



HAFB 2003

**DEPARTMENT OF THE AIR FORCE**

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

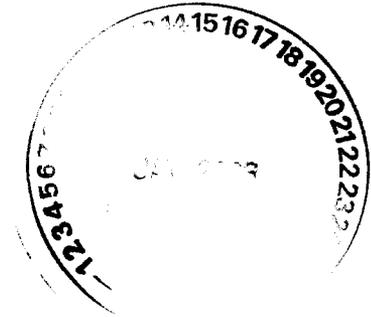
13 JAN 2003

MEMORANDUM FOR NEW MEXICO ENVIRONMENT DEPARTMENT

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

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

SUBJECT: Response to Notice of Deficiency (NOD) Extension for  
RCRA Part B Permit Application for Container Storage Unit  
EPA ID No. NM 6572124422  
TASK #: HWB-HAFB-02-001



1. This letter contains Holloman AFB's response to subject NOD extension letter received 16 Dec 02. The table at Atch 1 addresses each deficiency detailed in the NOD and the results of the 5 Dec 02 meeting with your staff. Additionally, the revised Waste Analysis Plan is Atch 2, and the electronic copy of both is Atch 3.
2. If you have any questions, please feel free to contact Ms. Debbie Hartell or Mr. Rod Villegas at (505) 572-3931.

  
HOWARD E. MOFFITT  
Deputy Base Civil Engineer

Attachments:

1. Holloman AFB's Responses to NOD and meeting results
2. Revised Waste Analysis Plan
3. One 3.5" diskette with the documents in electronic form

CERTIFIED MAIL NO. 7001 1940 0002 2179 3037  
RETURNED RECEIPT REQUESTED

*Global Power for America*

**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 ~~re~~ routinely stored at the CSF. Much of this information can be obtained through acceptable knowledge, also called 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 acceptable (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-1.1 Waste Characterization Objectives**

The WAP prescribes the procedures used to properly characterize hazardous waste. These procedures, when implemented, are intended to meet the following objectives:

- To determine all information that must be known to treat, store and dispose of the wastes in accordance with New Mexico's Hazardous Waste Regulations incorporating 40 CFR 264.13 (a)(1);
- To determine if the waste is hazardous as required by 40 CFR 262.10 (c) and 262.11;
- To ascertain the hazardous constituents in a waste stream to identify all applicable hazardous waste codes and all underlying hazardous constituents as required by 40 CFR 262.11, 268.7 (a)(2), and 268.9 (a);
- To ascertain whether the waste must be treated before it can be land disposed as required by 40 CFR 268.7 and 268.9;
- To ascertain whether a routine waste generating process has changed sufficiently to create a new waste stream and alternative regulatory requirements as required by 40 CFR 264.13 (a)(3)(1), 268.7 (a)(3)(iii), and 268.7 (b)(3)(ii);
- To facilitate appropriate waste packaging for transportation as required by 40 CFR 262.10 (h);
- To ascertain the presence and concentration of wastes constituents that might cause unlawful air emissions as required by 40 CFR 270.25 (a), 264.179, 264.200, 264.13 (b)(6), 264.601 (c)(1), 264.1050, and 264.1082);
- To ensure that wastes are not inappropriately diluted to avoid LDR treatment requirements as required by 40 CFR 268.3;
- To determine the presence of prohibited materials waste as required by 40 CFR 268.50 (f);
- To determine the presence of free liquids in wastes as required by 40 CFR 270.15 (b)(1), 264.13 (b)(6);
- To ascertain waste/waste and waste/container compatibility characteristics as required by 40 CFR 270.15, 270.16, 264.172, 264.177, and 264.199; and
- To ascertain waste ignitability and reactivity characteristics as required by 40 CFR 270.16 (j), 264.17 (a), and 264.198 (a).

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

### **C-2.1 Acceptable (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, acceptable

(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 acceptable (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 these 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.

Holloman AFB will ensure that all waste characterization information is accurate by making the following determinations:

- Whether the waste was characterized at the point of generation, in compliance with 40 CFR §§ 268.7(a)(3) and 268.9(c);
- Whether routinely generated wastes are re-characterized to ensure the waste's characterization is accurate and up to date 40 CFR § 264.13(a)(3);
- Whether generators have appropriately identified when the process or operation generating routinely generated wastes has changed; in compliance with 40 CFR § 264.13(a)(3)(i); and
- Whether generators are trained in the applicable waste characterization requirements as required by 40 CFR § 264.16.

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 acceptable (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) <sup>4</sup>	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) <sup>5</sup>	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 <sup>5</sup>	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. Analyses may include full TCLP metals, if appropriate.

<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 with prior approval of NMED.

<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.

<sup>4</sup> Refer to 40 CFR § 268.2 (d) and (f) for definition of wastewater (WW) and nonwastewater (NWW).

<sup>5</sup> KOP, Knowledge of Process, is also called acceptable knowledge throughout the WAP.

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

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

Process Generating Waste	Waste Generated	Basis for Hazard Classification	Parameters for Analyses and EPA Waste Codes <sup>1</sup>	LDR (WW or NWW) <sup>4</sup>	Current Analytical Test Method <sup>2</sup>
<u>Aircraft, Vehicle, and Equipment Maintenance Operations</u>  <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	Fuel filters and absorbent (I, T)	KOP <sup>5</sup> , Historical test data	Cadmium (D006), benzene (D018), ignitability (D001)	NWW	SW8260, SW8270, SW6010 or 7000 Series, SW-846: 1010/1020
	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 <sup>5</sup> , 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

<sup>1</sup> RCRA hazardous constituents and/or properties. Analyses may include full TCLP metals, if appropriate.

<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 with prior approval of NMED.

<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.

<sup>4</sup> Refer to 40 CFR § 268.2 (d) and (f) for definition of wastewater (WW) and nonwastewater (NWW).

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

Process Generating Waste	Waste Generated	Basis for Hazard Classification	Parameters for Analyses and EPA Waste Codes <sup>1</sup>	LDR (WW or NWW) <sup>4</sup>	Current Analytical Test Method <sup>2</sup>
<u>Photographic Equipment Cleaning Operations</u>  <u>Locations:</u> Newtec 846th Test Squadron Newtec	Rags with solvent (I, T, listed)	Historical test data, KOP <sup>5</sup>	Cadmium (D006), solvents (VOCs and SVOCs), ignitability (D001)	NWW	SW8260, SW8270, SW6010 or 7000 series, SW-846 1010/1020
<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 <sup>5</sup>	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

<sup>1</sup> RCRA hazardous constituents and/or properties. Analyses may include full TCLP metals, if appropriate.

<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 with prior approval of NMED.

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<sup>4</sup> Refer to 40 CFR § 268.2 (d) and (f) for definition of wastewater (WW) and nonwastewater (NWW).

