CAFT 99-005

DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 27th FIGHTER WING (ACC)
CANNON AIR FORCE BASE NEW MEXICO

DEC 10 2001

Colonel Charles M. Dodd, III
Vice Commander
100 S DL Ingram Blvd Ste 100
Cannon AFB, NM 88103-5214

DEC 2001
RECEIVED

Mr. Glenn von Gonten
RCRA Permit Management Program
New Mexico Environment Department
Hazardous and Radioactive Materials Bureau
PO Box 26110
Santa Fe, NM 87504-0968

Dear Mr. von Gonten

This letter is in response to your 6 Nov 01 Request of Supplemental Information of the Cannon Air Force Base RCRA Permit Renewal Application. The requested changes are outlined in attachment 1 and the enclosed CD includes the revisions to the permit application and the Hazardous Waste Analysis Plan (HWAP).

Please feel free to contact Mrs. Vera Wood at (505) 784-1097 or Mr. Don White at (505) 784-2739 if you have any questions or require additional information.

Sincerely

CHARLES M. DODD, III, Colonel, USAF

Attachments:
1. Response to Request for Supplemental Information
2. CD ROM RCRA Permit Application & HWAP

ATTACHMENT 1

The following corrections are in response to NMED Hazardous Waste Bureau's November 6, 2001 RSI.

No.	Comment:	Section.	Correction:
1.	1	1.1	Spelling correction to latitude, page 1
2.	1	3.2.3	Delete "also known as the", page 9
3.	1	3.2.3	OIL now reads Oil, page 13
4.	1	3.3.1	Spelling correction to Environmental, page 21
5.	1	7.1	Spelling corrections to compound, administrative and Building, page 37
6.	1	7.7.2	Spelling correction to building, page 46
7.	1	7.10.2	Spelling correction to information, page 48
8.	1	13.7.2.1.b	Spelling correction to Chromatography, page 66
9.	1	15.1.1.	Spelling correction to facility, page 73
10.	1	16.1.6, 23	Spelling correction to Facility, page 98
11.	1	16.1.6, 25	Spelling correction to Corporation, page 98
13.	1	16.2. SWMU No. 7	Spelling correction to received, page 103
14.	1	16.2, SWMU No. 38	Spelling correction to active, page 106
15.	1	16.2, SWMU No 38	Repeated
16.	1	16.2, SWMU No. 57	Spelling correction to grease, page 109
17.	1	16.2, SWMU No. 70	Spelling correction o system, page 109
18.	1	16.2, SWMU No. 86, 87…	Spelling correction to Remedial, page 115
19.	1	16.2, SWMU No. 104	Spelling correction to Baseline, page 119
20.	1	16.2, SWMU No. 105	Spelling correction to well, page 120
21.	1	16.2, SWMU No. 106	Spelling correction to Investigation, page 120
22.	1	16.2, SWMU No. 108	Spelling correction to continues, page 121
23.	2	CAFB's application	Reference to former title of Hazardous Radioactive Materials Bureau (HRMB) have been corrected to current term Hazardous Waste Bureau (HWB)
24.	3	Waste Analysis Plan	Adopting NMED suggestion to reformat the application to refer to the "Hazardous Waste Analysis Plan" to avoid conflict in Section 3 and the Waste Analysis Plan/Hazardous Waste

			Analysis Plan (WAP/HWAP)
25.	Comment 4 HWAP Table of Contents	Section 3.2	Formatting error corrections at Waste Analysis Parameter Selection
26.	5	3.2	Adopt NMED recommendation to revise section to indicate waste analysis will be compared with the approved EPA Waste Codes that will be specified in the permit…
27.	6	Table 3-1	Spelling correction to Analysis Parameters
28.	7	Table 3-1 3.3	Text revision adopted per recommendation of "known or"…
29.	8	3.3.2.	Change to read SW-846 Method 1311
30.	9	3.3	Change revision to include recommendation of Non-aqueous and/or organic liquids suspected of being corrosive will be tested using the NACE method TM-01-69 to determine the materials ability to corrode steel.
31.	10	Table 4-2	Revision reflects SW-846 Method 8270 rather than Method 625 for semi volatile organics (liquid and solid)
32.	11	4.4.3	CAFB cannot take action until State personnel provide policy and guidance Statewide. CAFB previously forwarded shipping paper copies to the State and were asked to cease this practice due to insufficient personnel to review, document and lack of storage. NMED Enforcement and Inspection branch reviews shipping papers on site. Awaiting NMED feedback for a point of contract and where to forward shipping papers per Vera Wood and Mr. von Gotten telephone conversation.
33.	12	6	Substantial revisions throughout this section
34.	13	6.2.	Same as above
35.	14	6.2.2	Same as above
36.	15	8.3	Revision reflects "will"

NM7572122454

40 CFR 270.11 (d) Certification.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or person who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(Clean Water Act) 33 IU/S/C/ 1251 *et seq.*), Safe Drinking Water Act (42 U.S.C. 300f *et seq.*), Clean Air Act (42 U.S.C. 7401 *et seq.),* Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*))

[48 FR 14228, Apr. 1, 1983, as amended at 48 FR 39622, Sep. 1, 1983]

CHARLES M. DODD, III, Colonel, USAF
Vice Commander

SECTION 1

GENERAL BASE AND FACILITY DESCRIPTIONS

This section has been prepared in accordance with 40 CFR 270.14(b)(1).

1.1 CANNON AIR FORCE BASE

Cannon Air Force Base (AFB) is an Air Combat Command installation located in eastern New Mexico, near the Texas Panhandle (based on World Grid System 1984 (WGS84) in accordance with threshold of Runway 22 Cannon AFB latitude is 34 degrees 23 minutes and 46.168 seconds and longitude is 103 degrees 18 minutes and 30.459 seconds). The base is located in Curry County, approximately 7 miles west of Clovis and 15 miles north of Portales and is surrounded by agricultural land use. Figure 1-1 shows the location of the base in relation to Clovis.

Cannon AFB is home to the 27th Fighter Wing. Cannon AFB's primary mission is to support a fighter aircraft wing that is capable of day, night, and all-weather combat operations and is available for worldwide deployment.

Cannon AFB is a large quantity hazardous waste generator and its hazardous waste storage facility (HWSF) is currently operating under a Resource Conservation and Recovery Act (RCRA) Hazardous Waste Facility Permit issued on October 16, 1989 (Permit Number NM 7572124454-1). The Environmental Flight within the 27th Civil Engineering Squadron is responsible for compliance with this permit and is initiating this application under Title 40 Code of Federal Regulations (CFR) Part 270 Subpart E to ensure that Cannon AFB maintains full compliance with current regulations.

Cannon AFB was issued a hazardous waste permit under I.D. Number NM7572124454 on December 17, 1989 by Region 6 of the United States Environmental Protection Agency. The permit was issued pursuant to the 1984 Hazardous and Solid Waste Amendments to RCRA (HSWA), and was issued to incorporate HSWA requirements, including corrective action for releases of hazardous constituents from solid waste management units (SWMUs) on Base. This permit application addresses the conditions and the SWMUs addressed in the USEPA HSWA permit in order to consolidate all hazardous waste permit requirements into one permit, to be issued by the New Mexico Environment Department (NMED).

Defense Reutilization and Marketing Office (DRMS) marked its 25th anniversary in 1997, but the services it provides the Department of Defense dates back to the end of World War II.

