DOT-approved container. If the material is placed in a salvage drum, the space between the salvage drum and the leaking container will be filled with a compatible absorbent material to prevent the salvage drum contents from shifting.

Released waste will be contained by application of dry sorbents, placement of booms or sandbags, and, if necessary, construction of earthen berms. Efforts will be taken to divert the flow of released waste from surrounding areas, and vapor suppression actions, such as use of spill blankets, will be performed.

Any spill material will be cleaned up using the appropriate materials from the spill kit. The waste generated from the spill cleanup [e.g., contaminated absorbent material, personal protective equipment (PPE), etc.] will be placed in an appropriate DOT-approved container and equipped with appropriate DOT and RCRA labels and markings. Mixtures of absorbent and released waste will be removed by water/soap rinses, and the rinsates will be drummed for proper hazardous waste storage and disposal.

decontamination equipment includes three eyewash and safety shower stations that are accessible from the indoor and outdoor storage building.

- Water at adequate volume and pressure to supply water hose streams. Water for fire control is not directly available at the unit. The Base Fire Department trucks are available at all times for emergency response. Fire-fighting vehicles are fitted for connection to the two nearby fire hydrants located approximately 120 yards north and 50 yards southwest of the CSF. These hydrants can deliver 750 gallons per minute of flow at a pressure of 50 psi.

**G-2 Testing and Maintenance of Equipment [40 CFR 264.33]**

All facility communication and alarm systems, fire protection equipment, spill control equipment, and decontamination equipment is inspected, tested, and maintained as necessary to assure its proper operation in time of emergency. Table I-1 provides timeframes for records retention.

**G-3 Access to Communications or Alarm Systems [40 CFR 264.34]**

Whenever employees are handling containerized hazardous waste, they have access to telephones in both the DRMO Administrative Building (Building 112) and the indoor container storage area (Building 118). Employees also wear a two-way hand-held radio when working at the CSF. The fire alarm located at the CSF also provides immediate emergency notice to the Base Fire Department. Each of these pieces of equipment is capable of summoning external emergency assistance. If there is ever just one employee on the premises while the facility is operating, he or she has access to all of the communications and alarm system discussed above.

During non-operational hours (e.g., at night), Holloman AFB Security Forces Squadron provides security checks of the outer fence of the DRMO complex to ensure that the storage building is secure.

External communication capabilities are provided through the Base operator. Communications systems include the Defense Switching Network and U.S. West Communications and allow communication with Bases as well as off-site personnel.

**K-10 Closure Schedule** [40 CFR 264.113]

The anticipated date of closure is 2020. This date is based on the expected service life of the CSF design. Closure of Holloman AFB and its tenant DRMO is not anticipated by this date as the Department of Defense (DoD) components at Holloman AFB are an integral part of the defense system of the United States. Table K-1 presents a schedule for accomplishment of the closure action. The closure action will be completed within 180 days of receipt of the final volume of hazardous waste. If Holloman AFB is unable to complete closure activities in accordance with the approved closure plan and within 180 days, as stipulated under the regulations, an extension will be requested from the NMED in accordance with 40 CFR 264.113(b).

**K-11 Certification of Closure** [40 CFR 264.115]

After demolition is completed, the closure action will be certified by an independent professional engineer registered in the state of New Mexico. This engineer will be provided access to the closure plan, the site during the closure action, and all analytical results. Certification of closure of the CSF will be provided to NMED by registered mail within 60 days of completion. The closure certification for the CSF will document that no hazardous wastes or hazardous constituents remain on the site, thereby releasing Holloman AFB from future monitoring and maintenance requirements.

As previously stated, there are no tanks, waste piles, surface impoundments, incinerators, land treatment units, or land disposal units at the CSF. Therefore, closure requirements for these waste management units are not addressed in this plan.

**K-12 Post-closure Plan** [40 CFR 264.118]

A post-closure plan will not be needed because the permit application only addresses a storage CSF. All wastes will be removed, and the storage areas will be decontaminated upon closure.

✓  
**Table K-1**  
**Schedule for Closure of the Defense Reutilization Marketing Office**  
**Container Storage Facility**

Step	Action	Day Completed
1	Closure notice	-15
2	Receipt of final waste volume	0
3	Conduct final inventory, inspect, and repackage for shipment	30
4	Remove all waste for disposal or reclamation	60
5	Initial outdoor drum rack decontamination and verification sampling	60
6	Initial equipment decontamination and verification sampling	65
7	Receipt of analytical results (Step 7)	85
8	Secondary decontamination of equipment and storage racks <sup>a</sup>	90
9	Initial decontamination of outdoor storage areas/verification sampling	90
10	PCB sampling of storage building	90
11	Initial PCB decontamination of storage building/verification sampling	100
12	Receipt of analytical results (Step 9)	110
13	Receipt of analytical results (Step 10 and 11)	105
14	Secondary decontamination of outdoor areas <sup>a</sup>	115
15	Secondary PCB decontamination in storage building <sup>a</sup>	120
16	Initial decontamination of storage building/verification sampling	130
17	Begin soil sampling	135
18	Complete soil sampling	150
19	Receipt of analytical results (Step 16)	150
20	Secondary decontamination of storage building <sup>a</sup>	155
21	Receipt of soil sample results	165
22	Soil excavation <sup>a</sup>	170
23	Demolition/equipment decontamination	175
24	Shipment of closure residuals	180
25	Certification	240

**Notes:**

<sup>a</sup>If required

PCB = Polychlorinated biphenyl

**G-4 Required Aisle Space** [40 CFR 264.35]

The CSF operators maintain sufficient aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency.

Each of the three areas in the CSF meets these requirements. The outdoor storage area provides adequate aisle space for personnel movement and emergency response activities.

The arrangement of containers in the 20 ft by 50 ft staging area is always configured to meet aisle space requirements and to ensure the forklift, personnel, fire protection equipment, spill control equipment, and decontamination equipment can safely access containers.

Within the indoor storage area, two 10 ft-wide rows span the building length and provide ample space for movement among the containment cells and for immediate response actions. Refer to Figure B-6 which illustrates the configuration of the indoor storage area.

**G-5 Arrangements with Local Authorities** [40 CFR 264.37]

The Security Forces Squadron, Base Fire Department, and on-site Base medical facilities will respond to emergency incidents at the CSF. The Base Fire Department will serve as the primary emergency response authority (i.e., not the local fire department) and will respond to any emergency at the CSF.

Base Fire Department personnel are familiar with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes. Personnel at the Base medical facility are trained to respond to emergency incidents involving chemical exposure.

In the event of an emergency, the emergency response procedures outlined in Section H of this document will be followed. These procedures include notifying state emergency response teams, emergency response contractors, and equipment suppliers, as necessary.