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

Process Generating Waste	Waste Generated	Basis for Hazard Classification	Parameters for Analyses and EPA Waste Codes <sup>1</sup>	LDR (WW or NWW) <sup>4</sup>	Current Analytical Test Method <sup>2</sup>
<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
<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

<sup>1</sup> RCRA hazardous constituents and/or properties. Analyses may include full TCLP metals, if appropriate.

<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 with prior approval of NMED.

<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.

<sup>4</sup> Refer to 40 CFR § 268.2 (d) and (f) for definition of wastewater (WW) and nonwastewater (NWW).

<sup>5</sup> KOP, Knowledge of Process, is also called acceptable knowledge throughout the WAP.

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 Listed = listed waste

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

Process Generating Waste	Waste Generated	Basis for Hazard Classification	Parameters for Analyses and EPA Waste Codes <sup>1</sup>	LDR (WW or NWW) <sup>4</sup>	Current Analytical Test Method <sup>2</sup>
	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. Analyses may include full TCLP metals, if appropriate.

<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 with prior approval of NMED.

<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.

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# Hazardous Waste Tracking Flow Diagram

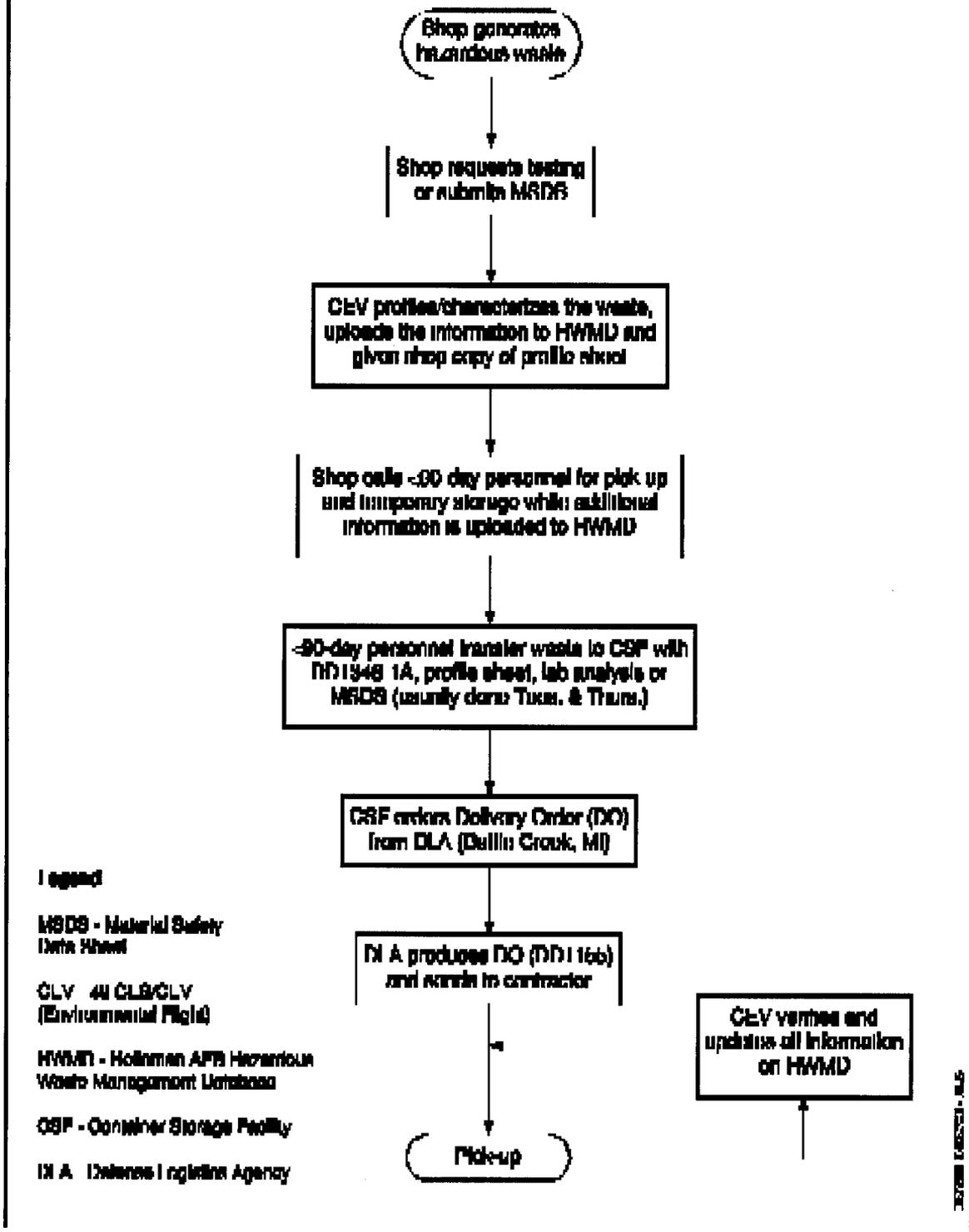


Figure C-1. Waste Tracking Flow Diagram

TRIC	DLI DIST		EX		A. INSPECTOR NAME, DATE (T/M)										B. INSPECTOR NAME-STAMP, DATE (T/M)																																				
1	2	3	4	5	6	7	SSGT FARRAR/MAFS										49CES/CEV																																		
T	I	N	8	6	8	BLDG 868										BLD 55																																			
							X5004										X3931																																		
REQUEST, TIME & DATE (USI)										UNIT OF ISSUE										QUANTITY										C.										DOCUMENT NUMBER										C/MO	
8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	RG00-0106B 448										R 4 1 5 M X										H									
9	9	9	P	H	W	D	0	2	7	9	4	0	4	L	B	0	0	0	0	1	DRUM#868-										900841737																				
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/MOFR CODE OR NAME/REMARKS										ONE 55 GALLON DRUM																																									
WORK ORDER										SHIP TO										DOCUMENT NUMBER										POST/POST										F. T.O. PSC AND/OR ERIC											
45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80																
G. TIME & DATE OF DELIVERY										H. DELIVERY TIME										I.										J. NOMENCLATURE																					
131 Y. 50 = 65.50																														HAZARDOUS WASTE																					

ISSUE/RETURN-IN REQUEST

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

PREVIOUS EDITION WILL BE USED.