Huge amounts of surplus property had to be disposed of after the war ended. Organizations were created to reduce the stockpile, but the return on their sales was small and they were soon disbanded. Property disposal later reappeared through the Federal Property and

SECTION 3

WASTE ANALYSIS PLAN

Section 3 provides the Waste Analysis Plan (WAP) for Cannon AFB as required by 40 CFR 264.13(a), (b) and (c); 40 CFR 270.14(b)(3); New Mexico Regulations; and Air Force policy. The WAP applies to Cannon AFB waste streams that are transferred to the permitted HWSF (Building 226, 110 W Street). This WAP provides procedures for characterizing hazardous wastes to assure compliance with the federal and state Resource Conservation and Recovery Act (RCRA) requirements. The overall purpose of the WAP is to assure that adequate information is developed to characterize the hazardous waste so that it can be properly managed.

Guidance on waste analysis is provided in the Civil Engineers Environmental and Bioenvironmental Engineering Waste Analysis Plan for Cannon Air Force Base also known as the Waste Analysis Plan. This document contains procedures for identifying and evaluating hazardous waste streams in order to complete the Hazardous Waste Profile Sheet (HWPS) for each hazardous waste stream. The WAP describes detailed procedures for obtaining samples and physical and chemical analyses from associated waste generating activities at the Base. This plan includes procedures for selecting waste parameters for analysis, selecting waste sampling methods, documenting samples, identifying analytical methods, selecting facilities for analyzing samples, and reevaluating hazardous waste streams. Copies of WAP are located in Building 355, the Environmental Flight within the 27th Civil Engineering Squadron.

3.1 WASTE CHARACTERIZATION PROCEDURES

Wastes must be evaluated to determine if they are solid wastes as defined by 40 CFR 261.2. These wastes include a wide range of discarded materials (including solids, liquids, and containerized gases) which have been abandoned, recycled, or considered inherently waste-like. If the material is a solid waste, the solid waste must be evaluated to determine if it is also a hazardous waste. A solid waste is a hazardous waste if it has not been excluded from regulation and is a characteristic hazardous waste (e.g., ignitable, corrosive, reactive, or toxic), a listed hazardous waste, or a mixture of a listed hazardous waste and solid waste. The solid and hazardous waste identification process is depicted in Figure 3-1.

Under 40 CFR 262.11, if a solid waste is not excluded from regulation under 40 CFR 261.4 and is not listed as a hazardous waste in 40 CFR 261 Subpart D, the generator of the solid waste will determine if the waste is hazardous either by testing the waste according to the methods set forth in 40 CFR 261 Subpart C (or equivalent methods approved under 40 CFR 260.21), or by applying knowledge of the hazard characteristic of the waste in light of the materials or processes used in generating the waste. Table 3-1 of the WAP includes a list of analytical parameters for which each existing solid waste stream will be analyzed.

regulatory level listed in the table, then the waste is a hazardous waste. In addition, the flashpoint, pH, and stability of potentially hazardous waste streams will be tested to determine they exhibit the characteristic of ignitability, corrosivity and reactivity, respectively, in accordance with 40 CFR Subpart C.

When generator knowledge is sufficient to certify that the waste is not listed in 40 CFR 261 Subpart D, and none of the TCLP contaminants and none of the other characteristics listed in 40 CFR 261 Subpart C could possibly be present in or exhibited by a given waste stream, the components of each waste stream will still be defined on the HWPS. If generator knowledge is insufficient to determine whether a waste stream is characteristically hazardous or listed as hazardous, each waste stream will be tested according to the parameters outlined in Table 3-1 of the WAP. Testing of potentially hazardous waste streams will be conducted in accordance with the procedures outlined in US EPA Publication SW-846; specific analytical methods are listed in Appendix B of the WAP. Additional testing (e.g., BTU value, ash content, etc.) may be necessary based on the testing requirements specified in the disposal contract for the waste.

3.2.2 Existing Waste Streams

Table 3-2 lists all of the existing waste streams by waste stream number and identifies the specific parameters that are analyzed for each waste stream. Table 3-2 also includes a list of the analytical methods that will be used to analyze each of the parameters. Analytical methods listed correspond to the methods described in US EPA publication SW-846. Analyses will follow the listed method or the most recent US EPA-approved method for each parameter. The parameters for which each existing waste stream will be analyzed were selected based on information from the generators, the nation stock number (NSN) database, and material data safety sheets (MSDS).

3.2.3 Waste Oil

Oil that is burned for energy recovery is not regulated as a hazardous waste if it contains less than 1,000 parts per million (ppm) of total halogens. Waste oil, however, not used oil will be analyzed for arsenic, cadmium, chromium, lead, flashpoint, and total halogens (TOX) using the analytical methods listed in Appendix B of the WAP by submitting a representative sample of the waste oil to Bioenvironmental or a contractor four weeks prior to a scheduled pickup by the waste oil transporter. The characteristics of the waste oil marketed as fuel must be evaluated against the specifications for used oil fuel in accordance with US EPA regulations in 40 CFR 279.11 (including arsenic ($\leq$5ppm), cadmium ($\leq$2ppm), chromium ($\leq$10ppm), lead ($\leq$100ppm), flashpoint ($\geq$100°F), and TOX ($\leq$4,000ppm)); specific analytical methods are listed in Appendix B of the WAP.

3.2.4 Waste Streams Received from Off-Site Generators

Wastes are not accepted from off-site generating activities. Aircraft crash waste is managed in accordance with State of New Mexico disposition instructions on a case-by-case basis.

3.3 SAMPLE ANALYSIS FREQUENCY

3.3.1 New and Non-Routine Waste Streams

New, unknown or non-routine waste streams will always require analysis if generator knowledge is inadequate. The generator will prepare a draft HWPS prior to the initiation of a process that will generate a hazardous waste. The designated initial accumulation point (IAP) manager for a generator will contact CE Environmental Flight or Bioenvironmental for sampling and analysis to characterize the waste. The Environmental Flight or Bioenvironmental will provide information to the IAP manager on the analytical results. The IAP manager will then complete the final HWPS prior to the waste's shipment offsite.

3.3.2 High Volume Waste Streams

High volume waste streams are defined as those that generate more than three 55-gallon drums of waste per year. The Environmental Flight and/or Bioenvironmental will sample and analyze each high volume waste stream three consecutive times, then the base will review the waste streams annually thereafter unless there is a process or operation change. Analytical results will be maintained by the Environmental Flight. If the process or operation has changed, the results and assistance in completing the HWPS will be provided to generator by the Environmental Flight in order to ensure that the initial hazardous waste determinations are both accurate and current.

3.3.3 Low-Volume Waste Streams

Low-volume waste streams are those which generate three 55-gallon drums or less per year. The Environmental Flight and/or Bioenvironmental will review, or sample and analyze, each low-volume waste stream once every three years after the initial characterization unless there is a process or operation change that would necessitate sampling and analysis. Analytical results will be maintained by the Environmental Flight. If the process or operation has changed, the results and assistance in completing the HWPS will be provided to generator by the Environmental Flight in order to ensure that the initial hazardous waste determinations are both accurate and current. The updated HWPS will be submitted to HWSF personnel, but reevaluation may be based on generator knowledge for two consecutive years following the initial characterization.

SECTION 7

CONTINGENCY PLAN AND EMERGENCY PROCEDURES

This section has been prepared in accordance with 40 CFR 264 Subpart D and 270.14(b)(7).

7.1 INTRODUCTION

This contingency plan is specifically for the HWSF located on Cannon AFB. It amends and supplements the emergency response procedures described in the Facility Response Plan (FRP), which includes the Spill Prevention, Control, and Countermeasures (SPCC) Plan and the Base Disaster Preparedness Plan. These three plans are referred to collectively as the CAFB Contingency Plans. The Base Disaster Preparedness Plan is reviewed annually and the FRP/SPCC is reviewed tri-annually. Required changes are made following each review. Copies of both the FRP and the SPCC Plan are located in Building 355, the Environmental Flight within the 27th Civil Engineering Squadron. The HWSF is designated as Building 226 and is located within a fenced compound with administrative office, Building 315, and government storage warehouses for surplus and excess property. Cannon AFB stores containerized wastes in the HWSF. An estimated 10,720 liquid gallons in 85-gallon drums and smaller containers is the maximum storage capacity at the HWSF. A general site plan and a full description of the facility are contained in Section 15.2. An inventory of the waste streams generated as of this permit update is provided in Appendix C.