## **SECTION C** **WASTE ANALYSIS PLAN**

### **C-1 Introduction [40 CFR 264.13(b)]**

This Waste Analysis Plan (WAP) has been prepared to support the RCRA Part B Permit Application for the CSF at Holloman AFB, New Mexico. The CSF is used to store waste prior to shipment for off-site disposal. A detailed description of the CSF and a discussion of the facility's design and operation are provided in Sections B and D of this Permit Application, respectively. This WAP provides information on the characteristics of wastes that are routinely stored at the CSF. Much of this information can be obtained through process-knowledge as described in Section C-2. However, if the waste cannot be characterized with certainty by knowledge of the process, the waste streams must be sampled to safely manage the waste. Sampling and analytical protocols for required waste sampling at the CSF are outlined in the Sampling and Analysis Plan (SAP) included in this section. 40 CFR 264.13(a)(1) requires waste characterization through process-knowledge, analysis, or historical data to provide all the information needed to store, and ultimately dispose of, the waste in accordance with the regulations in 40 CFR 264.13 and 40 CFR 268. Specific topics covered in this plan to ensure compliance with these requirements and proper waste management include:

- Waste Analysis Approach;
- Identification/EPA Classification of Hazardous Waste Managed;
- Selecting Waste Analysis Parameters;
- Criteria and Rationale for Parameter Selection;
- Special Parameter Selection and Procedural Requirements;
- Sampling and Analysis Plan.

### **C-2 Waste Analysis Approach**

#### **C-2.1 Process Knowledge**

The CSF at Holloman AFB accepts waste that is generated from numerous facilities and shops on Base. For many of these waste streams, process-knowledge can be used to make a waste characterization using data developed

under 40 CFR Part 261, or existing published or documented data on the hazardous waste or on hazardous waste generated by a similar process, as specified in 40 CFR 264.13(a)(2). For example, the generator of a waste stream may know and be able to document that none of the constituents in a given waste are hazardous. For other waste streams, analytical samples have been historically collected and used to make waste characterizations. The characterization for a waste stream, whether it is based on process-knowledge or historical data, is reevaluated any time the process generating the waste is changed.

Some wastes turned in to the CSF cannot be characterized by one of the above methods. Samples of these wastes are collected and analyzed to draw conclusions about the waste characteristics and disposal requirements. Many of the waste streams are routinely generated in the course of fulfilling the mission of Holloman AFB. For waste streams that are routinely generated, a representative sample is collected and analyzed prior to disposal to facilitate identification of waste characteristics. Subsequent wastes from the same process are then characterized by the results of the initial sample. In accordance with 40 CFR 264.13(a)(3) and 40 CFR 264.13(b)(4), additional samples from the same waste stream are collected when:

- There is reasonable doubt about the identity of the waste;
- The process generating the waste has changed such that the characteristics of the waste may change; or
- Confirmation is needed that the analysis is current.

The feed materials from which these wastes are generated are specified by Military Specifications (MILSPECs) and Technical Orders (TOs). These MILSPECs and TOs ensure that the materials supplied by different manufacturers have a limited degree of variation for a given product. The processes generating the wastes also have limited variation as they are specified by the TOs. The combination of these two factors ensures that the wastes generated from mission-related processes are unlikely to be significantly changed without adequate notice to responsible personnel.

### **C-2.2 Identification/EPA Classification of the Hazardous Waste Managed**

Some of the activities conducted at Holloman AFB in support of its mission generate hazardous wastes or waste streams with the potential to be hazardous.

Many of these activities can be grouped into eight main categories. Within these categories, common waste streams have been identified. These categories and respective waste streams consist of:

- Painting and Corrosion Control
  - Spent solvents
  - Stripping waste
  - Waste paint and paint-related waste
  - Abrasive-blasting wastes
  - Rags contaminated with paint wastes
  - Rags contaminated with solvent wastes
- Aircraft, Vehicle, and Equipment Maintenance
  - Spent solvents from parts cleaning
  - Fuel filters and oil filters
  - Waste sealants, adhesives, and epoxies
  - Off-specification fuel and fuel mixtures
  - Contaminated absorbent material
  - Oil/water separator sludge
  - Contaminated rags from maintenance activities
- Spill Cleanup and Debris/RCRA Corrective Action
  - Contaminated soil or other environmental media
  - Absorbent material
- Metal Cutting
  - Coolant oil
- Hospital/Medical Activities
  - Lab packs
  - Expired or off-specification chemicals (e.g., epinephrine)
  - Silver recovery cartridges
- Photographic and photocopying operations
  - Photofixing solution
  - Photo imaging paper
  - Silver recovery cartridges
  - Photocopy waste containing naphtha
- Facility maintenance
  - Spent fluorescent and mercury light bulbs
  - Scrap metal
- Other
  - Off-specification products
  - Expired shelf life products

Activities within a category generate similar types of wastes by virtue of having similar functions. Through the analysis and characterization of numerous waste streams, Holloman AFB has been able to identify the constituents that are likely to be present in each of the major waste streams. This knowledge of the processes and the associated wastes produced is used to select the analytical parameters for sampling and to avoid unnecessary sampling.

The major waste categories, the specific waste type, their respective parameters of concern for analysis and EPA waste codes, and the current analytical test method for each waste type are outlined in Table C-1 in accordance with 40 CFR 264.13(b)(1) and (2). This table may not be a comprehensive list of all specific wastes, but provides the framework for making decisions on chemical analyses for common waste streams. Additionally, many of the waste streams listed in Table C-1 can be characterized by process-knowledge, on the basis of historical sampling and analytical data or other appropriate documentation (i.e., TOs, MILSPECs, MSDSs, etc), eliminating the need for additional analyses.

### **C-2.3 Hazardous Waste Tracking Procedures**

Holloman AFB has implemented specific procedures, subject to modification and improvement, for tracking transfer of hazardous wastes. These procedures ensure that hazardous waste is tracked from the time it is generated until the time that it leaves the CSF for disposal. An example description of these tracking procedures is presented in the Waste Flow Diagram provided in Figure C-1. The tracking procedures specify documents that must accompany the waste, and copies are provided as Figure C-2. These documents are provided as examples for informational purposes only and not for incorporation in this permit application. See Section C-4.1 for a discussion of the procedures that will be implemented to ensure that each container of hazardous waste is properly characterized and current in accordance with 20 NMAC 4.1.900 (incorporating 40 CFR 270(32)(b)(2)).

