Hazardous Materials Technical Center

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HAZARDOUS WASTE MANAGEMENT SURVEY
CANNON AIR FORCE BASE

June 1985

Submitted to

Cannon Air Force Base
New Mexico 88103

Prepared by

Hazardous Materials Technical Center
The Dynamac Building
11140 Rockville Pike
Rockville, MD 20852

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Operated by the Dynamac Corporation
for the Defense Logistics Agency

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EXECUTIVE SUMMARY

A hazardous waste survey of Cannon Air Force Base was conducted in February 1985 with emphasis on identifying potential hazardous waste discharges to the onsite sewage lagoon. This survey showed that hazardous wastes are generally identified and managed in accordance with the base Hazardous Waste Management Plan; most hazardous wastes (spent solvents, primarily) are containerized for turn-in to the Defense Property Disposal Office (DPDO) for disposal. Hazardous or potentially hazardous wastes being discharged to the lagoon are battery electrolyte (estimated at approximately 75 gallons per month), film processing wastes (spent fixer, estimated at approximately 75 gallons per month) and small but unknown quantities of pesticide rinsates from use of lindane and Trimec pesticides. The recommendations presented in this report are made to eliminate these discharges, and to help prevent any future discharges which might result from changes in base activities, mission or work practices.

I. INTRODUCTION

Background

As a result of information submitted to EPA Region VI, and a meeting held in October 1984, EPA determined that Cannon Air Force Base (Cannon AFB) had not supplied adequate information to demonstrate that no hazardous waste was entering an onsite sewage lagoon. In a letter dated 15 November 1984 (Appendix A), EPA recommended that the base perform a survey to identify potential activities which generated listed or characteristic hazardous waste, and to determine whether such wastes were being discharged to the sewage lagoon. In response to this recommendation, the Tactical Air Command tasked the Hazardous Materials Technical Center (HMTC) to conduct a hazardous waste survey of Cannon AFB.

Approach

The survey was conducted to (1) determine the types and quantities of hazardous waste being generated; (2) determine hazardous waste treatment, storage, handling and disposal procedures; and (3) provide recommendations to ensure compliance with Federal and State hazardous waste regulations.

Information to support these objectives was obtained through discussions with civilian and Air Force personnel, through visits to specific operations at the base, and through a review of hazardous materials being used. No analytical testing was conducted for this survey, but analytical data from previously conducted tests were made available for review by survey personnel. During the survey, attempts were made to identify and visit all activities potentially generating hazardous wastes, with special emphasis on those activities which might result in discharge of hazardous wastes to the sewage lagoon.

Survey findings are presented in Sections II and III of this report. Section II describes those wastes which are containerized for offsite disposal, while Section III discusses those potentially hazardous wastes being discharged to the onsite lagoon. General and specific recommendations are presented in Section IV.

II. TREATMENT, STORAGE, AND DISPOSAL OF HAZARDOUS WASTES

Many organizations on Cannon AFB handle, store and transport hazardous materials. Each organization is responsible for maintaining proper control over these items and over any resulting hazardous wastes. The responsibilities of base personnel and the procedures to be followed for the storage and disposal of hazardous wastes are delineated in the Cannon AFB Hazardous Waste Management Plan. Most of the spent materials, such as paints, thinners, and solvents, are containerized and stored at one of the three designated accumulation points until they are transported to the Defense Property Disposal Office (DPDO).

The DPDO is the base representative of the Defense Logistics Agency (DLA), the organization responsible for the management of hazardous materials/ wastes within the Department of Defense. The DPDOs and their Off-Site Branches are the field level activities responsible for accepting hazardous waste (with the exception of eight classes of waste) from generators and for disposing of these items in an approved manner.

DPDO-Cannon accepts items with an expired shelf-life in original containers and waste stream items in DOT-approved containers (usually 55-gallon drums). A new hazardous waste storage facility (HWSF) is under construction at the DPDO complex. A permit application has been filed with the State of New Mexico for this facility. All wastes are removed from the HWSF by a contractor to an EPA- and/or State-approved disposal site.

Each of the major activities on the base generates similar types of wastes, including paints, solvents and waste oils. Small quantities of other hazardous materials (batteries, for example) are generated at more infrequent intervals.

Waste oils are not yet specifically regulated by the State of New Mexico or Federal EPA. However, reclamation/reuse of waste oils is encouraged on Cannon AFB as a source of revenue. A regulation for themanagement and segregation of contaminated/used petroleum products has been issued (see Appendix B). This document lists all generators of waste oils on base, quantities generated, and methods of disposal.

It is also noted that while a wide variety of other solvents, thinners etc., are used throughout the maintenance and support activities, most of these items are consumed in use, and therefore, do not pose a hazardous waste problem (empty containers of the materials being used are not regulated as hazardous waste).

This survey showed that hazardous wastes on Cannon AFB are being handled in accordance with the Hazardous Waste Management Plan. Personnel in the shops visited were cognizant of the types of wastes generated and the handling procedures prescribed.

At the time of this survey, an attempt was made to visit all shops and activities that potentially generate hazardous wastes, including the following:

Bldg. 680 - Engine Shop/Welding Shop/Machine Shop

Bldg. 620 - Avionics CRS

Bldg. 185 - Nondestructive Inspection (NDI)

Bldg. 196 - Hangar Paint Shop/Fuel Cell Repair (EMS)

Bldg. 186 - AGE (EMS)

Bldgs. 195, 170, 121 - AGS

Bldg. 129 - EMS/LGX/LGT/AGS

Bldg. 165 - Wash Rack F-111D

Bldg. 130 - Fire Department

Bldg. 494 - Auto Hobby Shop

Bldg. 219 - Liquid Fuels Maintenance

Bldg. 357 - Civil Engineering Shops

Bldg. 354 - Roads and Grounds/Sign Shop

Bldg. 120 - Power Production

Bldg. 335 - Vehicle Maintenance/General Purpose

Bldg. 379 - Vehicle Maintenance/Special Purpose

Bldg. 163 - Armament Recording Lab/Photo Lab

Bldg. 1400 - Hospital

Bldg. 212 - Entomology

The following discussion will cover those shops that are the major generators of waste that is generally containerized or consumed in use. Shops which discharge potentially hazardous materials to the sanitary sewer and, thus, to the lagoon, are discussed in Section III of this report. Further details on specific chemicals are presented on the Hazardous Waste Inventory Forms (Appendix C), which list wastes disposed of by all shops, quantities generated, EPA Hazard Codes, and disposal methods. These forms also reflect the recommendations made to assist Cannon AFB in complying with RCRA requirements.