This contingency plan and the associated emergency procedures have been prepared in accordance with 40 CFR 264, Subpart D. The purpose of this plan is to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous constituents to air, soil, surface water, or groundwater at the HWSF. This plan describes the initial response and notification actions facility personnel must take in response to an emergency situation. In the unlikely event of such an occurrence, the provisions of this plan will be carried out immediately. A copy of this plan will be maintained at the facility.

The Cannon AFB Contingency Plans provide more detailed guidance and assign responsibility for the prevention and proper response to spills of oil, sewage, or hazardous substances. Section 7 supplements the general procedures outlined in these plans.

7.2 IMPLEMENTATION OF THE CONTINGENCY PLAN

The decision to implement the contingency plan depends upon whether or not an imminent or actual incident could threaten human health or the environment. This section provides guidance to the Emergency Coordinator in making sound decisions by providing criteria that must be considered in the decision-making process.

Implement the contingency plan in the following situations:

1. Fire and/or Explosion in or near the HWSF.

7.7 COMMUNICATIONS

7.7.1 Internal Communications

The HWSF is equipped with six manual-pull-alarm stations, four located within the facility and one located just outside each of the two entrances (north and south) to the facility. Personnel observing a fire, explosion, or an unplanned release of hazardous waste in the area may use one of these stations to notify facility personnel of an emergency situation. . In addition, they may use the alarm system to inform personnel if an evacuation is necessary. The locations of the pull stations are illustrated on Figure 15-1

7.7.2 External Communications

The HWSF is equipped with a telephone in the loading and unloading bay which may be used in the event of an emergency to summon emergency assistance.

If this phone is inaccessible, phones in the administrative building or other nearby offices may be used.

7.8 EVACUATION PROCEDURES

All emergencies require prompt and deliberate action. In the event of major emergency, it is necessary to follow an established set of procedures. Such established procedures will be followed as closely as possible; however, in specific emergency situations, the OSC may deviate from the procedures to provide a more effective plan for bringing the situation under control. The OSC is responsible for determining which emergency situations require the evacuation of additional personnel from the vicinity of the facility.

When an evacuation from the HWSF is necessary, the following actions will be taken:

1. Supervisor and/or personnel may initiate evacuation procedures of personnel from the HWSF and/or facility compound. Military police may be called to assist in informing all personnel of an emergency situation using loudspeakers.
2. No further entry of visitors, contractors, or trucks onto compound property will be permitted. All vehicle traffic within the compound will cease.
3. All personnel, visitors, and contractors will immediately leave through the main (north) exit gate and gather at the parking lot northwest of the compound.
4. Only people specifically authorized by the person or persons (i.e., the Supervisor or the OSC) calling for the evacuation can remain or re-enter the location. The person in charge is responsible for those persons within the perimeter. Those within the fenced area will normally only include fire brigade personnel or emergency teams.
5. Their immediate supervisors, who will ensure that personnel stay together and proceed to a safe location, will account for all persons.

7.10.2 Record Keeping

Summary reports and details of all incidents requiring implementation of the contingency plan will be prepared and kept with the facility operating records in accordance with information required by 40 CFR 264.56 (j).

7.11 CONTINGENCY PLAN REVIEW AND AMENDMENTS

This contingency plan will be reviewed and amended, in the following cases:

- The facility permit is revised.
- The plan fails in an emergency.
- The facility changes in its design, construction, operation, maintenance, or other circumstances. This includes any change that materially increases the potential for fires, explosions or releases of hazardous waste constituents, or changes the response necessary in an emergency.
- The list of emergency coordinators changes.
- The list of emergency equipment changes.

- The TOC concentration exceeds 25 mg/L, or;
- The TOX concentration exceeds 25 mg/L.

If the analysis indicates that the wash is hazardous, then the wash solutions will be collected, containerized, manifested, and properly disposed. Based on analytical results, Cannon AFB will determine if the washwater contains wastes subject to land disposal restrictions and will attach the appropriate certification/notification to the manifest. Washwater not found to be hazardous will be disposed of in accordance with applicable regulations (e.g., NPDES requirements) to the sanitary sewer system.

Will the decontamination process fail to adequately clean the concrete; the concrete will be broken up and containerized for disposal as hazardous waste.

13.7.2.1.b Environmental Sampling and Analysis

A minimum of four soil samples will be collected at various locations surrounding the HWSF. Surface samples will be collected initially. Samples will also be taken at any location which shows evidence of contamination. A representative background sample will be taken outside the area defined as potentially contaminated. The samples will be analyzed for TCLP characteristic waste, corrosivity, and organics by Gas Chromatography-Mass Spectroscopy according to the test methods outlined in US EPA Publication SW-846.

Comparison of the analytical data from the samples collected with the background samples will be made using the analysis of variance (ANOVA), Cochran's approximation to the Behrans-Fisher t-test, averaged replicate t-test, or other statistical methods to determine whether there is a statistically significant difference or change between the baseline and the soil samples. A probability level (confidence interval) of 95 percent has been selected for the baseline concentration upper level.

If contaminated soils are found, further sampling and analysis will be conducted to determine the lateral and vertical extent of contamination. If necessary, sampling will be repeated at increased depth and frequency. If results indicate that the contamination is more widespread than previously estimated, sampling will continue until a contamination profile can be constructed. All contaminated soil will be excavated and disposed of in accordance with applicable state and federal regulations. Discovery of contamination is considered an unexpected event during closure.

13.7.2.2 Case 2

Cracks or deterioration are found in the floor or containment system.

Samples of the floor and subsurface will be taken using standard core sampling techniques. The materials listed in operating records are those constituents stored at the unit. Tests will be performed on the subsurface generally, and specifically in areas of cracks and deterioration at zero, one, and three feet below the floor of the facility to detect subsurface soil contamination. A representative background sample will be taken outside the area defined as potentially

SECTION 15

SPECIFIC REQUIREMENTS FOR CONTAINERS

This section has been prepared in accordance with 40 CFR 262.31, 268.7(a)(1)(vi),270.15, and 49 CFR Subpart C.

15.1 MANAGEMENT OF CONTAINERS

The containers used for the storage of hazardous wastes at the HWSF are primarily 55-gallon drums that meet the US DoT specifications or military container specifications for the type of waste stored. Waste generators receive guidance about packaging requirements in accordance with US DoT regulations (49 CFR Subchapter C – Hazardous Material Regulations). Under 40 CFR 262.31, it is the responsibility of the generator to label all containers with the appropriate US DoT designations.

Containers holding waste are kept closed during storage, except when sampling is being performed. A container will not be opened, handled, or stored in a manner that may cause it to rupture or otherwise become damaged. Containers must be made of or lined with materials that will not react with, and are otherwise compatible with, the hazardous waste to be stored. Incompatible wastes are stored in separate bays.

15.1.1 Information Provided by the Generator

Department of Defense (DoD) regulations require those personnel turning in hazardous wastes to properly package, label, mark, and seal the containers at the point of generation. Wastes restricted from land disposal are marked with the date the waste is subject to the land disposal prohibitions (40 CFR 268.7(a)(1)(vi)) and US EPA hazardous waste number. This marking must be separate from the accumulation date. All hazardous wastes, prior to acceptance for storage, must be accompanied by internal DoD documents and applicable notification/certification of the disposal requirements. Included in these documents is a detailed HWPS for each waste stream based on generator knowledge of the waste or chemical analyses. Reference HWPS examples in Appendix D.