Figure C-2. Example of Tracking Documents



<b>HAZARDOUS WASTE PROFILE SHEET</b>		
PART I		
• Generator •		• Waste Profile •
<b>Name:</b> Holloman Air Force Base <b>Address:</b> Highway 70 West Holloman AFB, NM 88330	<b>Organization:</b> 9 FS/MAFS <b>Bldg Number:</b> 868	<b>RG00-0106B</b> » Replaces: RG00-0106A «
<b>USEPA ID:</b> NM6572124422 <b>State ID:</b> NA	<b>CEVID:</b> 0106 <b>DODAAC:</b> FB4801	<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>Component</b>	<b>Concentration</b>
<b>Treatment Group:</b> <input type="radio"/> Wastewater <input checked="" type="radio"/> Non-wastewater	Rags	>70%
<input checked="" type="radio"/> <b>Non-RCRA Waste (no other waste codes apply)</b>	Absorbent	<15%
<input type="radio"/> <b>Ignitable (D001)</b> <b>Flash Point (°F):</b> <b>TOC:</b> <input type="radio"/> High <input type="radio"/> Low	Debris / razor blades	<15%
<input type="radio"/> <b>Corrosive (D002)</b> <b>pH:</b>	<b>Contaminants:</b>	
<input type="radio"/> <b>Reactive (D003)</b> <input type="radio"/> Water Reactive <input type="radio"/> Cyanide Reactive <input type="radio"/> Sulfide Reactive	Barium	1.54 mg/l
<input checked="" type="radio"/> <b>Toxicity Characteristic</b> D027, D006	Cadmium	1.35 mg/l
<input type="radio"/> <b>F-listed waste</b>	Chromium	0.046 mg/l
<input type="radio"/> <b>P-listed waste</b>	1,4 Dichlorobenzene	30.4 mg/L
<input type="radio"/> <b>U-listed waste</b>	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.	
	<b>1996 North American Emerg. Resp. Guideboo</b> Guide No.: 171	
PART III		
• Basis for Information •		
<input checked="" type="radio"/> <b>Chemical Analysis (attach sampling results)</b> <input type="radio"/> <b>MSDS</b> <input checked="" type="radio"/> <b>User Knowledge</b>		
<b>Sample Number:</b> GT008001 <b>Previous Sample Number(s):</b> GT998119/GT998042/GT978230/GT968185		
• Generator Certification •		
<i>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.</i>		
<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 acceptable (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 acceptable (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, such as using biodegradable sorbents, if appropriate;
- 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 acceptable (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

**Table of NMED Issues/Holloman AFB Responses/Meeting Results to 16 Oct 2002 NOD (With 22 Apr 99 and 20 Jan 00 NOD Issues Listed)**

NMED General Comments	23 Oct 2002 NOD	Holloman AFB Draft Response to 23 Oct 02 NOD	Meeting Results (5 Dec 2002)
1. The WAP is generally deficient in the following regards; defining its objectives, in many instances the WAP simply reiterates a portion of HAFB's waste characterization requirements without clearly specifying how HAFB will adhere to its those requirements (particularly Land Disposal Restrictions (LDR) requirements), lacking commitments regarding identification of underlying hazardous constituents (UHCs) in characteristic wastes, and is confusing as to when acceptable or process knowledge will be used versus sampling and analysis to characterize wastes. These issues are discussed further below.		1. See Table C-1 and Section C-3.2.2. of the HAFB Response to 19 Jan 00 NOD.	As agreed Holloman added footnote to reflect full TCLP might be needed when determining parameters for analyses.
2. The WAP does not discuss waste characterization commitments for wastes stored at the CSU that originated off-site as required at 40 CFR 264.13 (b)(5). The reviewer presumes that HAFB commits elsewhere in the permit application to not receiving off-site wastes at the CSU.		2. No off-site waste is received. Refer to section D-1 of the Jan 98 application.	Issue resolved.
3. The WAP does not discuss waste characterization commitments regarding the RCRA air emission requirements. The reviewer presumes that HAFB commits elsewhere in the permit application to the following; <ul style="list-style-type: none"> <li>a. Storing all wastes in containers that comply with the standards specified at 40 CFR § 264.1086, or</li> <li>b. That no wastes are managed in tanks or equipment that would require conformance with 40 CFR §§ 264.1084 and 264.1050 respectively.</li> </ul>		3. See sections D-6 and D-7 of the Jan 98 application.	Issue resolved.
4. The WAP does not discuss the training commitments for individuals responsible for waste characterization. Of particular concern are the training commitments for generators or initial accumulation point (IAP) managers. The reviewer presumes that HAFB both recognizes this requirement and commits to the appropriate training elsewhere in the permit application as required by 40 CFR § 270.14 (b)(12). Furthermore, WAP Table C-1 refers to the following non-U.S. military personnel that generate wastes at HAFB that presumably are subject to the permit and its associated training requirements; the German Air Force, DynCorp, and Newtec.		4. See section J of the Jan 98 application.	Issue resolved.

Attach 1  
 (Pg 1 of 14)

<p>5. The WAP poorly describes HAFB's regulatory requirements to characterize some aspects of solid/hazardous waste at the "point of generation". New Mexico Hazardous waste Management Regulations 20.4.1.500 NMAC, incorporating 40 CFR § 268.9 (c) require that characteristic wastes have their LDR treatment standards "determined at the point of generation". U.S. Environmental Protection Agency (EPA) guidance, "Land Disposal Restrictions: Summary of Requirements" dated August 2001 (EPA 2001) states in Section 8.2 that, according to the regulations, "you must make two critical determinations" at the point of generation:</p> <ol style="list-style-type: none"> <li>a. identify whether the waste is hazardous; and</li> <li>b. if so, identify whether the waste is prohibited under the Land Disposal Restriction (LDR) program ...".</li> <li>c.</li> </ol> <p>The purposes for identifying whether the waste is prohibited under the LDR program include avoiding unlawful dilution of the waste, unlawful commingling of the waste, and loss of volatile constituents. 40 CFR § 264.1084 (a)(1) requires that for waste placed in containers, that "the owner or operator shall determine the average volatile organic (VO) concentration at the point of waste origination". The WAP does recognize at Section C-2.1, Paragraph 1, Sentence 4 that generators perform the "hazardous" determination, however at Section C-3.2.2, Paragraph 1, Sentence 1 the WAP states that "Before shipping waste off site, HAFB shall make a determination if the waste has to be treated before it can be land disposed." (LDR status determination) The WAP must be altered to reflect the requirement that wastes must be characterized as to whether they are prohibited under the LDRs at the point of generation. Furthermore, the WAP must be altered to reflect the requirement that, for wastes placed in containers, the wastes will be characterized for their average volatile organic (VO) concentration at the point of waste origination unless another regulatory acceptable approach is used. (See general comment #3)</p>	<p>5. See section C-2.1 and the detail in Figure C-1 of the HAFB Response to 19 Jan Feb 00 NOD. NMED concerns are also addressed throughout the WAP and in Sections D-6 and D-7.</p>	<p>As directed by NMED, language was added committing to determine LDR status at point of generation. Holloman use language provided by NMED.</p>
<p>6. The WAP fails to recognize that before wastes are stored at the CSU they must be characterized as to whether they are authorized wastes (i.e., included in the Part A portion of the permit application or otherwise prohibited by the permit).</p>	<p>6. Refer to Section D of the Jan 98 application.</p>	<p>No HazWaste stored at the CSU unless it is authorized by the Part A portion of the permit application.</p>
<p><b>Section Specific Comments</b></p>		
<p><b>Section C-1:</b> This Section states in Paragraph 1, Sentence 4 that the WAP provides information on wastes "routinely" stored at the CSU. Although it is understandable that HAFB can only identify routinely stored wastes in its WAP, the characterization procedures for <u>all</u> hazardous wastes stored at the permitted waste management unit must be addressed. NMED recommends augmenting the sentence to clarify the appropriate scope of the WAP.</p>	<p>Refer to Figure C-1 of the HAFB Response to 19 Jan 00 NOD.</p>	<p>As agreed, the word "routinely" was deleted, except from the language provided by NMED inserted in the document.</p>