**Table C-1  
Major Waste Categories and Parameters of Concern**

Process Generating Waste	Waste Generated	Basis for Hazard Classification	Parameters for Analyses and EPA Waste Codes <sup>1</sup>	LDR (WW or NWW)	Current Analytical Test Method <sup>2</sup>
<u>Paint-Related Operations</u>  Locations: 49th Civil Engineer Squadron 49th Transportation Squadron 49th Services Squadron German Air Force Hazmart 49th Maintenance Squadron 846th Test Squadron 46th Test Group DynCorp 49th Materiel Maintenance Squadron Newtec 8th Fighter Squadron 9th Fighter Squadron	Waste paint and thinner (C, I, T, listed)	Historical test data, MSDS, Knowledge of Process (KOP)	Cadmium (D006), lead (D008), chromium (D007), selenium (D010), solvents (VOCs and SVOCs), ignitability (D001), corrosivity (D002)	NWW	SW8260, SW8270, SW6010 or 7000 Series, SW-846 1010/1020, SW9040
	Respirator and booth filter elements (T)	Historical test data	Cadmium (D006), chromium (D007), silver (D011)	NWW	SW6010 or 7000 Series
	Spent alodine from painting (C,T)	Historical test data	Chromium (D007), corrosivity (D002)	NWW	SW6010 or 7000 Series, SW9040
	Rags and debris contaminated with paint wastes and solvents (I, T, listed)	Historical test data, KOP	Cadmium (D006), chromium (D007), lead (D008), solvents (VOCs and SVOCs), ignitability (D001)	NWW	SW8260, SW8270, SW7000 series, SW8240, SW-846: 1010/1020 or 1030

<sup>1</sup> RCRA hazardous constituents and/or properties.

<sup>2</sup> These analyses are suggested given the properties of the waste; however, other analytical methods may be substituted or included as deemed appropriate.

<sup>3</sup> Medical wastes are discarded commercial products and are known to be regulated based on their initial composition. No further analysis is required.

C = corrosive  
 I = ignitable  
 T = toxic  
 R = reactive  
 Listed = listed waste

**Table C-1  
Major Waste Categories and Parameters of Concern (Cont.)**

<b>Process Generating Waste</b>	<b>Waste Generated</b>	<b>Basis for Hazard Classification</b>	<b>Parameters for Analyses and EPA Waste Codes<sup>1</sup></b>	<b>LDR (WW or NWW)</b>	<b>Current Analytical Test Method<sup>2</sup></b>
<u>Aircraft, Vehicle, and Equipment Maintenance Operations</u>	Fuel filters and absorbent (I, T)	KOP, Historical test data	Cadmium (D006), benzene (D018), ignitability (D001)	NWW	SW8260, SW8270, SW6010 or 7000 Series, SW-846: 1010/1020
<u>Locations:</u> Gas Station 49th Civil Engineer Squadron 49th Transportation Squadron 49th Services Squadron German Air Force DynCorp 49th Maintenance Squadron Newtec 9th Fighter Squadron 8th Fighter Squadron 49th Materiel Maintenance Squadron Newtec 846th Test Squadron	Parts cleaning sludge (I, T)	Historical test data	Cadmium (D006), chromium (D007), lead (D008), ignitability (D001)	NWW	SW8260, SW8270, SW6010 or 7000 Series, SW-846 1010/1020
	Spent solvent from parts cleaning and equipment maintenance (I, T, listed)	Historical test data	Lead (D008), chromium (D007), solvents (VOCs and SVOCs), ignitability (D001)	NWW	SW8260, SW8270, SW6010 or 7000 Series, SW-846 1010/1020
	Dirty rags with solvents, oil, and grease (I, T, listed)	Historical test data, KOP, MSDS	Cadmium (D006), lead (D008), chromium (D007), benzene (D018), solvents (VOCs and SVOCs), ignitability (D001)	NWW	SW8260, SW8270, SW6010 or 7000 Series, SW-846 1010/1020
<u>Photographic Equipment Cleaning Operations</u>	Rags with solvent (I, T, listed)	Historical test data, KOP	Cadmium (D006), solvents (VOCs and SVOCs), ignitability (D001)	NWW	SW8260, SW8270, SW6010 or 7000 series, SW-846 1010/1020
<u>Locations:</u> Newtec 846th Test Squadron Newtec					

<sup>1</sup> RCRA hazardous constituents and/or properties.

<sup>2</sup> These analyses are suggested given the properties of the waste; however, other analytical methods may be substituted or included as deemed appropriate.

<sup>3</sup> Medical wastes are discarded commercial products and are known to be regulated based on their initial composition. No further analysis is required.

C = corrosive  
I = ignitable  
T = toxic  
R = reactive  
Listed = listed waste

**Table C-1  
Major Waste Categories and Parameters of Concern (Cont.)**

<b>Process Generating Waste</b>	<b>Waste Generated</b>	<b>Basis for Hazard Classification</b>	<b>Parameters for Analyses and EPA Waste Codes<sup>1</sup></b>	<b>LDR (WW or NWW)</b>	<b>Current Analytical Test Method<sup>2</sup></b>
<u>Miscellaneous Organic Liquids</u>  <u>Locations:</u> Hazmart	Expired or off-specification material (C, I, T, listed)	MSDS, Historical test data	Ignitability (D001), corrosivity (D002), metals, solvents (VOCs and SVOCs)	NWW	SW8260, SW8270, SW6010 or 7000 Series, SW9040, SW-846 1010/1020
<u>Metal Cutting Operations</u>  <u>Locations:</u> DynCorp 846th Test Squadron	Rags and debris with oil and metals (C, I, T, listed)	Historical test data, KOP	Cadmium (D006), lead (D008), chromium (D007), selenium (D010), solvents, ignitability (D001), corrosivity (D002)	NWW	SW8260, SW8270, SW6010 or 7000 Series, SW-846 1010/1020, SW9040
<u>Medical Operation</u>  <u>Locations:</u> 49th Medical Support Squadron 49th Aeromedical Dental Squadron	Expired or off-specification epinephrine or other medical waste (R, Acutely T)	MSDS	Acute toxicity, sodium cyanide, phosphorous (reactivity)	NWW	NA <sup>3</sup>
<u>Weapons Maintenance Operation</u>  <u>Locations:</u> 49th Security Forces Squadron 49th Maintenance Squadron DynCorp German Air Force	Rags and debris with solvent and lead (I, T, Listed)	Historical test data	Lead (D008), ignitability (D001), solvents	NWW	SW8260, SW8270, SW6010 or 7000 Series, SW-846 1010/1020

<sup>1</sup> RCRA hazardous constituents and/or properties.

<sup>2</sup> These analyses are suggested given the properties of the waste; however, other analytical methods may be substituted or included as deemed appropriate.

<sup>3</sup> Medical wastes are discarded commercial products and are known to be regulated based on their initial composition. No further analysis is required.

C = corrosive  
I = ignitable  
T = toxic  
R = reactive  
Listed = listed waste

**Table C-1  
Major Waste Categories and Parameters of Concern (Cont.)**

<b>Process Generating Waste</b>	<b>Waste Generated</b>	<b>Basis for Hazard Classification</b>	<b>Parameters for Analyses and EPA Waste Codes<sup>1</sup></b>	<b>LDR (WW or NWW)</b>	<b>Current Analytical Test Method<sup>2</sup></b>
<u>Facility Maintenance Operations</u>  <u>Locations:</u> 90-Day Facility-49th Civil Engineer Squadron Hazmart	Spent fluorescent bulbs - crushed (T)	Historical test data	Mercury (D009), cadmium (D006), lead (D008)	NWW	SW6010 or 7000 Series
	Bulb crusher filter element (T)	Historical test data	Mercury (D009), cadmium (D006), lead (D008)	NWW	SW6010 or 7000 Series
	Spent batteries such as Ni-Cad used in emergency lighting systems (C, T)	MSDS	Cadmium (D006), lead (D008), corrosivity (D002)	NWW	NA

<sup>1</sup> RCRA hazardous constituents and/or properties.