Using the information on the generator's HWPS, hazardous waste storage facility personnel will verify whether the waste is subject to the land disposal restrictions and one year storage limitations of 40 CFR 268. If the waste is banned from land disposal, then they will check to ensure that the written notice of appropriate treatment standards or certification as specified in 40 CFR 268.7 is referenced in the incoming documentation. If these items are not present, but are required, environmental personnel contact the waste generator to correct the deficiency.

15.1.2 HWSF Inspections of Generator Hazardous Waste for Storage

Upon arrival at the loading and unloading area, hazardous waste containers are pre-inspected by HWSF personnel prior to acceptance for storage. Pre-inspection ensures that waste is

19. *Phase II RCRA Facility Investigation Report Fire Training Area No. 4 SWMU Nos. 109, 110, 111, 112 Cannon Air Force Base Clovis, New Mexico.* Harza, Inc., 1997. Sites: FTA-4 (SWMUs 109, 110, 111, 112).

20. *Phase I RCRA Facility Investigation Report for Landfill No. 5 (SWMU 113/IRP No. LF-5) Cannon Air Force Base Clovis, New Mexico.* Woodward-Clyde Consultants, May 1998. Sites: LF-5 (SWMU 113)

21. *Final Report CERCLA Site Inspections at Areas of Concern (AOCs) E, F, G, and H Cannon AFB, New Mexico.* Woodward-Clyde Consultants, Mar 1999. Sites: AOCs E, F, G, & H.

22. *Corrective Measure Completion Report Appendices II and III Solid Waste Management Units Cannon Air Force Base Clovis, New Mexico.* U. S. Army Corps of Engineers, Albuquerque District, Jul 1999. Sites: Oil/Water Separators SWMUs 1, 7, 8, 9, 11, 32a, 33b, 38, 39, 46,47, 51, 57, 61, 62, 63, 70, 92, 94.

23. *RCRA Facility Investigation Activities Phase II to Appendix I (Old Entomology Rinse Area Boring) Supplemental RFI Report (19 SWMU Boundary Survey) Cannon Air Force Base, New Mexico.* Woodward-Clyde Consultants, Sep 1994. Sites: Old Entomology Rinse Area (SWMU 96).

24. *RCRA Facility Investigation Appendix I SWMUs 86-90 (IRP Site SD-11) Phase III Cannon Air Force Base, New Mexico.* Woodward-Clyde Consultants, Nov 1997. Sites: SD-11 (SWMUs 86, 87, 88, 89, & 90).

25. *Extent of Contamination South End Flight Line Cannon Air Force Base Clovis, New Mexico Site Assessment Report.* Radian Corporation, Feb 1992. Sites: AOC-B.

16.2 DESCRIPTION OF SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN

Following are descriptions of SWMUs and AOCs identified at Cannon AFB. Table 16-1 provides a listing of SWMUs and AOCs. Locations of the SWMUs are shown on Figure 16-1.

This UST was originally listed as an Appendix II site but was removed from the SWMU list when EPA Region VI approved the Appendix II, Phase I RFI work plan in March 1992.

SWMU No. 5 **Oil/Water Separator No. 121, Appendix II Site**

The old location of OWS No. 121 is on the west side of Bldg. 126. This location should not be confused with the location of the new OWS located on the east side of 126. The unit was installed in 1943 when Hangar 121 was constructed and initially received wash down water containing oil and grease from Hangar 121. The separator was supposedly a three-compartment unit with a 700-gallon main compartment and a 280-gallon oil compartment. Drawings detailing the demolition of 121 specify removing all of the old sewer lines up to the main, which would have included this OWS. On site investigations give no evidence of the OWS and therefore it is believed this OWS was removed during the demolition of 121 in 1990.

SWMU No. 6 **POL Tank No. 129, Appendix II Site**

SWMU No. 6 was a 2,000-gallon underground heating oil storage tank at Hangar 129, which was constructed in WWII. This UST was also incorrectly described in the RFA as a tank that collects recovered diesel fuel from the OWS. (See the problems with SWMUs 2 and 4 above.) This UST was removed following NMED UST regulations. See the Cannon AFB UST files on 129 for a complete project description. SWMU No. 6 was originally listed as an Appendix II site but was removed from the SWMU list when EPA Region VI approved the Appendix II, Phase I RFI work plan in March 1992.

SWMU No. 7 **Oil/Water Separator No. 129, Appendix II Site**

This unit is on the west side of Bldg. 129. The separator was a concrete three compartment underground unit with a 700-gallon main compartment and a 280-gallon oil compartment. The unit was installed in 1943. It received washdown water from Bldg. 129. Potential contaminants include JP-4 fuel, solvents, and oil and grease. The unit was removed in 1996 and the soil surrounding it was sampled and analyzed for TPH, TPA-DRO, BTEX, VOCs, SVOCs, total metals, and TCLP metals with no significant contamination found.

SWMU No. 8 **Oil/Water Separator No. 165, Appendix II Site**

Oil/Water Separator No. 165 was on the south side of the aircraft washrack at Facility 165. This was a three-compartment underground concrete unit with a 4,500-gallon main compartment and a 710-gallon oil compartment. The aircraft washrack is now closed as a washrack and is now used to store flightline equipment. The unit received washdown water generated from the washing of aircraft and runoff during rainstorms. The separator was installed in 1963. Potential contaminants included JP-4 fuel, PD-680 solvent, and oil and grease. This unit was removed in 1996 and surrounding soil sampled with no significant contamination.

diesel fuel, gasoline, and oil and grease. The unit was removed in 1997 and the surrounding soil sampled and analyzed for TPH, TPH-DRO, BTEX, VOCs, SVOCs, total metals, and TCLP metals with no significant contamination found.

SWMU No. 34 **AGE Drainage Ditch, Appendix I Site**

The Aerospace Ground Equipment (AGE) Drainage Ditch is a man-made depression in the maintenance operation area that remained after railroad tracks were removed in the late 1960s. The ditch was originally 1,200 ft long, 12 ft wide (1/3 acre), and approximately 1 ft deep. It originated on the northwest corner of Bldg. 184 and ran northeast parallel to the flightline sides of Bldgs. 186, 191, 192, and 193. In 1991, approximately 400 ft of the ditch in the area of Bldg. 192 were filled and covered with concrete associated with nearby construction. The ditch receives stormwater runoff from several flightline operations and from roads, such as the concrete AGE Maintenance Shop Pad (SWMU No. 31), Torch Boulevard, and the parking area near Bldg. 189. Water carried by the ditch flows into an open field and evaporates. Potential contaminants carried by surface water runoff include oil and grease, fuels, and solvents. This site was investigated in an IRP Phase II investigation by Radian in 1986 and a Remedial Investigation by Woodward Clyde in 1992. Following the Phase II investigation in 1986, a Soil Removal Investigation was performed by Radian in 1987 and as a result, the soil in the AGE Drainage Ditch was tilled to enhance natural attenuation. The Remedial Investigation in 1992 drilled 15 shallow soil borings with a hand auger collecting 22 samples which were analyzed for total lead, TPH, EP toxicity metals, and purgeable hydrocarbons. Two deeper borings were drilled to 11 feet and samples were analyzed for VOCs, SVOCs, TPH, and TAL metals. Lead and zinc were detected above background levels and TPH was found at levels up to 1180 mg/kg. A baseline risk assessment concluded there was no risk to humans or the environment and recommended no further action.