Bldg. 680 - Engine Shop/Welding Shop/Machine Shop

These shops use various solvents, including acetone and methyl ethyl ketone (MEK), which are normally consumed in use. Approximately 5 gallons per year of carbon remover (characteristic waste due to its corrosivity; contains monoethanolamine and ethylene glycol monobutyl ether) is generated from the Wash Rack operation. Also generated from this operation at the rate of 480 gallons per year is a cleaning compound (B & B 3100) which is nonhazardous,

but contains petroleum solvents. Both of these materials are containerized and turned in to the DPDO. A small amount which remains on the floor may be washed down to the oily water separator.

Bldg. 185 - Nondestructive Inspection (NDI)

Four dip tanks are located in this shop. NDI personnel indicated that all chemicals used in these tanks are containerized for disposal, although they are not classified as hazardous wastes. These materials include a fluorescent penetrant, a magnaflux solution (Exxon Isopar M), and an emulsifier. All three contain petroleum solvents and are generated at a rate of approximately 220 gallons per year. The fourth substance is a developing solution, also generated at the same rate.

Bldg. 196 - Corrosion Control Hangar/Wheel and Tire Shop

In the Corrosion Control Hangar, aircraft are sanded and wiped down (MEK, toluene) for painting. Waste paints and primers (hazardous due to their ignitability and possibly EP Toxicity for chromium) are generated at a rate of 1,500 gallons per year. Waste thinners (also hazardous due to the same characteristics mentioned for paints) are generated at a rate of 300 gallons per year. Other solvents include MEK (500 gallons per year; listed waste due to its toxicity and ignitability) and toluene (50 gallons per year; listed waste due to its toxicity).

The Wheel and Tire Shop uses a cold stripper (Turco 6542; generated at a rate of 1,320 gallons per year) which contains dichloromethane and tetrachloroethylene. Spent halogenated solvents are listed wastes due to their toxicity, EPA Hazard Code F001.

All of the materials discussed above are containerized and turned in to the DPDO for disposal.

Bldg. 357 - Civil Engineering Shops

The shops in this branch are responsible for the maintenance of all buildings on Cannon AFB. Wastes generated from the Paint Shop include 55 gallons per year each of paints (latex and polyurethane) and thinners (hazardous due to the characteristic of ignitability). These materials are collected in drums and turned in to the DPDO.

The exterior electric shop is responsible for maintenance of PCB transformers. If necessary, the PCB-containing liquid is drained from the transformer, containerized, and turned in to the DPDO for disposal. Toluene is used for cleanup; this solvent, along with any absorbent materials used, is also containerized.

Bldg. 1400 - Hospital

Hospital personnel use small amounts (approximately two gallons per year total) of a variety of chemicals, a number of which are initially hazardous (mostly due to their ignitability or corrosivity), in the performance of diagnostic tests. However, these materials are either consumed in use, or are neutralized or diluted during the testing process. Any excess or outdated chemicals are turned in to the DPDO for reutilization or disposal. Waste mercury (hazardous due to its toxicity, U151; and its EP toxicity, D009) is generated at a rate of four pounds per year from dental services and is also turned in to the DPDO.

III. DISCHARGES TO ONSITE LAGOON

Wastewater from Cannon AFB is treated in two onsite stabilization lagoons. These lagoons have a combined surface area of approximately 26 acres and are operated in series. Constructed in 1966, the lagoons have unlined earth bottoms and concrete-lined banks, and operate at an average depth of approximately 3 feet, with a maximum depth of approximately 4.5 feet. Average daily flow to the lagoons is approximately 400,000 gpd.

The treated effluent from the lagoons is channeled to Playa Lake, a natural land depression that is confined entirely within the base perimeter. Final effluent disposal is by a combination of evaporation, infiltration, and sale to a neighboring farmer for irrigation purposes.

The wastewater treatment system does not have a National Pollutant Discharge Elimination System (NPDES) permit. The requirement for an NPDES permit was waived in 1975 because the lagoon does not discharge into navigable waters.

Sludge samples taken from the lagoon in 1984 were negative for the characteristics of EP toxicity (Appendix D). No analytical data were available on levels of heavy metals in the influent or effluent wastewater.

The following sections present information on potentially hazardous wastes being discharged to the lagoon. The survey indicated that present practices and discharges are substantially identical to those occurring in the past. Recommendations for eliminating these discharges are provided in Section IV of this report.

Battery Electrolyte

Four battery shops are operated on-base; three for service and maintenance of lead-acid batteries (bldg. nos. 120, 185 and 379) and one for nickel-cadmium batteries (nicads; bldg. no. 680). Each of these shops removes electrolyte from spent batteries before the latter are turned in to

the DPDO. Potassium hydroxide electrolyte from nicads is discharged directly to the sanitary sewer, and sulfuric acid electrolyte from the lead-acid batteries is neutralized with sodium bicarbonate before discharge to either the sanitary sewer (bldg. no. 185) or to the ground (bldg. nos. 120 and 379). Monthly quantities of electrolyte being disposed of prior to neutralization were estimated as follows: bldg. no. 680, less than 1 gallon bldg. no. 185, 16 gallons; bldg. no. 120, 10 gallons and bldg. no. 379, 50 gallons.

Battery electrolyte should be classified as a hazardous waste upon disposal because of its corrosivity (pH less than or equal to 2.0, greater than or equal to 12.5), and EP toxicity for lead (lead-acid batteries) or cadmium (nicad batteries).

Film Processing Wastes

Film processing wastes may be classified as hazardous primarily, but not solely, because of the presence of silver (EPA hazardous waste no. D011) in spent fixer.