<sup>2</sup> These analyses are suggested given the properties of the waste; however, other analytical methods may be substituted or included as deemed appropriate.

<sup>3</sup> Medical wastes are discarded commercial products and are known to be regulated based on their initial composition. No further analysis is required.

C = corrosive  
 I = ignitable  
 T = toxic  
 R = reactive  
 Listed = listed waste

**SECTION D**  
**CONTAINER STORAGE FACILITY DESIGN AND OPERATIONS**

**D-1 Detailed Design Description of CSF [40 CFR 264.175]**

The CSF operated by DRMO is used for the storage of hazardous waste in containers. No tanks, waste piles, surface impoundments, incinerators, landfills, land treatment units, or miscellaneous units are managed by or used at this CSF; thus the facility is exempt from Construction Quality Assurance Program requirements outlined in 40 CFR 264.19. However, this description is provided to demonstrate compliance with 40 CFR 264.175. The purpose of the CSF is to temporarily store hazardous waste generated at Holloman AFB to allow enough time for DRMO personnel to arrange for approved contractors to transport, treat, and dispose of hazardous waste cost effectively.

Holloman AFB does not treat or dispose of hazardous waste at the CSF. No wastes are accepted from any entity not located at Holloman AFB. The majority of wastes accepted by DRMO are contained in 55-gallon containers. Occasionally, wastes are contained in larger containers such as 85-gallon salvage drums or self-contained packaging including lead-acid batteries or transformers.

CSF Design

The CSF is comprised of a staging area, a covered outdoor storage area, and a building that provides indoor storage capacity for wastes. The staging area, a concrete pad, is used for the initial receipt of waste from other locations at Holloman AFB. The building and covered outdoor storage area is used to temporarily store waste until it is picked up by an approved waste transportation contractor. The maximum inventory of waste stored at this CSF (i.e., in the staging area, outdoor storage area, and indoor storage area) will not exceed 47,960 gallons. The maximum storage capacity for the indoor covered container storage building is 15,840 gallons (approximately 288 55-gallon drums). The maximum storage capacity for the covered outdoor storage area is 27,500 gallons (approximately 500 55-gallon drums). See detailed specifications presented in Table D-1.

A site plan layout and a floor plan are provided in Figure B-5 of this report.

Table D-1 provides the construction specifications for each part of the CSF.

*B-6 of the Permit Application*

*401 the application*

TRIC 1 2 3 T I N	DEL DRT 4 5 6 7 8 6 8	E3 8	A. INSPECTOR, NAME, DATE (T/M) SSGT FARRAR/MAFS BLDG 868 REQUEST, TIME & DATE (HSD) X5004	B. INSPECTOR, NAME, STAMP, DATE (T/M) 49CES/CEV BLD 55 X3931
NSN 8 9 10 11 9 9 9 9	STOCK NUMBER HIN P H W D 0 2 7 9 4 0 4	UMT OF ISSUE L B 0 0 0 0 1	QUANTITY C. RG00-0106B DRUM#868-448	DOCUMENT NUMBER DATE R 4 1 5 M X 0084A737
Part Number	E. T. O. REFERENCE/TECHNICAL PUBLICATION OR END-ITEM APPLICATION/NEXT HIGHER ASSEMBLY R.Q. HAZARDOUS WASTE, SOLID, N.O.S. ( D027, D006 ) NA3077	D. PART NUMBER/MGR CODE OR NAME/REMARKS ONE 55 GALLON DRUM	F. T. O. PSC AND/OR EINC	G. TIME & DATE OF DELIVERY 131 Y. 50 = 65. 50
H. DELIVERY TIME	J. NOMENCLATURE HAZARDOUS WASTE	I. DATE	K. DATE	L. DATE

AF FORM 2005, JUN 86 (EF-V3) (PerFORM PRO)

PREVIOUS EDITION WILL BE USED.