<p>1. <b>Section C-1:</b> Section Paragraph 1, Sentences 5 and 6 are contradictory, because while the fifth 5 implies that some wastes will be characterized through acceptable knowledge (see next comment), the sixth sentence states that <u>all</u> wastes will be characterized through sampling and analysis. The paragraph must be altered for clarity.</p>	<p>1. These sentences are not contradictory. In the HAFB Response to 19 Jan 00 NOD, Sentence 6 does state that waste streams will be sampled only if waste cannot be characterized by KOP. There should be no confusion if NMED is reviewing the HAFB Response to the 19 Jan 00 NOD, as was stated in NMED's 16 Oct 02 NOD.</p>	<p>Issue resolved.</p>
<p>2. <b>Section C-1:</b> Paragraph 1, Sentence 5 uses the term "process-knowledge". NMED requires for consistency sake that HAFB use the term "acceptable knowledge" (<b>AK</b>), which incorporates process knowledge in its definition) as defined in EPA guidance, "<i>Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Waste</i>" dated April 1994 (<b>EPA 1994</b>). Please change all other applicable WAP terminology accordingly. Furthermore, the WAP is confusing as to when acceptable or process knowledge will be used versus sampling and analysis to characterize wastes. The WAP must specify how HAFB will characterize in accordance with Appendix VI.</p>	<p>2. KOP is used throughout the WAP Response to 19 Jan 00 NOD and the Jan 98 permit application. In previous NOD's (22 Apr 99 and 19 Jan 00 NODs) KOP was used even by NMED comments. HAFB would prefer to keep KOP reference for consistency sake.</p> <p>There should be no confusion if NMED is reviewing the HAFB Response to the 19 Jan 00 NOD, as was stated in NMED's 16 Oct 02 NOD.</p>	<p>As directed by NMED, "acceptable knowledge" was included together with "knowledge of process".</p>
<p>3. <b>Section C-1:</b> Paragraph 2, Sentence 1 inappropriately omits a portion of the regulatory citation for 40 CFR § 268. Add 800 to the New Mexico Hazardous Waste Management portion of the regulatory citation (i.e., 20.1.4.800 NMAC).</p>	<p>3. The HAFB Response to the 19 Jan 00 NOD had no NM Hazardous Waste Management regulatory citation. There should be no confusion if NMED is reviewing the HAFB Response to the 19 Jan 00 NOD, as was stated in NMED's 16 Oct 02 NOD.</p>	<p>Issue resolved.</p>
<p>4. <b>Section C-1:</b> Paragraph 2, Sentence 1 appropriately identifies the general New Mexico Hazardous Waste Management regulations as the regulatory mandate for the Waste Analysis Plan (<b>WAP</b>), but fails to identify the specific waste characterization regulations that must be address. NMED requires that all waste characterization address the data quality objectives (<b>DQOs</b>) identified at Appendix I and that these objectives be identified in the Introduction portion of the WAP. The WAP must also be augmented to include a Section addressing how CSU personnel will perform a QA/QC analysis to ensure that all waste characterization has met the DQOs.</p>	<p>4. The HAFB Response to the 19 Jan 00 NOD had no reference to NM regulation. There should be no confusion if NMED is reviewing the HAFB Response to the 19 Jan 00 NOD, as was stated in NMED's 16 Oct 02 NOD. Please identify the regulatory citation that includes DQO requirements.</p>	<p>As directed by NMED, Holloman included language provided.</p>
<p>5. <b>Section C-2.1:</b> Paragraph 1 is contradictory with regard to the use of acceptable knowledge (see comment #2). Alter accordingly. Furthermore, Paragraphs 1 and 2 are contradictory. Paragraph 2 states that if one of the characterization processes identified in Paragraph 1 cannot be used that the wastes will be sampled and analyzed, however Paragraph 1 refers to chemical analysis. NMED recognizes that there may be forms of chemical analysis that do not conform to either permit or SW-846 requirements and that these might be considered acceptable knowledge according to EPA 1994. The WAP must state and clarify this if it is HAFB's intent. (See Section Specific Comment 3)</p>	<p>5. The HAFB Response to the 19 Jan 00 NOD does not include wording on chemical analysis. The original paragraphs in that Response are not contradictory. There should be no confusion if NMED is reviewing the HAFB Response to the 19 Jan 00 NOD, as was stated in NMED's 16 Oct 02 NOD.</p>	<p>Issue resolved.</p>