Spent fixer from X-ray and photographic film processing is discharged to the sanitary sewer from five locations on the base (see below). Each of these operations is a batch-type process, with spent fixer being discharged at the following approximate intervals and quantities:

Activity/Bldg. No.	Quantity (Gallons)	Interval
NDI Lab - 185	1-2	monthly
Armament Recording Lab - 163	20	6 weeks
Photo Lab - 163	8	monthly
Dental - 1400	120*	---
Medical - 1400	480*	---

* Amount used per year: discharge interval/frequency unknown.

At each of these activities, the spent fixer is passed through a silver recovery unit (SRU) with recovered silver sent to the DPDO (spent fixer from the Photo Lab, bldg. no. 163, is run through the Armament Recording Lab's SRU).

In addition to potential discharge of silver, at least one lab (Armament Recording Lab, bldg. no. 163) was using a system cleaner containing potassium dichromate (Eastman Kodak, National Stock No. 6750-00-691-3822). According to the manufacturer's material safety data sheet, the system cleaner is a powder containing 35-percent potassium dichromate; eight ounces of powder yields 12 gallons of a working solution. Discussions with Armament personnel indicated that approximately one quart (32 ounces) of working solution was run through the developing system whenever the developer was changed (approximately 6 week intervals). Potential chromium discharge could also result from the use of a photographic intensifier (Eastman Kodak, NSN 6750-00-174-5473, Part A of a two-part kit), containing 100-percent potassium chlorochromate. This product is stocked by the Photo Lab (bldg. no. 163), but is apparently rarely used; Photo Lab personnel stated the product had not been used for at least one year.

Discharge From Oily Water Separators

Nine oily water separators on the base discharge to the sanitary sewer (Appendix E). Although waste petroleum products potentially contaminated with heavy metals may bypass improperly serviced units, information provided during the survey showed that all the oily water separators are pumped at monthly intervals under a service contract. This survey found no indication that hazardous wastes were being discharged to the lagoon via any of these oily water separators.

Rinse Waters From Industrial/Maintenance Operations

An attempt was made to identify and visit those activities at the base where rinse waters, potentially containing EP toxic or listed hazardous wastes, might be discharged to either the sanitary or storm sewer. In this context, activities at the following shops were investigated:

NDI (bldg. no. 185). The rinsing of aircraft parts following immersion in penetrant (NSN 6850-00-782-2737) and emulsifier (NSN 6850-00-782-2738) for nondestructive investigations results in small quantities of these substances being discharged to the sanitary system. Both compounds, however, are biodegradable and are neither listed nor characteristic hazardous wastes.

Wheel and Tire Shop (bldg. no. 194). Aircraft wheel rims are cleaned and stripped using PD-680 and Turco 6542 cold stripper respectively, then water rinsed. Although Turco 6542 contains the listed spent solvents dichloromethane (50%) and tetrachloroethylene (10%), discussion with shop personnel indicated that these compounds evaporate from the rims before rinsing.

Wash racks. Wash racks on the base are used for exterior vehicle and aircraft cleaning (bldg. nos. 186 and 165, respectively). Rinsates flow through an oily water separator before discharge to the storm sewer. Products used at these wash racks are soaps, detergents and petroleum-based solvents, the rinsates from which are not expected to meet a hazardous waste classification. Samples taken from the aircraft wash rack oily water separator in 1981 tested negative for the characteristics of EP toxicity and ignitability.

Corrosion Control (bldg. no. 196). Wastewaters from two corrosion control activities are presently discharged to the storm sewer (after passing through oily water separators), and could be hazardous because of EP toxicity for heavy metals, resulting from use of zinc chromate and lead paints. These discharges are (1) water from the spray paint booth trough, changed weekly and (2) floor rinses (twice weekly) from the hangar where aircraft are stripped and painted. Analytical testing is required to verify or deny a hazardous classification for these discharges (see Recommendations).

Pesticide Rinsates

Base pest control, including insecticide, herbicide and rodenticide application, is handled by Entomology (bldg. no. 212). Discussions with Entomology personnel indicate that pesticides are generally consumed in use. Special emphasis is placed on formulating only that amount of product necessary for a specific application. Any unused or surplus pesticides are turned over to the DPDO.

Rinsates from clean-up of application equipment are currently discharged to the sanitary sewer. A review of pesticides presently in use (Appendix F) shows that only rinsates associated with the use of lindane (12-percent emulsifiable concentrate and 1-percent powder) and Trimec (27.59-percent dimethyl salts of 2,4-D) would be potentially classified as hazardous wastes (due to EP toxicity; EPA hazardous waste nos. D013 and D016 for lindane and 2,4-D contamination, respectively).

IV. RECOMMENDATIONS

The following recommendations are made to ensure that hazardous wastes at Cannon AFB are identified, handled and disposed of in full compliance with State and Federal regulations. Specific recommendations are intended to prevent the discharge of potential hazardous wastes into the sanitary sewer system. These recommendations are made not only in the context of present practices at the base, but also in the effort to help prevent any new or future discharges which might result from changes in base activities, mission or work practices.

As described in the Section II of this report, the survey showed that hazardous wastes were handled in substantial compliance with Cannon's Hazardous Waste Management Plan. In view of this finding, a major recommendation is that the plan be kept current with respect to (1) changes in Federal and State regulatory requirements for hazardous wastes, and (2) base activities, policies and procedures affected by such requirements. This plan should state a prohibition against discharging any hazardous waste or waste whose hazard classification is unknown to the sanitary or storm sewer. The plan should also be revised to incorporate or otherwise reflect recommended changes adopted from this report.

The DPDO should notify the base Environmental Coordinator of any hazardous waste being turned in from shops/locations not presently indicated in the base Hazardous Waste Management Plan.

The specific recommendations that follow relate to potential hazardous wastes entering the sanitary sewer and are presented under five major headings corresponding to those in Section III of this report. As noted previously, no data were available on the concentrations of heavy metals in the lagoon influent. Therefore, it is recommended that influent be sampled for four consecutive quarters and analyzed for the characteristic of EP

toxicity. Once these baseline data have been obtained, annual influent sampling and analysis would be appropriate for comparison with the baseline data, and for allowing the base to identify any major potential discharges of EP toxic wastes to the lagoon.