ISSUE/RETURN IN REQUEST

Figure C-2. Example of Tracking Documents



## HAZARDOUS WASTE PROFILE SHEET

PART I																												
• Generator •		• Waste Profile •																										
<b>Name:</b> Holloman Air Force Base <b>Address:</b> Highway 70 West Holloman AFB, NM 88330  <b>USEPA ID:</b> NM6572124422 <b>State ID:</b> NA	<b>Organization:</b> 9 FS/MAFS  <b>Bldg Number:</b> 868  <b>CEV ID:</b> 0106  <b>DODAAC:</b> FB4801	<b>RG00-0106B</b>  » Replaces: RG00-0106A «  <b>Contact:</b> Robert Farrar <b>Phone:</b> 475-5004																										
<b>1. Name of Waste:</b> Rags, coveralls, absorbent, debris  <b>2. CLIN:</b> 9404  <b>3. Generating Process:</b> Aircraft maintenance <b>4. Projected Volume:</b> 55 gallons per month <b>5. Comments:</b> This profile combines results of sample analysis GT998119 and GT008001  <b>6. Is this waste a dioxin listed waste as defined in 40 CFR 261.31 (F020, F021, F022, F023, F026, F027, F028)?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>7. Is this waste restricted from land disposal?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Has an exemption been granted?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																												
PART II																												
• RCRA Characteristics •		• Material Composition •																										
<b>Physical State:</b> <input checked="" type="radio"/> Solid <input type="radio"/> Liquid <input type="radio"/> Gas <input type="radio"/> Semi-Solid <input type="radio"/> Other  <b>Treatment Group:</b> <input type="radio"/> Wastewater <input checked="" type="radio"/> Non-wastewater  <input type="radio"/> Non-RCRA Waste (no other waste codes apply)  <input type="radio"/> Ignitable (D001) <b>Flash Point (°F):</b> <b>TOC:</b> <input type="radio"/> High <input type="radio"/> Low  <input type="radio"/> Corrosive (D002) <b>pH:</b>  <input type="radio"/> Reactive (D003) <input type="radio"/> Water Reactive <input type="radio"/> Cyanide Reactive <input type="radio"/> Sulfide Reactive  <input checked="" type="radio"/> Toxicity Characteristic    D027, D006  <input type="radio"/> F-listed waste <input type="radio"/> P-listed waste <input type="radio"/> U-listed waste	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Component</th> <th style="text-align: left;">Concentration</th> </tr> </thead> <tbody> <tr><td>Rags</td><td>&gt;70%</td></tr> <tr><td>Absorbent</td><td>&lt;15%</td></tr> <tr><td>Debris / razor blades</td><td>&lt;15%</td></tr> <tr><td colspan="2"><b>Contaminants:</b></td></tr> <tr><td>Barium</td><td>1.54 mg/l</td></tr> <tr><td>Cadmium</td><td>1.35 mg/l</td></tr> <tr><td>Chromium</td><td>0.046 mg/l</td></tr> <tr><td>1,4 Dichlorobenzene</td><td>30.4 mg/L</td></tr> <tr><td>Mercury</td><td>0.004 mg/l</td></tr> <tr><td>Lead</td><td>0.063 mg/l</td></tr> <tr><td>Selenium</td><td>0.009 mg/l</td></tr> <tr><td>Silver</td><td>0.013 mg/l</td></tr> </tbody> </table>		Component	Concentration	Rags	>70%	Absorbent	<15%	Debris / razor blades	<15%	<b>Contaminants:</b>		Barium	1.54 mg/l	Cadmium	1.35 mg/l	Chromium	0.046 mg/l	1,4 Dichlorobenzene	30.4 mg/L	Mercury	0.004 mg/l	Lead	0.063 mg/l	Selenium	0.009 mg/l	Silver	0.013 mg/l
Component	Concentration																											
Rags	>70%																											
Absorbent	<15%																											
Debris / razor blades	<15%																											
<b>Contaminants:</b>																												
Barium	1.54 mg/l																											
Cadmium	1.35 mg/l																											
Chromium	0.046 mg/l																											
1,4 Dichlorobenzene	30.4 mg/L																											
Mercury	0.004 mg/l																											
Lead	0.063 mg/l																											
Selenium	0.009 mg/l																											
Silver	0.013 mg/l																											
		• Shipping Information •																										
		This is a Department of Transportation HAZARDOUS MATERIAL  <b>Shipping Name:</b> Hazardous waste, solid, n.o.s., 9, NA3077, PGIII, (D027, D006)  <b>Waste Codes:</b> D027, D006  <b>Hazard Class:</b> 9 <b>ID No.:</b> NA3077 <b>PG:</b> III <b>CERCLA Reportable Quantity:</b> D027, lbs. 1996 North American Emerg. Resp. Guideboo    Guide No.: 171																										
PART III																												
• Basis for Information •																												
<input checked="" type="radio"/> Chemical Analysis (attach sampling results) <input type="radio"/> MSDS <input checked="" type="radio"/> User Knowledge <b>Sample Number:</b> GT008001 <b>Previous Sample Number(s):</b> GT998119/GT998042/GT978230/GT968185																												
• Generator Certification •																												
I hereby certify that all information submitted in this and all attached documents is to the best of my knowledge an accurate representation of the waste turned into the 90-Day Storage Facility. All known or suspected hazards have been properly identified.																												
<b>49 CES/CEVC Representative</b> TSgt Karen Sinner	<b>Signature</b>	<b>Date</b> 16-Feb-00																										

49 CES/CEVC Form 22

Figure C-2. (Continued)

### **C-3 Selecting Waste Analysis Parameters**

When process-knowledge or historical analytical data are not available, testing of CSF waste streams is conducted to obtain a detailed chemical and physical analysis in accordance with 40 CFR 264.13. The objectives of sampling are to:

- Confirm characterizations of wastes for which prior analysis or process-knowledge is not available;
- Determine compliance with applicable regulatory requirements, including Land Disposal Restrictions;
- Provide information to aid in the safe management of wastes;
- Provide relevant data for use in making disposal decisions; and,
- Resolve differences associated with inspections and generator descriptions.

The following subsections outline the procedures that will be followed to ensure that the objectives are met and that Holloman AFB complies with all regulatory requirements for waste analysis.

#### **C-3.1 Criteria and Rationale for Parameter Selection**

Characteristics of wastes are identified in several different ways. Visual inspections are conducted for all waste streams. This consists of characterizing the physical form, phase, and appearance (color, odor, etc.) for each container prior to movement. Chemical analysis is conducted to identify specific waste characteristics if a complete waste characterization has not already been performed based on process-knowledge or previous analysis. The chemical analyses conducted for a waste stream vary based on the knowledge of the processes generating the waste and the parameters of concern as identified in Table C-1.

Waste analysis parameters are selected to fulfill three criteria: waste identification, identification of incompatible/inappropriate wastes, and process and design considerations for container compatibility. The subsections below, in conjunction with Table C-1, outline the parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters in accordance with 40 CFR 264.13(b)(1).

### **C-3.1.1 Paint-Related Material Waste**

In general, uncharacterized waste associated with painting activities is analyzed to determine the presence of metals above toxicity characteristic levels. Metals such as cadmium and chromium are found in some types of paints used in specific shops. Paint-related waste is also tested for ignitability. Waste associated with the chemical stripping of paint and the use of paint thinners is also tested for the presence of solvents or other semivolatile or volatile organic compounds (SVOC or VOC). Paint thinners, strippers, and rinse water associated with stripping are tested for corrosivity.

### **C-3.1.2 Oil/Water Separator Sludge**

Sludge from the cleaning of oil/water separators (O/WS) can often be characterized based on the activities conducted in the shops that tie into the O/WS. When it cannot be characterized in that manner, it is analyzed for the presence of metals, VOCs and SVOCs. The sludge from an O/WS may contain residual contaminants from any of the materials that passed through it. Uncharacterized sludge should also be analyzed for ignitability due to the potential presence of fuels in the sludge.

### **C-3.1.3 Aircraft, Vehicle, and Equipment Maintenance Waste**

Maintenance activities generate a variety of waste streams with different characteristics. However, similar constituents are found in these waste streams. Because some waste or used fuels contain lead, cadmium, or other metals, a metals analysis is recommended for all uncharacterized waste streams dealing with aircraft, vehicle, or equipment maintenance. VOCs and SVOCs are also typical components of fuels and lubricants and should be tested for in uncharacterized waste streams associated with fuel or lubricant use. Wastes associated with parts cleaning or that may have come into contact with solvents should also be tested for VOCs and SVOCs, as halogenated and nonhalogenated solvents can be identified by these analyses. The procedures detailed in C-4.1, including frequency of analysis/review, will be followed for characterization of these waste streams. Finally, because many of these waste streams are associated with fuels or ignitable substances, ignitability is a standard analysis for wastes from aircraft, vehicle, and equipment maintenance.

#### **C-3.1.4 Photographic Operations**

Metals are the primary concern in wastes from photographic operations. Mercury is found in photo imaging paper and should be tested for in uncharacterized waste streams associated with this paper. Other metals such as cadmium, selenium, and silver are found in wastes such as photo-fixing solution and silver recovery cartridges. These metals are often present at levels that make these wastes characteristically toxic. In addition, the corrosivity of uncharacterized waste streams is also tested.

#### **C-3.1.5 Photocopying Operations**

Wastes associated with photocopying operations and maintenance may contain naphtha and/or chlorinated solvents. Uncharacterized waste streams are analyzed for VOCs, SVOCs, and ignitability.