<p>6. <b>Section C-2.1</b>, Paragraph 2, describing waste characterization via sampling and analysis, does not belong in a section describing process/acceptable knowledge. NMED recommends that this paragraph be included in a separate section on “characterization re-evaluation”. Regarding waste characterization re-evaluation, 40 CFR § 264.13 requires that a WAP specify the frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date. The only other section of the WAP to address waste characterization re-evaluation is at Section C-4.1, and that section addresses wastes characterized using sampling and analysis while it does not address characterization using acceptable knowledge. The WAP must address waste characterization as provided at Appendix III.</p>	<p>6. This added section is not needed. Refer to the HAFB Response to the 19 Jan 00 NOD. Reevaluation of KOP is located in section C-2.1 under <u>Process Knowledge</u>. Section C-4.1 addresses reevaluation of characterizations accomplished by sampling and analysis.</p>	<p>NMED will discuss internally if change is necessary.</p>
<p>7. <b>Section C-2.1</b>: This Section must be augmented with commitment to provide a minimum amount of process information for each waste stream. This information is provided in Appendix II.</p>	<p>7. Refer to the HAFB Response to the 19 Jan 00 NOD. Table C-1, required by the first 2 NODs, addresses this.</p>	<p>Issue resolved.</p>
<p>8. <b>Section C-2.1</b>: Section Paragraph 2, Sentence 3 refers to “routinely generated” wastes as wastes required to undergo sampling and analysis. Routinely generated wastes may be characterized either by sampling and analysis or by acceptable knowledge so long as all DQOs are attained. Routinely generated wastes will be required to undergo periodic re-evaluation and because of the term’s distinction with regard to non-routinely generated wastes, NMED recommends HAFB add the following definition to the WAP: <i>Routinely generated waste</i> means waste generated from regular activities, a waste stream of a predictable quantity and characterization, and a wastes that is not part of environmental restoration activities. Routine waste may be from any production or maintenance operation, analytical and/or R&amp;D laboratory operations; or any other periodic and recurring work that is considered on-going in nature.</p>	<p>8. We do not fully understand the comment. We also request a regulatory reference for DQOs. The reference to “routinely generated” wastes in the HAFB Response to the 19 Jan 00 NOD refers to waste streams for which characterization by KOP is not possible. A definition should not be necessary.</p>	<p>Issue resolved.</p>
<p>9. <b>Section C-2.1</b>: Section Paragraph 3 discusses the limited degree of waste characteristic variation of routinely generated wastes. It must be recognized that although the waste codes associated with the wastes may not vary, the LDR status of the wastes may vary due to the stringent nature of the LDR treatment standards.</p>	<p>9. Recognized. Refer to the HAFB Response to the 19 Jan 00 NOD. Section C-3.2.2 addresses LDRs.</p>	<p>Issue resolved.</p>
<p>10. <b>Section C-2.1</b>: Section Paragraph 3 references Military Specifications (MILSPECs) and Technical Orders (TOs) as military requirements limiting the variation of waste streams. As an example, T.O. 1-1-8, USAF Standard Coating Systems for Aircraft and Equipment, references many (greater than twenty) different products used in painting military aircraft. This TO is used by another NM Air Force facility, and presumably HAFB, to identify all possible hazardous waste constituents in a waste stream possibly titled “liquid paint wastes”. If HAFB uses this TO for a similar waste stream (see Section C-2.2, Paragraph 1, Item 1, “Waste paint and paint related waste”) without further limitations on the content of that waste stream, HAFB must commit to identifying all those products and all related hazardous constituents in those products to fulfill LDR status determination requirements.</p>	<p>10. Holloman AFB has a unique operation with different types of planes. Variation such as identified in the NMED comment is not allowed. Refer to HAFB Response to the 19 Jan 00 NOD, Table C-1 for this information. There should be no confusion if NMED is reviewing the HAFB Response to the 19 Jan 00 NOD, as was stated in NMED’s 16 Oct 02 NOD.</p>	<p>Issue resolved.</p>

<p>11. <b>Section C-2.2:</b> Section Paragraph 1, Bullet 5 refers to lab packs. HAFB must recognize in the WAP that hazardous wastes placed inside overpacked drums shall be characterized to ensure that they do not react dangerously with, act to decompose, or ignite the sorbent material added to the drum as required by 20.4.1.500 NMAC, incorporating 40 CFR § 264.316 (c)). These wastes shall be characterized to ensure that they are not incompatible as required by 20.4.1.500 NMAC , incorporating 40 CFR § 264.316 (d)) and that they are not reactive as required by 20.4.1.500 NMAC, incorporating 40 CFR § 264.317 (e)). Laboratory packs themselves shall be characterized, if they may undergo the alternative treatment standards at 40 CFR § 268.42 (c), as to whether they contain hazardous wastes with the EPA Hazardous Waste Codes specified at 40 CFR Part 268 Appendix IV.</p>	<p>11. Refer to the HAFB Response to the 19 Jan 00 NOD. See Figure C-1. All are characterized.</p>	<p>As directed by NMED, Holloman included language provided.</p>
<p>12. <b>Section C-2.2:</b> Section Paragraph 1, Bullet 7 refers to spent fluorescent and mercury light bulbs. 40 CFR 270.1 (c)(2)(viii) specifically excludes universal waste handlers from having to operate under a permit. The exclusion goes on to say that the handlers are subject to 40 CFR 273. Table C-1, Wastes Generated category 14 refers to “fluorescent bulbs – crushed” and category 16 refers to “spent batteries”. Note that HAFB may manage these wastes as universal wastes instead of hazardous wastes through a permit. If it is HAFB’s intent to manage spent bulbs as hazardous waste and to crush them, HAFB must be cautioned because the process of crushing meets the definition of hazardous waste treatment that may therefore require a treatment permit, under Subpart X (Miscellaneous Units). A treatment permit may be avoided if the crushing process occurs in a 90-day tank or container but 40 CFR § 265.173 (a) must be addressed (i.e., the container must be closed except when necessary to add or remove waste). (See McCoy and Associates, Inc., RCRA Unraveled, 2001 Edition (<b>McCoy 2001</b>) section on universal wastes).</p>	<p>12. Crushed fluorescent light bulbs have been tested and verified non-RCRA waste.</p> <p>HAFB recognizes the need to ensure crushing occurs at the 90-day point.</p>	<p>Issue resolved.</p>
<p>13. <b>Section C-2.2:</b> Section Paragraph 1, Item 7 refers to scrap metal. HAFB must specify in the WAP, the methods of determining the contaminants subject to treatment, as required by 20.4.1.500 NMAC, incorporating 40 CFR § 268.45 (b).</p>	<p>13. There is no contaminant when dealing with scrap metal. Scrap metal is excluded from solid and hazardous waste management. See 40 CFR 261.4 (a) (13).</p>	<p>As agreed, Holloman removed “Scrap Metal”</p>
<p>14. <b>Section C-2.2:</b> Section Paragraph 3, Sentence 1 refers to Table C-1 as outlining the parameters of concern for the major waste categories. For the WAP to be complete, Table C-1, or an equivalent table, must also address all possible hazardous <u>constituents</u> in each waste stream as required by 40 CFR §§ 268.7, 268.40, and 268.48.</p>	<p>14. Refer to the HAFB Response to the 19 Jan 00 NOD. See Section C-3 for further discussion.</p>	<p>As directed by NMED, additional language was included in Table C-1 footnote.</p>
<p>15. <b>Section C-2.2:</b> Section Paragraph 3, Sentence 1 refers to Table C-1 as outlining the parameters of concern for the major waste categories. Table C-1 references the LDR subcategories “wastewater” and “non-wastewater”. The WAP must reference the characterization methods for these two subcategories as specified at 40 CFR §§ 268.2 (d) and (f).</p>	<p>15. Refer to the HAFB Response to the 19 Jan 00 NOD. See the whole section C-2. 40 CFR 268.2 (d) and (f) are merely definitions and no characterization methods are required.</p>	<p>As directed by NMED, a reference of the definition of wastewater and non-wastewater was added in Table C-1 footnote.</p>