Battery Electrolyte

Federal and State regulations allow hazardous wastes to be neutralized without a permit when such wastes are hazardous solely due to the characteristic of corrosivity. Battery electrolytes are expected to be hazardous due to EP toxicity for lead (lead-acid batteries) or cadmium (nicads), in addition to corrosivity. Thus, to ensure regulatory compliance and to prevent the entry of the toxic metals into the sewage system, the practice of neutralizing battery acid on-base should be discontinued. Waste electrolyte from nicad and lead-acid batteries should be separately containerized and disposed of through the services of the DPDO.

Film Processing Wastes

As described in Section III of this report, spent fixer is passed through silver recovery units before discharge to the sanitary sewer. However, the amount of silver remaining in this discharge is unknown and cannot be determined without analytical testing. HMTC contacted several manufacturers of silver recovery equipment and in each case was told that recovery efficiencies would be dependent upon numerous factors including specific equipment in use, silver concentration of the fixer, rates of discharge, maintenance, etc.

In this context, it is recommended that spent fixer that has passed through the silver recovery units be sampled and analyzed for the characteristic of EP toxicity (specifically, silver). If the base chooses not to analyze this waste, or if the test results are positive for EP toxicity, then spent fixer should be containerized for turn-in to the DPDO for offsite precious metal recovery. Such turn-in should be coordinated

with the DPDO Chief. An alternative may be the operation of several silver recovery units in a series, which according to the manufacturers contacted, greatly increases the silver recovery efficiency. Again, however, analytical testing would be required to verify the efficiency of such a system.

As an additional step towards preventing the discharge of EP toxic wastes, it is recommended that each film processing lab obtain material safety data sheets (MSDSs) for products in use. These MSDSs should be reviewed to identify those products which when used, could result in the generation of an EP toxic waste. Steps can then be taken either to identify substitute nonhazardous products, or to ensure that such EP toxic wastes are containerized for offsite disposal and not discharged to the sanitary sewer. Two such products were identified during the survey (See Section III): Kodak system cleaner and Kodak intensifier. It is recommended that the Armament Recording Lab (bldg. no. 163) discontinue use of the developer system cleaner containing potassium dichromate, and attempt to identify a substitute product for that purpose. Waste solutions associated with the use of the photographic intensifier should be containerized for offsite disposal.

With the above exceptions, wastes associated with film processing are not expected to meet a hazardous classification, and should be biodegradable. The base, however, may wish to verify this by testing spent developer and stop bath solutions for the characteristic of EP toxicity. Such testing could initially be conducted on a limited, spot-check basis, with any positive results followed by a more detailed test protocol, and containerization of the wastes for offsite disposal.

Discharge From Oily Water Separators

All oily water separators should be included in the base-wide monthly service contract. Presently all separators discharging to the sanitary sewer, with one exception (located in bldg. no. 680), are covered under this contract. It is anticipated that such monthly service will be sufficient to prevent the flow-through of waste petroleum products to the sanitary sewer.

Pesticide Rinsates

To prevent the discharge of EP toxic pesticides to the sanitary sewer, the Entomology Shop should separately containerize rinsates from cleanup of equipment used in the application of lindane or Trimec. These rinsates should be turned in to the DPDO for disposal. Where circumstances permit (depending primarily on efficacy requirements), alternative pesticides should be substituted for those above.

Rinse Waters From Industrial/Maintenance Operations

Discharges of either EP toxic rinse waters, or water containing listed hazardous wastes to the sanitary or storm sewers generally were not observed. Possible exceptions may occur, however, from two sources at corrosion control: water from the spray paint booth trough and floor rinses from the hangar where aircraft are stripped and painted. It is recommended that samples of these wastes be tested for the characteristic of EP toxicity. Subsequent procedures, with respect to managing these wastes (including eliminating their hazardous potential), would be dependent upon the results of such tests.

APPENDIX A

EPA Notification Requesting Survey of Hazardous Waste Discharges

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
1201 ELM STREET
DALLAS, TEXAS 75270

November 15, 1984

Colonel Mary N. Turner
Installation Commander
Cannon Air Force Base
27 CSG/DE
Cannon Air Force Base, New Mexico 88101

Dear Colonel Turner:

As a result of information submitted to Region VI on October 29, 1984, and the meeting held October 31, 1984, the Environmental Protection Agency (EPA), Region VI has made a determination on the contents of the Part B permit application for Cannon AFB.

EPA agrees with the comments in the letter of October 22, 1984, except the situation with the sewage lagoons. EPA has determined that Cannon AFB has not supplied adequate information to demonstrate that no hazardous waste is entering the sewage lagoon. EPA recommends that Cannon AFB do the following:

1) Perform a survey to determine all the generators which have any listed or characteristic hazardous waste entering the sewage lagoon,

2) Develop a sampling plan based on the results of the survey,

3) Perform the sampling and analysis and evaluate the results,

4) If applicable, submit a delisting petition.

In summary, the Part B permit application needs to contain:

1) The requirements for the DPDO storage area,

2) the closure, post-closure and groundwater monitoring plan for the landfill, and

3) either, the results of the survey and proposed sampling and analysis plan for the sewage lagoons, or, the 40 CFR 264 requirements for permitting the sewage lagoons as surface impoundments.

If you have any questions, please phone Ms. Jamie Wright of my staff, or me, at (214) 767-2614.

Sincerely yours,

William H. Taylor, Jr.

for William N. Rhea, Chief
Hazardous Materials Branch

cc: Peter Pache, Program Director
New Mexico Environmental Improvement Division

Gilbert N. Burnett, Engineer
United States Air Force

Patsy W. Glinsmann, Industrial Hygienist
Hazardous Material Technical Center

Irving Leichter, Senior Environmental Scientist
Hazardous Material Technical Center

Duane Helmberger
U.S. Air Force Regional Civil Engineer

APPENDIX B

Management of Contaminated/Used Petroleum Products

DEPARTMENT OF THE AIR FORCE
Headquarters 27th Combat Support Group (TAC)
Cannon Air Force Base, New Mexico 88101

CAFB REGULATION 19-14

21 January 1982

Environmental Planning

MANAGEMENT OF CONTAMINATED/USED PETROLEUM PRODUCTS

This regulation establishes procedures, policies, assigns responsibilities and provides guidance for collection, segregation and disposal of used liquid petroleum products. It requires all Cannon AFB petroleum product waste generating activities to establish and implement operating and accounting procedures. This regulation stresses the reuse and recycling of petroleum products and extreme care must be taken in keeping these products segregated. Compliance with this regulation will be a source of revenue to this base.