#### **C-3.1.6 Facility Maintenance**

Wastes generated from facility maintenance activities can typically be characterized by reviewing the MSDS for the material. For example, spent fluorescent bulbs are typically hazardous for metals. These waste streams tend to be consistently generated as part of building maintenance.

#### **C-3.1.7 Miscellaneous**

Several other waste streams are identified in Table C-1, including RCRA Corrective Action, Spill Cleanup and Debris, and Miscellaneous Organic Liquids. These wastes are either not generated on a regular basis or the waste characteristics change depending on the type of waste received. For these wastes, it is recommended that VOCs, SVOCs, metals, ignitability, and corrosivity be tested. However, these should be evaluated on a case-by-case basis as the waste types may vary widely.

#### **C-3.1.8 Other Analyses**

In addition to the specific analyses identified in Table C-1, other analyses such as total sulfur or thermal content (BTUs) may be conducted to provide information regarding treatment alternatives. Current analytical methods are provided, but these are suggested methods and are not meant to be restrictive of the analyses that can be performed. In many cases, for example, SW6010 is the recommended analysis for metals, but additional analytical methods for constituents such as mercury or lead may be appropriate. The methods are intended to serve as a guide

and can be substituted for other more relevant or more current methods as they are developed. The analytical laboratory should be consulted prior to sampling events to ensure that the most up-to-date methods are used for analysis.

### **C-3.2 Special Parameter Selection and Procedural Requirements**

Additional waste analysis and procedural requirements for wastes may be necessary in special cases; specifically for ignitable, reactive, and incompatible wastes, and to comply with Land Disposal Restrictions requirements. Procedures to ensure that all of the requirements of 40 CFR 264.13(b)(6) are being met are outlined in the following two subsections.

#### **C-3.2.1 Ignitable, Reactive, and Incompatible Wastes**

The parameters for selecting ignitable, reactive, and incompatible waste analyses at the CSF are outlined in Section C-3.1 for each of the major waste categories and outlined in Table C-1 for each waste stream. These parameters were chosen to ensure the proper storage, and ultimate disposal, of these wastes, in accordance with 40 CFR 264.17(b), by preventing reactions which:

- Generate extreme heat or pressure, fire or explosions, or violent reactions;
- Produce uncontrolled toxic or flammable fumes or gases;
- Damage the structural integrity of the containers or the CSF; and
- Threaten human health or the environment.

The same waste analysis approach is employed for determining the characteristics of ignitable, reactive, and incompatible wastes as outlined in Section C-2 of this Permit Application, as required by 40 CFR 264.17(c).

The procedures for properly handling ignitable, reactive, and incompatible wastes at the CSF are outlined in detail in Section D-5 of this Permit Application as specified by 40 CFR 264.17(a).

### **C-3.2.2 Land Disposal Restrictions**

Before shipping hazardous wastes off site, Holloman AFB will make a determination if the waste has to be treated before it can be land disposed. In accordance with the LDR regulations outlined in 40 CFR 268.7, hazardous wastes must meet the applicable LDR treatment standards contained in 40 CFR 268, Subpart D. This determination will be made by either process knowledge or testing. If it is known that the wastes do not meet applicable LDR treatment standards based on process knowledge or historical analytical results, no testing is necessary. Additional testing, if necessary, will be conducted only to certify that the waste meets LDR treatment standards. Each waste for which a treatment standard has been set will be evaluated for the applicable parameters in 40 CFR 268, Subpart D. In addition, for any wastes that exhibit the hazardous characteristics of ignitability, corrosivity, reactivity, or toxicity, the underlying hazardous constituents will be determined in accordance with 40 CFR 268.9. All analytical results completed in support of LDR requirements will be retained within the facility operating record.

Wastes resulting from facility operations that exceed the applicable LDR treatment standards will be sent off site to a permitted treatment facility. LDR notifications, and any additional data as required under 40 CFR §268.7(a)(2), will be supplied with the shipment of each waste .

Wastes, if any, that are determined through analysis to meet treatment standards as specified in 40 CFR 268, Subpart D will be land disposed in a permitted facility without further treatment. An LDR certification, including data to support the certification as required under 40 CFR §268.7(a)(3), will be prepared and accompany the shipment of waste to the receiving facility.

### **C-4 Sampling and Analysis Plan**

This section presents the Sampling and Analysis Plan (SAP) for wastes managed at the CSF.

#### **C-4.1 Objectives**

The SAP provides procedures for testing the waste streams stored in the CSF requiring analytical characterization. It explains how samples will be collected and the analyses that will be performed. The plan's design is based on U.S. Air Force (USAF) operational procedures and guidelines, knowledge of the materials used at Holloman AFB, and knowledge of the characteristics of categories of waste. Specific topics covered in this plan include:

- Sampling procedures and methodology;
- Health and safety procedures;
- Sampling QA/QC Procedures;
- Sample Container Preservation Requirements; and
- Laboratory procedures.

Samples collected are prepared according to the appropriate sample protocol from EPA's SW-846, *Test Methods for Evaluating Solid Waste*. If EPA methods are not available, ASTM methods are used.

Proper waste identification will be ensured by the following measures:

- An initial analysis will be performed on each new waste stream to identify the process and characterize the waste;
- An annual review of waste stream will be conducted to determine waste inconsistency with the waste profile and whether additional sampling is warranted;
- Initial Accumulation Point (IAP) managers inform 49 CES/CEV if new material is introduced into process for determination of need for re-characterization of the waste stream.
- Waste is identified and tracked according to procedures detailed in Figure C-1.

The total number of samples tested each year will vary depending on the number of waste streams. In the past five years, an average of over 100 samples was collected annually. Nevertheless, each new waste stream will be sampled to obtain an accurate waste determination. Holloman AFB personnel are continually working to reduce the volume of hazardous waste generated by base operations through pollution prevention initiatives.

#### **C-4.2 Sampling Procedures and Methodology [40 CFR264.13(b)(3)]**

In many cases, samples will be collected from drums containing waste for characterization. This section outlines the procedures and methods to be followed for sampling drums containing liquid and non-liquid organic and inorganic wastes. Sample handling, sample documentation, and sampling quality assurance and quality control are outlined in Section C-4.4. The sampling will be conducted by Holloman AFB personnel or their designated contractor. The physical, chemical, and waste specific parameters of each waste are considered to determine the most appropriate type of sampling equipment and sampling strategy. Sampling personnel will be knowledgeable of and have experience with the sampling techniques outlined below.

As part of the inventory, a visual inspection of the drum and its contents is conducted and recorded. Once a visual inspection and inventory has been completed, the container to be sampled is opened. Only sampling equipment constructed of materials that are compatible with wastes and not susceptible to reactions that might alter or bias the physical or chemical characteristics of organic and inorganic wastes is used.

The recommended method of drum sampling liquid waste in 40 CFR 264.13(b)(3) is through the use of a disposable glass Composite Liquid Waste Sampler (COLIWASA) or equivalent method. Other sampling methods capable of achieving a composite sample are acceptable for waste sampling; however, proper decontamination of equipment is required if disposable equipment is not used. Sampling and analysis will be conducted in accordance with EPA's *Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods*.