SWMU No. 38 **Oil/Water Separator No. 194, Appendix II Site**

This unit was on the northeast corner of Bldg. 194. The separator was a three-compartment underground concrete unit with a 584-gallon main compartment and a 140-gallon oil compartment. The unit was active since 1971 and received washdown water contaminated with oil and grease. The unit was removed in 1996 and the surrounding soil was sampled and analyzed for TPH, BTEX, TPH-DRO, VOCs, VOCs, total metals, and TCLP metals with no significant contamination.

SWMU No. 39 **Oil/Water Separator No. 195, Appendix II Site**

This unit was on the northeast corner of Bldg. 195. The separator was a three-compartment underground concrete unit with a 584-gallon main compartment and a 140-gallon oil compartment. The unit was active since 1971 and received washdown water contaminated with oil and grease. The unit was removed in 1996 and the surrounding soil was sampled and analyzed for TPH, BTEX, TPH-DRO, VOCs, SVOCs, total metals, and TCLP metals with no significant contamination.

SWMU No. 57 **Oil/Water Separator No. 379, Appendix III Site**

Oil/Water Separator No. 379 was an underground concrete unit adjacent to the north wall of Bldg. 379. It was a two-compartment underground unit with a total capacity of 500 gallon. The unit was active since 1965. The separator received washdown water generated from vehicle maintenance operations. The influent contains oil and grease. This unit was removed in 1996 and replaced by a modern design double walled tank type oil/water separator. The surrounding soil was sampled and analyzed for TPH, BTEX, TPH-DRO, VOCs, SVOCs, total metals, and TCLP metals with no significant contamination.

SWMUs No. 61, 62 and 63 Appendix III Sites

SWMU 61 **Oil/Water Separator No. 5077a**

SWMU 62 **Oil/Water Separator No. 5077b**

SWMU 63 **Oil/Water Separator No. 5077c**

Facility 5077 was a vehicle washrack in the Civil Engineering compound. The unit received wash water from the washdown of motor vehicles. Potential contaminants from the waste water influent include oil and grease. Although described as Oil/Water separators these units were all sandtraps. The facility had two 380-gallon sandtraps and one 1,675-gallon sandtrap down line of the two smaller sandtraps. These sandtraps have been identified as SWMUs No. 61 (5077a), No. 62 (5077b), and No. 63 (5077c). These units were removed when the new civil engineer complex was built in 1996. No significant contamination was found.

SWMU No. 70 **Oil/Water Separator No. 326 and Leach Field, Appendix III Site**

This SWMU is on the northwest corner of Bldg. 326. The description given in the RFA as a 2000-gallon UST is wrong. It is actually a one-compartment underground separator with a 50-gallon main compartment and a detached, 220-gallon underground oil storage tank. The separator was constructed of concrete and the tank was constructed of steel. The waste water was discharged to an adjacent leach field. The unit received washdown water generated from JP-4 fuel truck maintenance. Potential contaminants included JP-4 fuel and oil and grease. The unit has been active since 1960. The April 1992 site visit revealed oil-saturated soil and stressed vegetation in the vicinity of the leach field. The oil/water separator was removed in September of 1996. Previous investigations had detected BTEX and TPH contamination as deep as 60 feet. A bioventing system was installed on this site in 1994 and continues to operate. Levels of BTEX and TPH have dropped significantly.

SWMU No. 71 **Recovered JP-4 Fuel Tank No. 390, Appendix II Site**

This unit was a 2,000-gallon underground JP-4 fuel storage tank at Facility 390. The tank stored JP-4 fuel that escaped through pressure relief valves in the piping attached to the bulk fuel storage tanks. The fuel was periodically removed from the underground tank and

Several components of the test cell have been identified as SWMUs. The effluent from the test cell was initially discharged to the Oil/Water Separator (SWMU No. 90) and the associated Leach Field (SWMU No. 88). A 6 to 8 ft-diameter Overflow Pit (SWMU No. 87) was added in 1982 to relieve overloading in the oil/water separator caused by reduced hydraulic capacity of the leach field. A second larger oil/water separator was added in 1985. The discharge was directed to a lined Evaporation Pond (SWMU No. 89) that was constructed in 1985 in the area of the former leach field. The entire engine test cell area covers approximately 1.5 acres.

The site was initially investigated by Radian in 1986 when two borings were performed, one in the area of the leach field and the other near the overflow pit. A Remedial Investigation in 1990 by Walk, Haydel, and Associates installed and sampled five borings in the vicinity of SD-11, which detected low levels of two organic compounds, and one metal which was later dismissed as naturally occurring. Woodward Clyde performed a RCRA Facility Investigation of 18 IRP/SWMUs in 1992, which detected elevated concentrations of organics and metals in six borings installed during the investigation. The bulk of petroleum contamination was found when the oil/water separator was removed in 1994. Woodward Clyde conducted a Phase III RFI in 1997, which drilled 9 soil borings in the vicinity and found some elevated levels of organic compounds and metals. Woodward Clyde did a Corrective Measures Study at the site in 1999, which found some elevated levels of Total Petroleum Hydrocarbons at up to 5390 ppm. A Risk Assessment for human health and ecological risk found there was no unacceptable risk and recommended no further action.

SWMU No. 91 **Recovered Fuel Tank No. 5114, Appendix III Site**

This unit was a 5,000-gallon aboveground JP-4 bulk storage tank at the test stand 5114. The RFA (2) incorrectly identified this tank as storing recovered fuel from Oil/Water Separator No. 5114 (SWMU No. 86). JP-4 was used to fuel engines on the test stand. The tank was removed in 1988 when the test stand was demolished. Because the tank did not store or manage wastes and was, therefore, not an SWMU, it is anticipated that EPA Region VI will remove this site from Cannon's Part B permit.

SWMU No. 92 **Oil/Water Separator No. 5120, Appendix III Site.**

Oil/Water Separator No. 5120 is located on the east edge of Power Check Pad No. 5120. The power check pad is out of service and the separator and leach well are still in place. The location given in the May 1, 1987 RFA as to where the OWS discharges to is wrong. This OWS never discharged effluent to SWMUs 88 and 89, the OWS discharged directly into an adjacent leach well. It is the current OWS at 5123, which discharges into SWMU 89.The separator, is a two-compartment concrete unit with a detached 100-gallon oil storage tank. The unit was active from approximately 1957 to 1988. The recovered oils were directed to the 100-gallon holding tank, and the waste water was discharged to a leach well located 40 ft east of the separator. Potential contaminants include JP-4 fuel and oil and grease. The unit and associated oil storage tank were removed in 1996. Samples taken from the surrounding soil were analyzed for VOCs,

metals although none exceeded ambient water quality criteria. This site will be investigated further prior to closure.

SWMU No. 103 **Wastewater Playa Lake, Appendix III Site**

The Wastewater Playa Lake occupies approximately 13 acres on the east boundary of Cannon AFB. The playa receives effluent from the Wastewater Treatment Plant. No natural discharge occurs from the playa; however, the water is used for irrigation on base when the playa gets too full. The unit has been active since 1943 and only remains full year round because of the water discharging from the treatment plant. Since the playa is full year round it has attracted migrating and nesting birds into the area.

Runoff from adjacent farming and ranching properties will drain into this playa during heavy rainfalls. This is also the same situation with the lakes at the golf course. Potential contaminants include organics, pesticides and herbicides, and metals that may have entered the sewage lagoons in the influent.