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Chapter 1

Policy and Definitions

1-1 CAFB Policy.

a. Comply with all federal, state and local laws pertaining to environmental protection.

b. Effectively manage recycling and reuse of petroleum products in such a manner as to obtain maximum benefit to the Air Force.

c. Petroleum products will be recycled and/or reused in accordance with the highest applicable priority as follows:

Supersedes CAFBR 65-4, 1 March 1978 (See signature page for summary of changes)
No. of Printed Pages: 9
OPR: 27CSG/DEEV (Mr. Richards)
Approved By: Lt Col Frederick C. Newhall
Editor: John L. Stanley
DISTRIBUTION: F Plus TAC/DEEV

(1) Reuse for original intended purpose.

(2) Reuse for secondary purposes (alternate heating fuels, etc.).

(3) Fire training or EOD purposes.

(4) Sale through DPDO.

(5) Service contracts for disposal of unusable contaminated products.

1-2 Definitions:

a. Contaminated petroleum products: Natural or synthetic products containing foreign substances which render it unfit for its intended use.

b. Generating Activity: A base operation (host, tenant, contractor) which through performance of its mission function generates contaminated, used, or waste petroleum products.

c. Reclaimed Product. Product of known quality that does not meet original specifications but can be used in equipment or facilities other than originally intended.

d. Recycled Product. A product which has served its intended purpose or which has become contaminated but which through processing and/or refining can be reclaimed for the original intended use or other similar uses.

e. Used Product. Product which has been recovered from aircraft and vehicle engines or equipment of any type. This category normally relates to oils, solvents, hydraulic fluids, purging fluid and calibrating fluid. Recovered fuel is not considered a used product.

f. Waste Product. Products which are no longer suitable for any use because of excessive contamination or degradation.

Chapter 2

Responsibilities

2-1 The Installation Commander is responsible for overall management of this program. Through the Environmental Protection Committee (EPC), the Installation Commander will:

a. Assure compliance of the plan for the management of contaminated/used liquid petroleum products and provide for annual review for adequacy.

b. Designate the following operational activities as known petroleum waste generators.

(1) 27CSG/DEMG

(2) 27TFW/LGTM

(3) 27TFW/AGS

(4) 27CSG/SSRH

(5) 27TFW/CRS

(6) 27TFW/EMS

(7) 27CSG/SVE

(This list is a result of data gained from Atch 3)

c. Initially and annually review this regulation and provide plan approval and submission to MAJCOM and AFESC for review.

d. Insure this regulation is reviewed on an annual basis by Safety, Bioenvironmental Engineer, DPDO, Base Fire Department and Fuels Management Office.

2-2 The Base Environmental Coordinator will:

a. Provide technical assistance to operational activities.

b. As EPC Recorder, review reports and maintain records submitted by waste generators on a monthly basis NLT the 10th calendar day following the reporting month.

c. Submit quarterly reports (Jan - Mar, Apr - Jun, Jul - Sep, Oct - Dec) to the Environmental Protection Committee concerning:

(1) Compliance of generating activities to CAFB Regulation 19-14.

(2) Recommendations for improvement of collection, segregation and disposal techniques, equipment and facilities.

d. Submit an annual report on the cost effectiveness of the plan.

e. Manage an inspection team consisting of the Coordinator = Base Fuels Officer, Bioenvironmental Engineer, and the Base Safety Officer to monitor discrepancies or inconsistencies that show up on monthly reports submitted by petroleum waste generators.

f. Maintain a list of individuals and alternates from each petroleum waste generating organization who are directly responsible for monthly reports on petroleum waste products generated and who are responsible for insuring proper collection, segregation and disposal of these waste products.

2-3 User Level/Generating Agency as indicated in 2-1.b. of this regulation will assign a responsible individual and alternate who will be held directly accountable for assuring proper collection, segregation and storage of waste/used petroleum products in accordance with the regulations referred to in this regulation (more specifically AFR 19-1/TAC Sup). This individual will be responsible for:

a. Logging on a weekly basis the following information:

(1) Date.

(2) Type of petroleum waste product generated.

(3) Measured volume of each type of petroleum waste product generated.

(4) For fuels, indicate whether the product is reusable or contaminated. Base Fuels will determine this by test. (See Atch 1).

(5) Disposition of each type of petroleum waste product.

b. Assuring that Base Fuels is notified when contamination tests are required. Tests will be run when bowsers and other space containers are full or are to be emptied. Tests that fail must be followed up by a report by the individual responsible at user level with a letter to the chairman of the Energy Conservation Council (ECC) and the chairman of the Environmental Protection Committee (EPC) accounting for the contamination of the used petroleum product.

c. Reporting to the EPC through the Environmental Coordinator, in writing on a monthly basis, NLT 10th calendar day following generating month, the information that is maintained in the log, monthly totals "turn in" quantity and projected annual quantity of each kind of used petroleum products generated. Also, they will report the description of current collection, segregation and disposal or reclamation procedures, and all resources available for support of plan (storage tanks, vehicles equipment, possible uses of used product).

d. Providing sufficient suitable containers so as to insure the segregation and secured temporary storage of liquid waste petroleum products generated. For products that are corrosive, a non-corrosive container will be used.

e. Providing for transportation of used products to collection or disposition points (See Atch 3 for disposition).

f. Reporting spills to base Fire Dept. IAW OHSPCP procedures giving the following information:

(1) Location.

(2) ID of material.

(3) Quantity of material.

g. Implement accounting procedures to track administration cost associated with record keeping required by this regulation. Implement accounting procedures to track collection cost associated with the implementation of this regulation. These costs will be summarized and reported on a monthly basis to the Base Environmental Coordinator NLT the 10th calendar day of each month.