<p>16. <b>Section C-2.2:</b> Section Paragraph 3, Sentence 1 refers to Table C-1 as outlining the parameters of concern for the major waste categories. Table C-1, Footnote 2 states that “other analytical methods may be substituted or included as deemed appropriate”. This footnote must include the qualifier included at WAP Section C-4.5, Paragraph 2, Sentence 4, “with the prior approval of NMED”.</p>	<p>16. Refer to the HAFB Response to the 19 Jan 00 NOD. Our response did not include the phrase “with prior approval of NMED.” There should be no confusion if NMED is reviewing the HAFB Response to the 19 Jan 00 NOD, as was stated in NMED’s 16 Oct 02 NOD.</p>	<p>Issue resolved.</p>
<p>17. <b>Section C-2.3:</b> Section Sentence 4 inappropriately cites 40 CFR § 270.32 (b)(2).</p>	<p>17. The citation is correct. It is for “Terms and Conditions specified by the Administration...”</p>	<p>Issue resolved. Typo.</p>
<p>18. <b>Section C-2.3:</b> Section Sentence 3 refers to Figure C-1 as a description of waste tracking procedures. Figure C-1 is completely illegible.</p>	<p>18. Refer to the HAFB Response to the 19 Jan 00 NOD. Figure C-1 is perfectly legible. A high -resolution printer must be used to print the figure.</p>	<p>Issue resolved.</p>
<p>19. <b>Section C-3:</b> Section Paragraph 1, Sentence 2 refers to “fingerprinting” analysis without clarifying what is meant by the term. EPA’s Publication of 1994 defines the term at Section 2.5 as analyses “... used to provide an indication of whether the waste has been accurately identified by the generator ...”. The term is generally applicable to treatment, storage or disposal facilities (TSDFs) receiving wastes from an off-site facility. Fingerprint analyses typically include testing for; ignitability, free liquids, specific gravity and other parameters. The WAP must specify what is meant by the term “fingerprint analysis” and what the waste is being tested for.</p>	<p>19. Refer to the HAFB Response to the 19 Jan 00 NOD. Sentence 2 does not refer to “fingerprinting” analysis, and we ask that it not be used here because our storage facility is not the ultimate destination for the waste. There should be no confusion if NMED is reviewing the HAFB Response to the 19 Jan 00 NOD, as was stated in NMED’s 16 Oct 02 NOD.</p>	<p>Issue resolved.</p>
<p>20. <b>Section C-3:</b> Section Paragraph 1, Sentence 3 states that the objective of sampling includes, among other things, to determine compliance with applicable regulatory requirements. This section must specifically cite or reference the regulations identified in the DQOs referred to in Section Specific Comment #5.</p>	<p>20. Please provide the regulatory citation for DQOs. These are not required by regulation.</p>	<p>Issue resolved.</p>
<p>21. <b>Section C-3:</b> Section Paragraph 1, Sentence 3, Bullet 4 states that the objectives of sampling are to “provide relevant data for use in making disposal decisions”. The WAP should identify that relevant data and that data should include a determination of the presence of free liquids and the biodegradability of sorbents used to treat free liquids as address at 20.4.1.500 NMAC, incorporating 40 CFR §§ 264.314 (c) and (e) respectively. [Note that characterization of the biodegradability of sorbents need not be performed via sampling and analysis and may be performed via (AK).</p>	<p>21. The regulation cited in the comment is only for bulk and containerized liquids. Please clarify what is needed.</p>	<p>As directed by NMED, Holloman added language committing to using biodegradable sorbents.</p>
<p>22. <b>Section C-3.1:</b> This section elaborates in subsections on the criteria and rationale for parameter selection for a majority of HAFB’s wastes. These subsections fail to sufficiently elaborate on the requirement to determine the LDR status of the wastes. For example, identification of all hazardous constituents in the waste by examining associated MILSPECs, TOs, and MSDSs, and characterizing characteristic waste for all inorganic constituents including the 14 metals listed at the back of the table at 40 CFR § 268.48, Universal Treatment Standards.</p>	<p>22. Refer to the HAFB Response to the 19 Jan 00 NOD. See section C-3.2.2.</p>	<p>Issue resolved.</p>
<p>23. <b>Section C-3.2:</b> Section Sentence 2 references the requirements of 20.4.1.500 NMAC, incorporating 40 CFR § 264.13(b)(6). Subsequent sections fail to address the RCRA air emission requirements referenced in that regulation. (See General Comment #3)</p>	<p>23. This is addressed in the Jan 98 permit application section D-7.</p>	<p>Issue resolved.</p>

<p>24. <b>Section C-3.2.1:</b> The section addresses characterization of wastes for their ignitability, reactivity and compatibility. The section fails to specify the following applicable compatibility groups the wastes must be categorized for; oxidizers, corrosive acids, wastes reactive with water, and corrosive bases. The WAP must be augmented accordingly. EPA document “<i>A Method of Determining the Compatibility of Hazardous Wastes</i>” (EPA-600/2-80-076) is referenced in EPA 1994 as containing procedures to evaluate qualitatively the compatibility of various categories of waste.</p>	<p>24. This information is addressed in the Jan 98 permit application section D.</p>	<p>Issue resolved.</p>
<p>25. <b>Section C-3.2.1:</b> Section Paragraph 3 references a Section C-5 that doesn’t appear to exist or the reference is somehow inappropriate.</p>	<p>25. Refer to the HAFB Response to the 19 Jan 00 NOD. The reference is to Section D-5 which is correct. There should be no confusion if NMED is reviewing the HAFB Response to the 19 Jan 00 NOD, as was stated in NMED’s 16 Oct 02 NOD.</p>	<p>Issue resolved.</p>
<p>26. <b>Section C-3.2.2:</b> This Section simply reiterates the HAFB’s waste characterization requirements regarding LDR compliance without clearly specifying how HAFB will adhere to its those requirements. The LDRs are the most complex elements of the RCRA regulatory program due to several factors. First, major categories of waste (e.g., characteristic wastes) are separated into different subcategories and treatability groups that must be identified. Second, different types of treatment standards and different effective dates apply to these waste groups. These too must be identified. Finally, complicated procedures are required to deal with waste mixtures that have constituents with overlapping regulatory requirements. HAFB must significantly elaborate on how it will characterize wastes to determine their LDR status. See Section-Specific Comments 10, 11, 23, and 28 and EPA 2001 for guidance.</p>	<p>26. No elaboration is required by regulation. Refer to the HAFB Response to the 19 Jan 00 NOD. We feel we have met the intent of the regulation.</p>	<p>As directed by NMED, Holloman added the language provided.</p>
<p>27. <b>Section C-3.2.2:</b> Section Paragraph 1, Sentence 7 states that underlying hazardous constituents (UHCs) “shall be characterized using the methods specified” at 40 CFR § 268.9. That regulation does not specify methods for characterizing a waste for its UHCs. (See Section Specific Comments 10, 11, 23, and 27)</p>	<p>27. Refer to the HAFB Response to the 19 Jan 00 NOD. It is specified for wastes that exhibit a characteristic which should be and was cited.</p>	<p>Issue resolved.</p>
<p>28. <b>Section C-4.1:</b> This section must commit to using the number of samples and sampling design specific to the waste being sampled that complies SW-846 Chapter 9. The sampling design must ensure collection of a representative sample of wastes by means that preserve its original physical form and composition and ensure prevention of contamination or changes in concentration of the constituents to be analyzed.</p>	<p>28. We feel this has been adequately addressed in the HAFB Response to the 19 Jan 00 NOD.</p>	<p>As directed by NMED, Holloman changed the language to reflect use of appropriate EPA sampling methods.</p>
<p>29. <b>Section C-4.4:</b> This section must commit to characterizing the appropriate number of samples of each waste needed to demonstrate that the upper limit of the confidence interval for the population mean is less than the applicable regulatory threshold, in compliance with SW-846. Furthermore, the WAP specifically must commit to the sampling quality assurance objective specified at Appendix IV.</p>	<p>29. Refer to the HAFB Response to the 19 Jan 00 NOD. Although not required by regulation, commitment is already made in the WAP.</p>	<p>As directed by NMED, Holloman added the language provided.</p>