For non-liquid waste, the same procedure will be followed for staging and visual inspection. Sample collection can be accomplished using a stainless steel spoon or equivalent method. Contamination control procedures outlined in Section C-4.4.2 will be followed during sample collection.

#### **C-4.3 Health and Safety Procedures**

If deemed necessary, personnel performing sampling activities will use personal protective equipment such as rubber gloves, boots, aprons, Tyvek coveralls, and eye protection. Sampling personnel will be trained in hazardous waste sampling

and have a minimum of one year sampling experience. If a new hire or other individual has less than one year of sampling experience, the inexperienced individual must be accompanied by a person who has at least one year of sampling experience. These personnel will also have 40-hour Occupational Safety and Health Administration training as specified in 29 CFR 1910.120. Appropriate medical monitoring and certification will also be conducted.

#### **C-4.4 Sampling QA/QC Procedures**

All sampling conducted for the purpose of characterizing wastes will use appropriate quality assurance/quality control (QA/QC) procedures. Procedures for sample documentation, equipment, handling and custody are discussed below.

##### **C-4.4.1 Documentation of Activities**

Sample containers will be uniquely identified to indicate the generating shop or facility and the date and activities will be documented according to SW-846. An adhesive label will be affixed to the sample container containing the following information:

- Collector's initials;
- Sample identification;
- Analytical methods requested;
- Generating facility;
- Sample date; and
- Sample time.

Any other distinguishing characteristics or information required by the laboratory or project personnel will be added to the label.

##### **C-4.4.2 Contamination Control Procedures**

Only compatible sampling tools and containers will be used for sample collection and storage. Sampling tools and equipment will be protected from contamination sources prior to sampling and will be decontaminated before and between samples, if reused. Sample containers will also be protected from contamination sources. Sampling personnel will wear clean chemical-resistant gloves when handling sampling equipment and samples. Gloves will be decontaminated or disposed of between samples.

#### **C-4.4.3 Sample Handling and Chain of Custody**

Chain-of-custody (COC) forms will be used and procedures will be followed to track possession of the samples from the time they are collected until the analytical data from the samples are received and recorded. For all samples, procedures will begin once sampling is complete. The following information will be recorded when samples of waste are collected:

- The type of waste collected, and a brief description;
- The names and signatures of the samplers;
- The sample number and the date and time of sample collection;
- The names of any persons involved in transferring samples; and
- The shipping number (e.g., airbill number) for samples shipped to off-site laboratories.

A sample will be considered under custody if it is:

- In the possession of the sampling team;
- In view of the sampling team; or
- Transferred to a secure area.

An area is considered secure only when it is locked and access is controlled. The sampling team leader is responsible for custody of the samples until they have been properly packaged, documented, and released to a courier or directly to the analytical laboratory. A triplicate COC record form will be used for sample tracking.

#### **C-4.5 Sample Container and Preservation Requirements**

Samples will be collected in pre-cleaned sampling containers and will be kept cold during storage, transportation, and shipping, as necessary. Containers, preservatives, and holding time requirements for sample types that will be collected vary widely and should be coordinated with the analytical laboratory prior to sample collection. In addition, current analytical methods should be verified with the laboratory prior to sample collection.

At the end of each sampling event, samples will be packaged in shipping containers with double-bagged ice packs to maintain a temperature of less than 4 degrees C, as necessary. The samples will be carefully packaged so that they

will not break during shipping. Each shipping container will be shipped to the analytical laboratory by an overnight delivery service or transported directly by a contracted laboratory.

#### **C-4.6 Laboratory Analysis**

Design and execution of the sampling program will be coordinated with an analytical chemist experienced in hazardous waste testing. The laboratory will follow standard analytical and quality assurance/quality control (QA/QC) procedures specified in SW-846. The following is a summary of the laboratory specifications.

Typically, the laboratory report will contain the following:

- Unique laboratory identification;
- Sample identification;
- Sampling date;
- Preparation date;
- Analysis date;
- Preparation batch;
- Preparation method;
- Analysis batch;
- Analysis method;
- Analyte;
- Results;
- Footnotes/data qualifiers;
- Units;
- Sample matrix;
- Sample-specific detection limit;
- Dilution factor;
- Case narrative (if necessary); and
- Laboratory control sample results.

SW-846 addresses most of the procedures proposed in this SAP. The laboratory will be required to achieve the required or estimated detection limits specified in SW-846. If equivalent methods are used, these should be justified and approved

in advance. Approval for any equivalent methods employed by the laboratory will be at the discretion of Holloman AFB and the New Mexico Environment Department (NMED).

Although Holloman AFB is the primary emergency responder for incidents that occur on base, provisions have been made for including off-base organizations in the response organization. In the event that on-base spill response resources and expertise are insufficient, or when off-base water, land, or air are adversely affected, off-base spill response resources can be incorporated into the spill response team, as needed. Holloman AFB has a mutual aid agreement with ~~\_\_\_\_\_~~ *Stg* several organizations to provide assistance in the event it should be needed. These organizations are listed below and discussed in Annex A, Appendix 5, Tab A of the *Holloman AFB Disaster Preparedness Readiness Plan 32-1*.

- City of Alamogordo Fire Department;
- Village of Cloudcroft;
- Alamo West Fire Rescue; and
- White Sands Missile Range Emergency Control Center.

A copy of Plan 32-1 is distributed to each of these responders, as outlined in Annex Z, to familiarize response teams with the layout of the base, the properties of hazardous waste handled at the facility and associated hazards, work areas, entrances and roadways on base, and evacuation routes.

**G-6 Management of Ignitable, Reactive, and Incompatible Wastes**  
[40 CFR 264.17 and 40 CFR 270.14(b)(9)]

The prevention of accidental ignition or unplanned reaction of ignitable, reactive, or incompatible waste is achieved by a combination of facility design and operating practices. The design standards and operating practices related to accident prevention are presented in Section D of this permit application. Therefore, this information is not repeated in this section.

**G-7 Hazard Prevention Procedures, Structures, and Equipment**  
[40 CFR 270.14(b)(8), 40 CFR 264.31]

This section provides a description of the handling techniques and facility design standards that prevent hazards from occurring that would endanger human health or the environment. The procedures, structures, and equipment associated with the operation of the CSF are designed to prevent hazards, such as spills, fires, or mixing of incompatible wastes, that are posed by the wastes at the facility.