2-4 The Bioenvironmental Engineer in conjunction with the Base Environmental Coordinator, will advise base activities on environmentally acceptable procedures for storage and disposal, when necessary, of waste petroleum products.

2-5 DPDO (Defense Property Disposal Office) will handle sale of these waste petroleum products. Also, DPDO will be responsible for handling service contracts for the disposal of petroleum products. Also, DPDO will be responsible for handling service contracts for the disposal of petroleum products that are so contaminated they cannot be sold or reused.

2-6 Civil Engineering will be the OPR for this regulation.

2-7 Wing Safety will assist units in insuring that the handling and storage of all petroleum waste products are in accordance with applicable Air Force safety regulations and technical orders.

2-8 Base fuels will test waste/used fuels in accordance with Atch 1 and maintain records of these tests. Test procedures for determining the quality of the various petroleum products will be obtained.

2-9 Supply will provide Environmental Coordinator a list of lubricating oils, hydraulic fluids and petroleum base solvents issued to each organization during previous twelve months.

Chapter 3

Procedures

3-1 Pertinent Regulations. This regulation is developed in accordance with the following regulations, manuals and standards:

AFR 18-1	Air Force Energy Conservation Management
AFR 19-1	Pollution Abatement and Environmental Quality
AFR 19-7	Environmental Pollution Monitoring
AFR 19-14	Management of Recoverable and Waste Liquid Petroleum Products
AFR 67-23	Standard Base Supply Customer's Guide
AFR 69-8	U.S. Air Force Storage
AFR 92-1	Fire Protection Program
AFR 127-1	Aircraft Accident Prevention and Investigation (PA)
AFM 67-1	U.S. Air Force Supply Manual
AFM 77-310 Vol. 3	Vehicle Integration Management System (VIMS)
AFOSH	Air Force Occupational Safety and Health Standards
TO42B-1-23	Disposal of Waste Liquid Fuels and Other Petroleum Products
TO42B-1-1	Quality Control of Fuels and Lubricants
TO36-1-3	Painting, Marking and Lighting Requirements for USAF Vehicles
TO35-1-3	Corrosion Prevention, Painting and Marking of USAF Support Equipment

3-2 Containers. User level/generating agency will provide its own containers, temporary storage tanks, or bowsers (refer to Atch 4) in accordance with TO35-1-3 and 42B-1-23. Extreme care must be taken at this point to control contamination due to contaminated containers or lack of proper segregation. Temporary storage facilities are to be completely drained monthly.

a. Waste fuels and lubricants produced by generating activities will be segregated into the categories indicated in Atch 2.

3-3 Testing. Once the petroleum products have been collected Base Fuels must be notified and a test must be conducted in order to determine the quality of the product. Depending on whether the product passes or fails, the product will be sent to disposition points indicated on Atch 3. Base Fuels will take custody of fuels passing the test for use in original intended purpose in accordance with AFM 67-1, Volume 1, Part 3, Chapter 1.

3-4 Transporting. Each generating agency will provide its own transportation to the final disposition point on base. These vehicles will be marked according to TO36-1-3 and 35-1-3. Extreme caution must be taken in transporting highly ignitable petroleum products. The Fire Dept. must be notified prior to interbase movement.

3-5 27CES will provide storage facilities for used petroleum products that can be sold. These storage facilities will be marked according to TO42B-1-23 and TO35-1-3 to insure proper segregation.

a. DPDO will handle the sale of these petroleum products and will deposit said proceeds to the account specified by the generating activity and the DD Form 1348-1, Turn-In Document.

b. Monies gathered from the sale of these petroleum products, excluding fuels turned into LGSF, will be used with the recommendation of the EPC and at the discretion of the Installation Commander, Resource Management or NAF organization, whichever is applicable. The Installation Commander will use the money for enhancement and/or energy conservation IAW AFM 67-1, Vol I, Part 3, Chapter 1.

c. Fuels that are turned into Base Fuels for reuse will be credited against the organization's M&O fuel account.

JAMES W. BOYCE, JR., Colonel, USAF
Commander

LINDA A. MARTIN, Captain, USAF
Chief, Central Base Administration

SUMMARY OF CHANGES

This regulation has been devised to improve efficiency of the existing CAFB Regulation 65-4, clarify responsibilities and incorporate requirements of AFR 19-14.