<p>30. <b>Section C-4.5:</b> This section must commit to using analytical method detection limits (<b>MDL's</b>) that are not higher than the applicable LDR treatment standard. Furthermore, the WAP specifically must commit to the laboratory analysis quality assurance objective specified at Appendix IV.</p>	<p>30. Refer to the HAFB Response to the 19 Jan 00 NOD. Although not required by regulation, commitment is already made in the WAP.</p>	<p>As directed by NMED, Holloman added the language provided.</p>
<p><b>Appendix I Data Quality Objectives (DQOs)</b></p>		
<p>Waste characterization data obtained through WAP implementation shall be used to ensure that the Permittee meets regulatory obligations at permitted hazardous waste storage units. A portion of the DQOs that shall be met for all waste characterization will be to comply with the following applicable Resource Conservation and Recovery Act (<b>RCRA</b>) regulatory requirements:</p> <ol style="list-style-type: none"> <li>1. To determine all information which must be known to treat, store and dispose of the wastes in accordance with New Mexico's Hazardous Waste Regulations (264.13 (a)(1));</li> <li>2. To determine if the waste is hazardous (262. 10 (c), 262.11);</li> <li>3. To ascertain the hazardous constituents in a waste stream to identify all applicable hazardous waste codes and all underlying hazardous constituents (262.11, 268.7 (a)(2)), and 268.9 (a));</li> <li>4. To ascertain whether the waste must be treated before it can be land disposed (268.7 and 268.9);</li> <li>5. To ascertain whether a routine waste generating process has changed sufficiently to create a new waste stream and alternative regulatory requirements (264.13 (a)(3)(i), 268.7 (a)(3)(iii), and 268.7 (b)(3)(ii));</li> <li>6. To facilitate appropriate waste packaging for transportation (262.10 (h));</li> <li>7. To ascertain the presence and concentration of wastes constituents that might cause unlawful air emissions (270.25 (a), 264.179, 264.200, 264.13 (b)(6), 264.601 (c)(1), 2641050, and 264.1082);</li> <li>8. To ensure that wastes are not inappropriately diluted to avoid LDR treatment requirements (268.3);</li> <li>9. To determine the presence of prohibited materials (268.50 (f));</li> <li>10. To determine the presence of free liquids in wastes (270.15 (b)(1), 264.13 (b)(6));</li> <li>11. To ascertain waste/waste and waste/container compatibility characteristics (270.15, 270.16, 264.172, 264.177, and 264.199); and</li> <li>12. To ascertain waste ignitability and reactivity characteristics (270.16 (j), 264.17 (a), and 264.198 (a)).</li> </ol>		

**Appendix II Waste Process Information**

The Permittee shall obtain process knowledge documentation from the generator that is explicitly relevant and traceable to each waste stream. The following information presents process knowledge the Permittee is required to obtain:

1. Area(s) and/or building(s) from which the waste stream was or is generated;
2. Waste stream volume and time period of generation;
3. Description of waste generating process; and
4. Material inputs or other information that identifies the chemical content of the waste stream and the physical waste form.

**Appendix III Re-evaluation Frequency**

The Permittee shall re-evaluate the initial analysis of routinely generated wastes to ensure that the analysis remains accurate and up to date for subsequent batches of waste as required by 20.4.1.500 NMAC (incorporating 40 CFR § 264.13 (b)(4)). Waste re-evaluation shall be performed at a minimum under the following conditions:

1. Annually to verify the accuracy of initial characterization results. For wastes characterized through sampling and analysis, re-evaluation shall be achieved using the same sampling and analysis methodologies used in the initial analysis. For wastes characterized through AK, re-evaluation shall be achieved through a review of AK information.
2. When there is a change in waste-generating processes. Any information that indicates a change in the process that generates the waste and may affect the waste shall cause the waste to be re-characterized; and
3. When the Permittee is notified by an off-site TSDF that the characterization of the waste received at the TSDF does not match a pre-approved waste analysis certification and/or accompanying waste manifest or shipping paper. Should the Permittee's receive such a notice, the Permittee shall notify the NMED permit manager of this notification within 24 hours.

Unused commercial chemical products, reagents, or chemicals of known physical and chemical constituents (i.e., P or U-listed wastes) with Material Safety Data Sheet (MSDS) or similar information from manufacturer identifying chemical content of will not be included in this re-evaluation.

**Appendix IV Sampling Quality Assurance**

The Permittee shall ensure that all waste characterization information is accurate by making the following determinations:

1. Whether the waste was characterized at the point of generation, in compliance with 40 CFR §§ 268.7(a)(3) and 268.9(c);
2. Whether routinely generated wastes are re-characterized to ensure the waste's characterization is accurate and up to date 40 CFR § 264.13(a)(3);
3. Whether generators have appropriately identified when the process or operation generating routinely generated wastes has changed; in compliance with 40 CFR § 264.13(a)(3)(i); and
4. Whether generators are trained in the applicable waste characterization requirements as required by 40 CFR § 264.16.

The Permittee shall perform and report all waste characterization quality control (QC) procedures in accordance with SW-846 Chapter 1, Section 3.4, Field QA and QC Requirements, including, but not limited to, field equipment calibration. When performing waste characterization, the Permittee shall document the number of control samples, for example trip and field blanks, field duplicates, and field spikes associated with each sample collected. The Permittee shall maintain a record of these determinations in an auditable waste characterization document.

#### **Appendix V Laboratory Analysis Quality Assurance**

The Permittee shall evaluate laboratory analysis by addressing the precision, accuracy, completeness, comparability, and representativeness of the data used to support waste characterizations.