Section		Page
<b>A</b>	<b>Part A of the Permit Application</b> .....	A-1
<b>B</b>	<b>Container Storage Facility Description and Specifications</b> .....	B-1
	B-1 General Description .....	B-1
	B-2 CSF Location Information .....	B-5
	B-3 Topographic Map .....	B-5
	B-4 Traffic Information .....	B-12
	<b>Attachment B-1 Wind Roses (1992-1996)</b>	
<b>C</b>	<b>Waste Analysis Plan</b> .....	C-1
	C-1 Introduction .....	C-1
	C-2 Waste Analysis Approach .....	C-1
	C-2.1 Process Knowledge .....	C-1
	C-2.2 Identification/EPA Classification of the Hazardous Waste Managed .....	C-2
	C-2.3 Hazardous Waste Tracking Procedures .....	C-4
	C-3 Selecting Waste Analysis Parameters .....	C-13
	C-3.1 Criteria and Rationale for Parameter Selection .....	C-13
	C-3.1.1 Paint-Related Material Waste .....	C-14
	C-3.1.2 Oil/Water Separator Sludge .....	C-14
	C-3.1.3 Aircraft, Vehicle, and Equipment Maintenance Waste .....	C-14
	C-3.1.4 Photographic Operations .....	C-15
	C-3.1.5 Photocopying Operations .....	C-15
	C-3.1.6 Facility Maintenance .....	C-15
	C-3.1.7 Miscellaneous .....	C-15
	C-3.1.8 Other Analyses .....	C-15
	C-3.2 Special Parameter Selection and Procedural Requirements .....	C-16
	C-3.2.1 Ignitable, Reactive, and Incompatible Wastes .....	C-16
	C-3.2.2 Land Disposal Restrictions .....	C-17
	C-4 Sampling and Analysis Plan .....	C-17
	C-4.1 Objectives .....	C-18
	C-4.2 Sampling Procedures and Methodology .....	C-19
	C-4.3 Health and Safety Procedures .....	C-19
	C-4.4 Sampling QA/QC Procedures .....	C-20
	C-4.4.1 Documentation of Activities .....	C-20
	C-4.4.2 Contamination Control Procedures .....	C-20
	C-4.4.3 Sample Handling and Chain of Custody .....	C-21
	C-4.5 Sample Container and Preservation Requirements .....	C-21
	C-4.6 Laboratory Analysis .....	C-22
<b>D</b>	<b>Container Storage Facility Design and Operations</b> .....	D-1
	D-1 Detailed Design Description of CSF .....	D-1
	D-2 Operating Hours .....	D-5
	D-3 Operating Procedures .....	D-5

## Table of Contents (Continued)

Section	Page
D-4	Container Compatibility ..... D-6
D-5	Ignitable, Reactive, and Incompatible Waste Management..... D-7
D-6	Container Use and Management ..... D-10
D-7	Air Emissions Management..... D-11
D-8	Protection of Groundwater ..... D-11
D-9	Standards for Management of Specific Wastes ..... D-11
D-10	Final Disposition of Wastes..... D-12
<b>E</b>	<b>Security Procedures and Equipment..... E-1</b>
E-1	Security Plan ..... E-1
<b>F</b>	<b>Inspection Requirements ..... F-1</b>
F-1	General Inspection Requirements ..... F-1
F-2	Unit-Specific Inspection Requirements ..... F-1
F-3	Written Inspection Schedule ..... F-1
F-4	Inspection Frequency ..... F-4
F-5	Remedial Action for Inspection Deficiencies ..... F-4
F-6	Inspection Log ..... F-4
<b>G</b>	<b>Preparedness and Prevention Requirements..... G-1</b>
G-1	Required Equipment ..... G-1
G-2	Testing and Maintenance of Equipment ..... G-2
G-3	Access to Communications or Alarm Systems ..... G-2
G-4	Required Aisle Space ..... G-3
G-5	Arrangements with Local Authorities ..... G-3
G-6	Management of Ignitable, Reactive, and Incompatible Wastes..... G-4
G-7	Hazard Prevention Procedures, Structures, and Equipment..... G-4
<b>H</b>	<b>Contingency Plan..... H-1</b>
H-1	Purpose and Implementation of the Contingency Plan ..... H-1
H-2	Content of the Contingency Plan..... H-1
H-3	Copies of the Contingency Plan..... H-2
H-4	Amendment of the Contingency Plan ..... H-2
H-5	Emergency Coordinator ..... H-5
H-6	Emergency Procedures ..... H-6
<b>I</b>	<b>Manifesting, Recordkeeping, and Reporting ..... I-1</b>
I-1	Manifesting ..... I-1
I-2	Recordkeeping ..... I-1
I-3	Reporting..... I-3
<b>J</b>	<b>Personnel Training..... J-1</b>
J-1	Overview ..... J-1
J-2	Job Titles and Duties for Which Training is Required..... J-1
J-3	Training Content and Frequency..... J-3
J-4	Personnel Training ..... J-4
J-5	Implementation of Training Program ..... J-4

Table of Contents (Continued)

Section	Page
J-6 Retention of Records .....	J-5
<b>K Closure, Post-Closure, and Financial Assurance Requirements .....</b>	<b>K-1</b>
K-1 Closure Plan .....	K-1
K-2 Applicability .....	K-1
K-3 Closure Performance Standard .....	K-2
K-4 Partial and Final Closure .....	K-2
K-5 Maximum Waste Inventory .....	K-2
K-6 Description of Decontamination and Removal Procedures .....	K-2
K-7 Decontamination of Soil, Equipment, and Structures .....	K-3
K-8 Closure Plan Amendments .....	K-7
K-9 Closure Notification Requirements .....	K-7
K-10 Closure Schedule .....	K-8
K-11 Certification of Closure.....	K-8
K-12 Post-closure Plan .....	K-8
K-13 Financial Assurance .....	K-9
<b>L Corrective Action for Solid Waste Management Units.....</b>	<b>L-1</b>
<b>M Letter of Delegation for Signature Authority.....</b>	<b>M-1</b>
<b>N Signature Page and Certification Statement .....</b>	<b>N-1</b>

**List of Figures**

	<b>Page</b>
B-1 General Location of Holloman Air Force Base .....	B-2
B-2 Layout of Holloman Air Force Base.....	B-4
B-3 Topographic Map .....	B-6
B-4 Land Use Surrounding the Container Storage Facility .....	B-8
B-5 Aerial Photo of Container Storage Facility Area .....	B-9
B-6 Layout of Container Storage Facility .....	B-10
C-1 Waste Tracking Flow Diagram .....	C-9
C-2 Example Tracking Documents.....	C-10
D-1 Typical Segregation Pattern of Wastes in Indoor Storage Building .....	D-3
H-1 Fire Evacuation Diagram – DRMO Holloman, Bldg. 118 .....	H-4

List of Tables

	<b>Page</b>
C-1 Major Waste Categories and Parameters of Concern.....	C-5
D-1 Container Storage Facility Construction Specifications .....	D-2
D-2 Hazardous Materials Guide – Segregation Table for Hazardous Materials....	D-9
F-1 Inspection Schedule .....	F-2
H-1 Emergency Response Equipment Inventory.....	H-3
I-1 Records Retention Times .....	I-4
K-1 Schedule for Closure of the Defense Reutilization Marketing Office CSF ...	K-10
L-1 Table 1.....	L-9
L-2 Table 2.....	L-11
L-3 Table 3.....	L-13