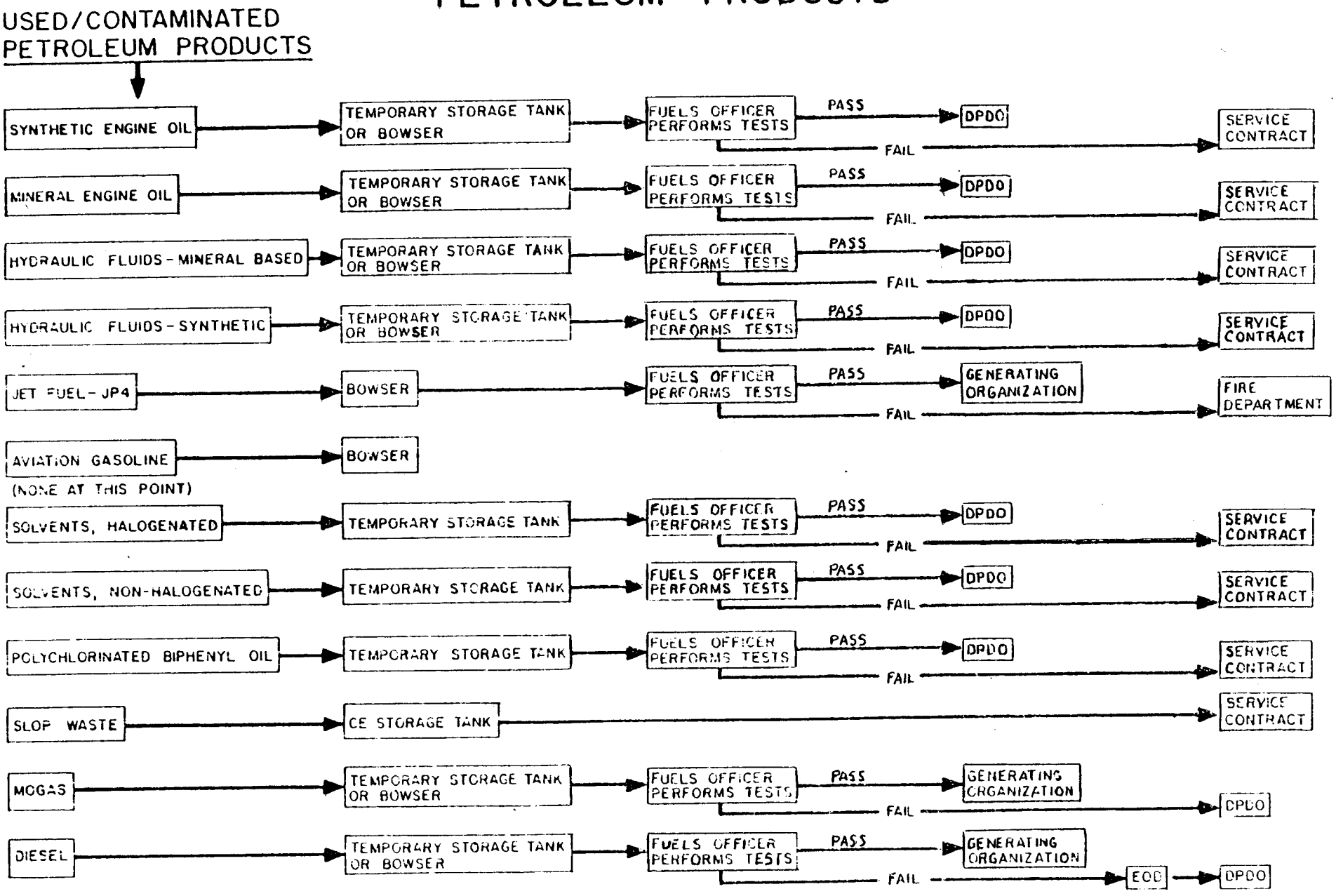
Testing Procedure For JP-4

When the properly designated container for collection of JP-4 generated by the flightline organizations is near full, the responsible person at user level will notify Maintenance Coordination Center. Maintenance Coordination Center will then notify the Fuels Management Laboratory at Ext. 3146, Monday - Friday, 0730 - 1630 hours and request that the container be sampled. They must give the container number and location. The Fuels Laboratory personnel upon receiving the request will proceed to the specified container and perform the following on the spot checks: Visually check the contents for color and API gravity reading of 45 to 57 . If these two checks are satisfactory, obtain a one gallon all level sample and analyze it in the Fuels Laboratory for total solids. If color or API checks are unsatisfactory, the container contents must be disposed of through the Defense Property Disposal Office (DPDO) or through the Fire Department. The sample analyzed for total solids must be less than 4 mg per gallon. If solids in excess of 4 mg per gallon are noted the fuel will be allowed to settle for 24 hours and be resampled. If the results are again unsatisfactory, the contents will be disposed of in the same manner as in the unsatisfactory color and/or API checks. If the results are satisfactory a refuel truck will be dispatched to remove the fuel from the container and it will be returned to the Base Fuels active storage tanks for reissue as JP-4. NOTE: The Fuels Controller will notify Maintenance Coordination Center when the defuel unit is dispatched so that they can inform the responsible person at user level who must provide assistance to the defuel truck operator. Credit for reclaimed fuel will be given to the organization responsible for generation of the product and entered into the special account.