1. Precision measures the reproducibility of measurement under a given set of conditions. It is a quantitative measure of the variability of a group of measurements comparable to their average value.
  2. Accuracy is the degree of agreement between an observed sample result and the true value.
  3. Completeness is the percentage of measurements made which are judged to be valid.
  4. Comparability - Data are considered comparable when one set of data can be compared to another set of data. Comparability is ensured through meeting the training requirements and developing waste characterization documentation following a standardized procedure and documentation content.
  5. Representativeness expresses the degree to which sample data accurately and precisely represent characteristics of a population. Representativeness is a qualitative parameter that will be satisfied by ensuring that the process of obtaining, evaluating, and documenting waste characterization information is performed in accordance with the minimum standards established in the permit.
- The Permittee shall analyze method blanks, laboratory duplicates, and laboratory control samples to assess the quality of the data resulting from laboratory analytical programs. If the Permittee use a contract laboratory to perform analyses, then the Permittee shall inform the laboratory in writing that it must operate under the waste analysis conditions set forth in the permit.

## Appendix VI Acceptable Knowledge

The Permittee shall obtain the waste characterization information by sampling and analysis of the waste or by use of Acceptable knowledge (AK). AK is defined in EPA guidance, "*Waste Analysis at Facilities that Generate, Treat, Store, and Dispose of Hazardous Waste*" dated April 1994 as process knowledge and prior sampling data performed before the effective date of RCRA regulations. Current sampling and analysis is the preferred method, and the Permittee shall obtain characterization by sampling and analysis whenever feasible. AK may be used as the sole method to characterize waste only when the waste is from processes that are well documented with supporting information that address all characterization requirements of the permit, including the requirement to determine the LDR status of the waste. If the existing data do not fulfill the above criteria, and sampling and analysis is used to characterize a waste, the Permittee shall develop a sampling and analysis plan for that waste identifying the sampling and laboratory analytical methods appropriate to identify and quantify potential contaminants in the waste stream for characterization of that waste.

The Permittee may use AK to comply with the waste characterization requirements if the following or equivalent criteria are met:

1. The waste is an unused, commercial, chemical product, reagent, or chemical of known physical and chemical constituents, for example is a P or U-listed EPA Hazardous Waste Number under 20.4.1.200 NMAC (incorporating 40 CFR § 261.33), and the characterization is based on a Material Safety Data Sheet or equivalent information supplied by the manufacturer and identifying the chemical content of the waste;
2. Health and safety risks to personnel would result from sampling and analysis, for example of mixed or explosive waste, and this risk is documented by reports or other written documentation signed by appropriate site personnel responsible for assessing health and safety risk; or
3. The physical nature of the waste precludes collection of a representative sample, for example of heterogeneous debris waste, and the physical nature of the waste is documented by a detailed written description of the waste identifying the specific characteristics of the waste that make sampling or analysis unachievable.

The Permittee shall maintain written documentation supporting the use of AK for each waste stream. The Permittee shall include in the record all specific AK documentation assembled and used in the AK process, whether or not it supports the decision to use AK.

NMED 22 Apr 99 NOD Issues	NMED 19 Jan 00 NOD Issues	Additional Comments
<p>The WAP does not identify the specific waste streams that will be characterized based on process knowledge.</p> <p>The WAP does not provide historical analytical data and those waste stream that will be characterized by direct analyses.</p> <p>The WAP does not indicate how often Holloman will review or repeat the initial analyses for each waste stream as required by 40 CFR 264.13 (b)(4).</p> <p>The WAP does not describe how Holloman will determine that the process or operation generating the waste stream has changed as required by 40 CFR 264.13(a)(i)</p> <p>The WAP does not describe how Holloman will meet the LDR waste analysis and record keeping requirements of 40 CFR 264.7 for each waste stream as required by 40 CFR 264.13(b)(6)</p> <p>The WAP does not specify the associated parameters and rationale required by 40 CFR 264.13(b)(1)</p> <p>The WAP does not specify the test methods required by 40 CFR 264.13(b)(2) for each waste stream</p> <p>The WAP does not specify the sampling methods required by 40 CFR 264.13(b)(3) for each waste stream.</p> <p>Please revise the WAP as follows:  --Use EPA guidance Table 4-7 outline.  --Provide in table format a summary of waste characterization info for each waste stream and indicate those that will be characterized based on process-knowledge or historical analytical data and those based on direct analysis. --Provide a table that contains infor summarizing the hazardous waste code determination—name of waste stream, process generating, EPA waste code, parameters of concern, analytical test methods, sampling frequency, review frequency, hazardous properties of waste, chemical analyses.</p> <p>Provide a second table that contains information summarizing compliance with LDR. Include:  --name of waste stream  --EPA waste codes  --LDR category  --basis for LDR classification  --parameters of concern</p>	<p>Provide the average amount/volume of each easte 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).</p> <p>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).</p> <p>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).</p> <p>Explain how the waste is tracked from the time it is generated to the time is 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.</p> <p>“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).</p> <p>(In Table) 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).:</p> <ol style="list-style-type: none"> <li>1) Process Generating Each Waste Category, and</li> <li>2) Locations at which waste is generated.</li> </ol> <p>Re-organize Column 2 of Table C-1 to contain both the waste type and characteristic under it, as specified by 20 NMAC 4.1.500 and .900 (incorporating 40 CFR 264.13(b) and 270.32(b)(2).</p> <p>Since the WAP does not identify the specific waste streams that will be characterized based on process knowledge, HAFB must provide</p>	

- analytical test methods
- sampling frequency
- review frequency
- chemical analysis
- LDR treatment standard

Provide a table that contains info summarizing the sample collection requirements. Include:

- name of waste stream
- EPA waste codes
- sample collection methods
- sample type for hazardous waste determination
- sample type for ensuring compliance with LDR treatment standards
- sampling equipment
- sampling preservation and storage

If all or part of the hazardous waste determination or compliance with LDR treatment standards is based on process-knowledge or historical analytical data (instead of testing), provide the following information for each waste stream:

- documentation of the process-knowledge
- table summary of all historical analytical data
- explanation of how Holloman tracks and documents the process knowledge or historical analytical data
- explanation of how and when Holloman reviews and updates the process knowledge and historical analytical data, and
- examples of the auditable documentation that is used to help implement the review and update of the process knowledge and historical analytical data (e.g., procedure for assigning hazardous waste codes and ensuring compliance with LDR treatment standards for each waste stream, procedure of resolving discrepancies in the waste analysis documentation, procedure for confirming the process knowledge or historical analytical data, annual review checklists).

Explain how the waste is tracked from the time it is generated to the time it leaves permitted 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. Provide examples of the tracking documents (e.g., waste profile forms, container labels, bar codes).

Provide sampling quality assurance/quality control (QA/QC) program and an example of chain-of custody form.

an extra column in Table C-1 indicating the Basis for Hazard Classification as shown in the Table (i.e., process knowledge, analysis or both).

Provide an additional column to Table C-1, indicating whether or not he bulk contaminate concentration of each waste stream Exceed or Doesn't Exceed LDR Standards

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