Woodward Clyde investigated this site and did a baseline risk assessment in 1993. Surface water samples were collected from three locations and sediment samples were collected. Sediment samples were analyzed for VOCs, SVOCs, metals, TRPH, PCB/pesticides, and herbicides. Surface water samples were analyzed for Appendix IX constituents. Chemicals of concern identified in the sediments were benzene, bis(2-ethyl hexyl)phthalate, 2-Butanone (MEK), butyl benzyl phthalate, carbon disulfide, chloromethane, 4,4-DDD, di-n-butyl phthalate, TPH, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, vanadium, and zinc. TPH was identified in the sediments up to 5890 ppm. Water samples were nearly free of contamination with low metals levels. The baseline risk assessment concluded there was no significant human or ecological risk at this site except for a possible bioaccumulation risk to ecological species at this site. This site is scheduled for further investigation in fiscal year 2002.

SWMU No. 104 **Landfill No. 4, Appendix I Site**

Landfill No. 4 is an inactive 7-acre cut and burn landfill that was operated from 1967 to 1968. The landfill is immediately north of Playa Lake on the east boundary of the base. The landfill received domestic and industrial wastes including solvents, paint, thinners, waste oils, and peroxide containers. The area is covered with prairie grasses. There is no sign of stressed vegetation.

This site was investigated in an IRP Phase II Investigation by Radian in 1985. Seven soil borings were drilled to as deep as 63 feet. Samples were analyzed for metals, oils and greases, and purgeable and aromatic hydrocarbons with insignificant levels of contamination found. Woodward Clyde conducted a Phase II RCRA Facility Investigation in 1994 which drilled an additional 9 borings were drilled to as deep as 63 feet. Samples were analyzed for metals, oils and greases, and halogenated and aromatic organics. Insignificant concentrations of these constituents were found. A Baseline Risk Assessment concluded there was no unacceptable risk to human health or the environment and recommended no further action.

SWMU No. 105 **Landfill No. 3, Appendix I Site**

Landfill No. 3 is an inactive cut and burn landfill that was in operation from 1959 to 1967. The 9-acre landfill is on the east boundary of the base. The ground surface is slightly hummocky and is covered with prairie grasses. The landfill received domestic and industrial wastes including solvents, paint, thinners, waste oils, and peroxide containers. There is no evidence of stressed vegetation.

This site was investigated in a 1985 IRP Phase II Investigation by Radian in which 9 soil borings were performed to as deep as 59.5 feet. The samples taken were analyzed for metals, oils and greases, and purgeable and aromatic hydrocarbons with insignificant concentrations detected. Woodward Clyde installed a groundwater monitoring well in 1994 in a Phase II RFI and the well continues to be sampled although no contaminant levels of concern have been detected. A Baseline Risk Assessment for the site concluded that there was no significant risk and recommended no further action.

SWMU No. 106 **Fire Department Training Area No. 2, Appendix I Site**

Fire Department Training Area No. 2 is a 100-ft-diameter unlined surface area in the southeast area of the base. The facility was active from 1968 to 1974. Approximately 300 gallon of fuel was poured on the ground monthly to create fires. Radian Corporation drilled one deep boring in a Phase II (Stage 1) Investigation in 1986. A Remedial Investigation of 18 IRP/SWMU sites was performed by Woodward Clyde in 1992. In this investigation, 4 borings were done to 32 feet with samples analyzed for VOCs, TPH, lead, and chromium. Toluene and benzene were detected at low levels and TPH was detected in a surface sample at a level of 232 ppm. Lead and chromium were detected above background levels in surface samples but not in subsurface samples. A Baseline Risk Assessment concluded there was no unacceptable human health or ecological risk and recommended no further action.

SWMU No. 107 **Fire Department Training Area No. 3, Appendix I Site**

This unit is a circular area approximately 100 ft in diameter in the southeast area of the base. The unit was active from 1968 to 1974. Approximately 300 gallon of fuel was poured on the ground monthly to create fires. The area is unremarkable in appearance. This site had one deep boring drilled by Radian in a Phase II (Stage 1) Investigation in 1986. Woodward Clyde did a Remedial Investigation for 18 IRP/SWMU sites in 1991, which drilled 3 borings to 31 feet and one boring to 67 feet. Samples were analyzed for VOCs, TPH, lead, and chromium. Xylene was detected at 94 ppm in one sample and ethylbenzene was detected at 15 ppm. TPH was detected at a maximum of 6,080 ppm in a surface sample and lead was found in two surface samples at a maximum of 322 ppm. A Baseline Risk Assessment concluded there was no unacceptable human health or ecological risk and recommended no further action.

SWMU No. 108 **Explosive Ordnance Disposal (EOD) Activities Area, Appendix II Site.**

The Explosive Ordnance Disposal (EOD) Activities Area is on the southeast corner of the base directly west of the Fire Department Training Area No. 3 (SWMU No. 107). The description given in the RFA is misleading. The unit was described as an active ammunition disposal site when actually the site is a proficiency range used for explosive technique training. The range is limited to Class AA explosives with a maximum weight of 5 lb. These small explosives are basically the explosion simulators and smoke bombs used during military training exercises. The technique demonstrates the safe uses of these devices. The detonations occur within a bermed area in the center of a 1,000-ft-diameter clear zone.

This site underwent a Phase I RFI by LRL Sciences in 1993 at which time 5 soil borings were drilled to a depth of 10 feet and sampled. Samples were analyzed for metals, cyanide, sulfide, total solids, and resistivity. Nickel was detected marginally above background in three samples from the subsurface and surface. A Phase II RFI was conducted by Woodward Clyde in 1997 in which 5 soil borings were performed to a depth of 20 feet. Samples were analyzed for VOCs, SVOCs, TAL metals, TRPH, and explosives. No VOCs were detected in surface samples and only two VOCs at low levels were detected in subsurface samples. No SVOCs, explosives, or TRPH were detected in subsurface samples. Some metals exceeded background concentrations but a risk assessment found no unacceptable risk a recommended no further evaluation of this site. The site continues in use and no further investigations are planned except for perchlorate sampling.

SWMU Nos. 109, 110, 111 and 112.

SWMU 109 **Fire Department Training Area No. 4, Appendix I Site**

SWMU 110 **Underground Waste Oil Tank No. 2336, Appendix II Site**

SWMU 111 **Unlined Pit, Appendix I Site**

SWMU 112 **Oil/Water Separator No. 2336, Appendix III Site**

Fire Department Training Area No. 4 is a circular area approximately 400 ft in diameter in the southeast area of the base. The area was used as a fuel truck cleaning facility from 1961 to 1974. The area was used as a fire training area from 1974 to 1995. The site has undergone configuration modifications throughout its history such that several former and present parts of the facility are listed as individual SWMUs. These parts include the Underground Waste Oil Tank (SWMU No. 110), the Unlined Pit (SWMU No. 111), and the Oil/Water Separator (SWMU No. 112). These SWMUs were incorporated into one unit for the purposes of the Appendix I, Phase I RFI Investigation.

The training area incorporated a mock aircraft, an automobile chassis, and an aboveground fuel storage tank. Exercises were conducted in the fire training area on a monthly schedule. Approximately 300 gallon of reclaimed JP-4 fuel was sprayed onto the mock aircraft before each exercise. The fuel is typically contaminated with water or solvents. The mock aircraft is on a concrete "pan" that directs the runoff to the oil/water separator via underground piping. Soil staining was observed in and around the area of the concrete "pan".

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3.1.4 Base Support for Waste Characterization

The WAP at Cannon AFB is a centrally administered program designed to assure accurate and consistent waste characterization. The WAP is currently administered by CEV. This administration includes responding to generator requests for waste characterization; collecting and consolidating waste stream information based on the generators existing data and knowledge; deciding which chemical analysis is needed to supplement that information; ordering and funding the sampling and analysis; interpreting the results; preparing a written waste characterization whether in the form of a HWPS or a memo stating the waste is non-hazardous; and maintaining a waste stream review schedule to assure all characterizations are reviewed and accurate. Since the profile sheet requires Department of Transportation hazardous materials shipping information, CEV maintains a competence in this area as well. Such a centralized administration limits the organizations with which generator personnel must interact and minimizes opportunities for delay or failure by assuring administrative simplicity. This WAP uses the term CEV/BEE because both offices have the capability to administer the WAP. It is currently administered by CEV, but this could be changed in the future without modifying the WAP.

3.2 Waste Analysis Parameter Selection

Selected parameters for waste stream analysis will be tailored to complement and clarify existing documented knowledge of the waste in question. Analysis will normally not be used to verify waste characteristics already known. For example, a liquid waste with a large percentage of gasoline is known to be ignitable. Further analysis may not be required. Conversely the presence of heavy metals in alloys used in certain aviation applications often cannot be known with certainty and may require repeated analysis of the waste to assure a proper characterization. Characterized waste will be compared to the approved EPA waste codes specified in the hazardous waste storage permit. Wastes assigned codes not included in the permit will not be stored in the permitted facility because to do so will require a permit modification.

3.2.1 New, Unknown, and Non-Recurring Waste Streams

The parameters selected for new or non-routine waste streams will be selected based on the existing knowledge of the waste and the additional information required to perform a proper

Table 3-1 Analysis Parameters

WS NUMBER	*WS Noun*	*State*	*Volume*	*FP*	*pH*	*TCLP Metals*	*TCLP VOC*	*TCLP SVOC*	*Volatile Organics*
AB033S1	WASTE BEAD BLAST MEDIA (UHC: CHROMIUM)	solid	low	☐	☐	☑	☐	☐	☐
AB034S1	WASTE BEAD BLAST MEDIA	Soild	Low	☐	☐	☑	☐	☐	☐
AB040S1	BEAD BLAST FILTERS (UHC: Chromium)	solid	high	☐	☐	☑	☐	☐	☐
AB040S2	WASTE BEAD BLAST MEDIA	solid	high	☐	☐	☑	☐	☐	☐
AB040S3	WASTE SANDPAPER, DUST	solid	low	☐	☐	☑	☐	☐	☐
AB042S1	WASTE BEAD BLAST MEDIA	solid	low	☐	☐	☑	☐	☐	☐
AB044S1	WASTE BEAD BLAST MEDIA (UHC-LEAD)	Solid	Low	☐	☐	☑	☐	☐	☐
AB048S2	Waste Bead Blast Filters. Currently inoperable	solid	low	☐	☐	☑	☐	☐	☐
AC027S1	Absorbents w/ Pod Scum	solid	low	☐	☐	☑	☐	☐	☐
AC042S2	F-16 Scrub Pads	solid	low	☐	☐	☑	☐	☐	☐
BA026S1	WASTE BATTERY ELECTROLYTE; UHC-NICKEL	liquid	low	☐	☑	☑	☐	☐	☐
BA029S1	Sulfuric Acid Solution	liquid	low	☐	☑	☑	☐	☐	☐
ER088S1	WASTE SOLDER (UHC: ANTIMONY)			☐	☐	☐	☐	☐	☐
ER088S2	SOLDER SPONGES (UHC: ANTIMONY)			☐	☐	☐	☐	☐	☐
FC019S1	WASTE ANTIFREEZE	liquid	low	☐	☐	☑	☐	☐	☐
FC019S2	FUEL FILTERS			☐	☐	☐	☐	☐	☐
FC031S1	WASTE PAO & WATER	liquid	low	☐	☐	☑	☐	☐	☐
FC033S1	WASTE FILTERS W/HYDRAULIC FLUID	solid	low	☐	☐	☑	☐	☐	☐
FC035S1	WASTE KIM-WIPES W/JP8; UHC: Cadmium	solid	high	☐	☐	☑	☐	☐	☐
FC040S1	WASTE FUEL FILTERS	solid	low	☐	☐	☐	☑	☐	☐
FC040S3	WASTE BRAKE PADS & GASKETS WITH ASBESTOS	solid	low	☐	☐	☑	☐	☐	☐
FC040S5	USED ANTIFREEZE	liquid	high	☐	☐	☑	☐	☐	☐
FC045S1	WASTE BRAKE FLUID	liquid	low	☐	☐	☑	☐	☐	☐

3.3 Waste Parameter Rationale

The waste parameters selected in Table 3-1 are based on the known or suspected hazardous waste characteristics.

3.3.1 Flashpoint (Ignitability)

Flashpoint testing is used to determine whether a waste meets the characteristic of ignitability (D001). Ignitable hazardous waste liquids have flashpoints less than 140°F. Testing should occur for liquid hazardous waste streams in containers or tanks that contain varying concentrations of ignitable solvents having the potential to lower the waste's flashpoint to less than 140°F. Physically solid wastes resulting from spills of suspected ignitable waste will undergo a paint filter test to measure free liquids. Should free liquids pass through the filter, they will be tested for flashpoint.

3.3.2 Toxicity Characteristic Leachate Procedure (TCLP)

Wastes that potentially contain any of the contaminants listed at 40 CFR Part 261.24 should be analyzed for those constituents by TCLP (SW-846 Method 1311). When tested in accordance with TCLP, if an extract from a representative sample of waste contains any of these contaminants at a concentration equal to or greater than the listed regulatory level, then the waste is a hazardous waste.

3.3.3 Corrosivity

Aqueous liquids likely to be either strongly acidic or basic will be analyzed for pH to determine whether they meet the corrosivity characteristic. A pH meter will be used in accordance with Method 9040 found in EPA Publication SW-846. Non-aqueous and/or organic liquids suspected of being corrosive will be tested using the NACE method TM-01-69 to determine the materials ability to corrode steel.

TABLE 4-2

SAMPLE CONTAINERIZATION, PRESERVATION AND HOLDING TIMES

Matrix/Parameters	Sample Type	Analytical Method	Sample Container Type And Materials	Preservation Method	Maximum Holding Time
LIQUIDS:					
Volatile organics	Composite	SW-8260	2-40 ml VOA with Teflon-lined Septum	Cool to 4C ph<2 HCL; Na2S2O3	14 Days
Semivolatile organics	Composite	SW-8270	2-1 Liter glass w/ Teflon-lined cap	Cool to 4C Na2S2O3	7 days for extraction 40 days for analysis
Pesticides/herbicides	Composite	SW-8081	2-1 Liter glass w/ Teflon-lined cap	Cool to 4C	7 days for extraction 40 days for analysis
PCBs	Composite	SW-8081	2-1 Liter glass w/ Teflon-lined cap	Cool to 4C	7 days for extraction 40 days for analysis
Metals (total)	Composite	SW-6010/7000	2-1 Liter glass w/ Teflon-lined cap	Cool to 4C PH<2 HNO3	6 months for analysis
Mercury (total)	Composite	SW-7470	2-1 Liter glass w/ Teflon-lined cap	Cool to 4C PH<2 HNO3	38 days
pH	Grab	SW-9040	1-250 ml polyethylene bottle	None	24 hours
Total organic halogens	Composite	SW-9020	2-1 Liter glass w/ Teflon-lined cap	Cool to 4C PH<2 H2SO4	7 days
Total organic carbon	Composite	SW-9060	2-1 Liter glass w/ Teflon-lined cap	Cool to 4C; PH<2 HCl or H2SO4	28 days
Flashpoint	Composite	SW-1010	2-1 Liter glass w/ Teflon-lined cap	None	30 days
Cyanide	Composite	SW-9020	2-1 Liter glass w/ Teflon-lined cap	Cool to 4C NaOH to pH > 12	14 days
Sulfide	Composite	SW-9030	2-1 Liter glass w/ Teflon-lined cap	Cool to 4C NaOH to pH > 12	7 days
SOLIDS:					
Volatile Organics	Composite	SW-8240	2-1 Liter glass w/ Teflon-lined cap	Cool to 4C	14 days
Semivolatile Oganics	Composite	Method 625	2-1 Liter glass w/ Teflon-lined cap	Cool t o 4C	14 days for extraction 40 days for analysis
Pesticides/Herbicides	Composite	SW-8081	2-1 Liter glass w/ Teflon-lined cap	Cool to 4C	14 days for extraction 40 days for analysis
PCBs	Composite	SW-8080	2-1 Liter glass w/ Teflon-lined cap	Cool to 4C	14 days for extraction 40 days for analysis
Mercury	Composite	SW-7471	2-1 Liter glass w/ Teflon-lined cap	Cool to 4C	28 days for extraction 28 days for analysis
Metals	Composite	SW-6010/7000	2-1 Liter glass w/ Teflon-lined cap	None	6 months for extraction 6 months for analysis
pH	Composite	SW9045	1-250 ml polyethylene bottle	None	Analyze immediately

6 QUALITY ASSURANCE/QUALITY CONTROL

6.1 Program Goals

Quality Assurance (QA) is a method used to assure that all information, data, and conclusions/recommendations for hazardous waste analysis tasks are technically sound, statistically valid, and properly documented. Quality Control (QC) is the process through which QA satisfies its goals.

Analytical method precision and accuracy is dependent on the waste stream and the intended use of the information. The primary uses of the information are:

- Emergency response hazardous material identification if a spill occurs.
- Ensure compliance/consistency with hazardous waste management procedures, and appropriate federal, state, and local regulations.

Because of the variety of waste streams generated, chemical and physical testing must be comprehensive and dynamic. The quantity of data will be dependent upon the waste streams and associated variables. All QA/QC procedures will comply with the most recent edition of SW-846 or other EPA-approved procedures and methods.

6.2 Field Logistics

Hazardous waste samples may be drawn from containers of hazardous waste located at the permitted storage facility, the less than 90 day accumulation point and initial accumulation points located throughout the base. The hazardous waste sampling contractor travels to each sampling location bringing his own sampling equipment, containers, sampling instruments and personal protective equipment. Samples are packed in ice or similar cooling material and transported to the lab via ground transportation. Sampling personnel will comply with the holding times specified in Table 4-2.

6.3 Sample Collection QA/QC

The sample technician, before sampling and immediately following decontamination (when using reusable equipment), will visually inspect sampling equipment. If contamination is observed on sampling equipment, modifications to decontamination procedures will be made, documented, and the equipment will be fully decontaminated. If the equipment cannot be decontaminated or is damaged, the equipment will be replaced.

Two types of field blanks can be used to verify that a sample has been collected and handled properly. They are trip blanks and equipment blanks. Trip blanks and equipment blanks will be routinely analyzed as stated below. If cross-contamination is suspected, these QA/QC procedures will be implemented to define the problems, and corrective action will be taken. All information will be documented and no sample data will be corrected using trip or equipment blank results.

6.3.1 Trip Blanks

A trip blank is used to verify that the sample collection, handling and transport process has not affected the quality of samples that will be analyzed for volatile organics. A trip blank is a sample container filled with deionized water at the laboratory and transported to the sampling location in the shipping container with the other sample containers. The trip blank accompanies the sample containers throughout the sampling process. It is returned with the samples to the laboratory for analysis. One trip blank per sampling event/shipping container will be ordered when any of the samples are to be analyzed for volatile organics. A separate Call Sheet will be initiated for the blank. The lab sampling team will then initiate a Chain of Custody form originating from the point where the blank is loaded into the sample container (the lab). The Chain of Custody form will then follow the sample through Cannon AFB back to the lab where a volatile organics analysis will be performed. The laboratory will be consulted on the appropriate analytical method and number of trip blanks used per sampling event.

Analytical results of the trip blank will be reviewed with the sample data. If contaminants are detected in the trip blank, the following possibilities will be assessed: 1) the trip blank and container interacted; 2) the rinsewater and/or decontamination solution was contaminated; and/or 3) the contamination occurred during sample handling. Depending on trip

blank and waste sample analytical results, waste streams may be re-sampled and re-analyzed. Should trip blank results indicate contamination, remedial actions will be discussed and implemented with the lab.

6.3.2 Equipment Blanks

An equipment blank is a deionized water sample collected from a decontaminated sampling device. The sampling device is filled with water that, when possible, is then transferred to the sample container using the same procedures as those used to collect actual waste samples. The sample is then transported and analyzed at the laboratory.

An equipment blank is used to verify that a common piece of sampling equipment is effectively decontaminated between sampling points. Disposable sampling devices are used almost exclusively for the collection of hazardous waste samples. These will not require equipment blanks because there is no risk of contamination. The primary sampling devices that will require equipment blanks will be forceps and scoops used to collect physically solid materials. In these cases, deionized water will be poured over the instrument and into the sampling container.

At a minimum, equipment blanks will be collected for each day that samples are collected by means of a reusable sampling device.

6.3.3 Matrix Spikes and Duplicates

Matrix spikes, matrix duplicates and duplicate samples will be prepared and analyzed in accordance with the laboratory methods specified in SW-846. Results of these required quality control techniques will be documented in the lab report.

6.3.4 Field Duplicates

A field duplicate is an independent sample collected as close as possible to the same point in space and time as the original sample. Two separate samples are taken from the same source, stored in separate containers and analyzed independently. Field duplicates are useful in

documenting the precision of the sampling process. One field duplicate will be collected and analyzed each day of sampling as recommended in SW-846 Chapter 1, Section 3.4.1.

8 TRAINING REQUIREMENTS

8.1 RCRA Training

RCRA regulations 40 CFR 264.16 and 265.16 require facility personnel involved in hazardous waste management to be trained in proper hazardous waste management procedures (including contingency plan implementation). Because the CEV/BEE are responsible for implementing this waste analysis plan, CEV/BEE personnel must be trained in proper hazardous waste management procedures. These training requirements are outlined in Table 8-1. RCRA training will be arranged prior to assignment. Annual refresher training is required. Training records should be maintained in the individual's permanent record file.

8.2 Health and Safety Training

8.2.1 The OSHA Hazardous Waste Worker Courses

The Occupational Safety and Health Act (OSHA) (29 CFR 1910.120 (p)) requires that a 24-*Hour Hazardous Waste Worker Course* be attended by personnel involved with hazardous waste operations that are conducted at facilities regulated by 40 CFR 264 and 265. An *Eight-Hour Hazardous Waste Worker Refresher Course* is required annually. Training documentation or a certificate of training for these courses should be maintained in the individual's permanent record file.

8.2.2 Hazard Communication Training

All persons must be trained in the hazards associated with their jobs (29 CFR 1910.1200). This training must be documented and should include a review of:

- materials and associated MSDS for sample preservation and decontamination chemicals;
- wastes expected to be encountered;

- safety procedures for the assigned task; and
- accepted safe work practices for the specific industrial operation.

8.3 Sample Collection Training

Waste samples may be collected by (1) trained CEV/BEE personnel (2) trained contractor personnel or (3) personnel who generate the particular waste in question. No other AFB personnel are authorized to collect hazardous waste samples.

8.4 Department of Transportation (DOT) Training

Training covering the DOT regulations for the shipment of hazardous materials or wastes is necessary (49 CFR 171, 172, and 173) for all persons who will be required to assess the hazardous or non-hazardous potential of a sample, to fill out shipping labels, package hazardous materials or wastes, label and mark hazardous packages, professionally ship hazardous packages, or ensure that the packages are correctly packaged, marked, and labeled. To receive certification of this training an examination of skills is required. This certification is required every two years and after changes in job function.