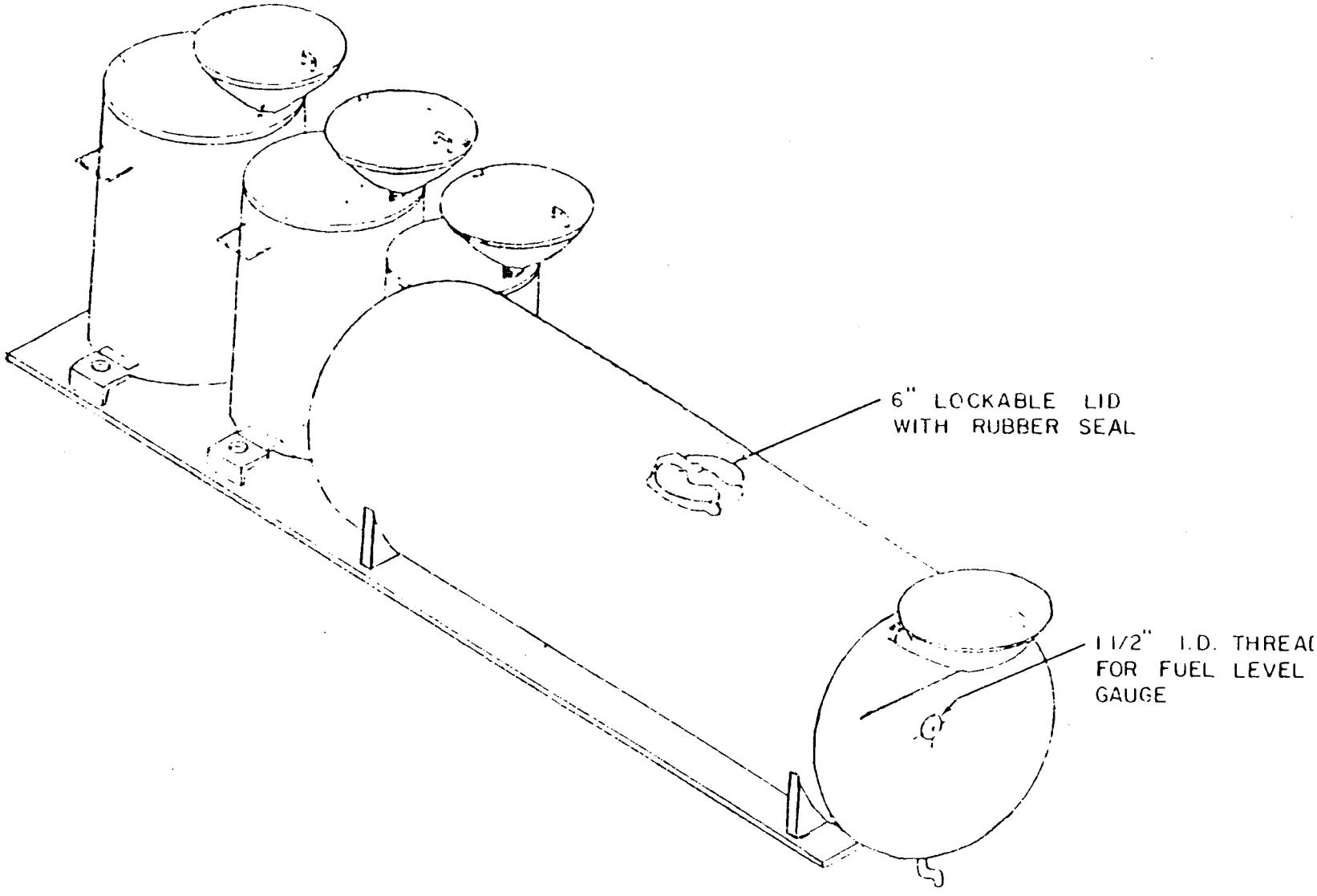
USED PETROLEUM PRODUCTS GENERATED IN ONE YEAR

ORGANIZATION/SOURCE	PETROLEUM PRODUCTS GENERATED	ANNUAL FORECAST	STORAGE AND DISPOSAL
DEMG	Oil (30 wt and 90 wt)	200 gal/yr	-Materials are held in 55 gal drums and removed to bulk storage tanks at Bldg 4028.
	Hydraulic Fluid	150 gal/yr	
	PD 680 - Solvent	200 gal/yr	
LGTM	Oil	2400 gal/yr	-Held in 55 gal drums until delivery to collection point or DPDO.
	Hydraulic Fluid		
	Auto Trans Fluid	360 gal/yr	
	Petro Based Fluid	120 gal/yr	
	Non-Petro Based Fluid	120 gal/yr	
	6850-285-8012 Solvent	600 gal/yr	
EMS	Engine Oil	1200 gal/yr	-Stored in containers at AGE.
	Synthetic 7808 Turbine Oil	216 gal/yr	
	Hydraulic Fluid	480 gal/yr	
	PD 680 - Solvent	1200 lbs/yr	
	6850-285-8011 Solvent	840 lbs/yr	
DEMP	Oil	186 gal/yr	-Stored in 55 gal drums and sent to 27th Transportation slop tank.
	HDO-10		
	HDO-30		
	CL-5 Gear Lube		
SS (Auto Hobby Shop)	Oil	1800 gal/yr	-Sent to central based oil dump.
CRS (Propulsion Branch)	Oil (Synthetic Based)	840 gal/yr	-300 gal portable tank in Waste Petro Area by Bldg 680 and 55 gal drums dumped into underground storage tank by Bldg 194.
Accum P15	JP-4	600 gal/yr	-Contaminated JP-4 is stored in 300 gal portable tank by Bldg 680 ~~and in 55 gal~~ drums by 2330. Accum P1 FIRE TRAINING
196	PD 680 - Solvent	1440 gal/yr	
620	Calibration Fluid	120 gal/yr	-55 gal drums by Bldg 680.
MA 219	JP-4	2500 gal/yr	-Recovered in bowser and reused by Base Fuels.
	Synthetic Oil	1000 gal/yr	-Recovered in bowser and sent to DPDO.
	Hydraulic Fluid	100-150 gal/yr	-Recovered in bowser and sent to DPDO.

DISPOSITION OF USED PETROLEUM PRODUCTS



BOWSER (TRAILER MOUNTED)



FOR MORE DETAILED DRAWINGS CONTACT 27 CES/DEEV (EXT. 2738)

APPENDIX C

Hazardous Waste Inventory Forms

HAZARDOUS WASTE INVENTORY

LOCATION: Bldg. 680- Engine Shop/ Welding Shop/Machine Shop

☐ PAGE NUMBER
☐ NUMBER OF PAGES

NO.	DESCRIPTION OF WASTE	HAZARD CODE							EPA HAZARD NUMBER	PHYSICAL FORM				RATE OF GENERATION		PRESENT METHOD OF TREATMENT/STORAGE/DISPOSAL	TREATMENT/STORAGE/DISPOSAL METHOD TO MEET RCRA
		I	C	R	E	H	T	U		SD	L	G	SL	PRESENT	MAXIMUM		
1	Carbon Remover		x						D002		x			5 gallons per year		Containerized for removal to DPDO	Present method acceptable
2	Electrolyte from NICAD batteries - potassium hydroxide		x		x				D002 D006		x			Less than one gal. per month		Flushed down drain with large amount of water	Containerize and turn in to DPDO

LEGEND:

I - Ignitable
C - Corrosive
R - Reactive
E - Extraction Procedure (EP) Toxic
H - Acute Hazardous
T - Toxic
U - Unclassified, To be verified

SD - Solid
L - Liquid
G - Gas
SL - Sludge

NOTES:

HAZARDOUS WASTE INVENTORY

LOCATION: Bldg. 620-Avionics CRS

☐ PAGE NUMBER
☐ NUMBER OF PAGES

NO.	DESCRIPTION OF WASTE	HAZARD CODE							EPA HAZARD NUMBER	PHYSICAL FORM				RATE OF GENERATION		PRESENT METHOD OF TREATMENT/STORAGE/DISPOSAL	TREATMENT/STORAGE/DISPOSAL METHOD TO MEET RCRA
		I	C	R	E	H	T	U		SD	L	G	SL	PRESENT	MAXIMUM		
1	Mercury				x		x		D009 U151		x			15 lbs/year		Containerized and turned in to DPDO	Present method acceptable
2	Batteries (mercury)				x		x		D009 U151	x				100/year		Turned in to DPDO	Present method acceptable

LEGEND:

I - Ignitable
C - Corrosive
R - Reactive
E - Extraction Procedure (EP) Toxic
H - Acute Hazardous
T - Toxic
U - Unclassified, To be verified

SD - Solid
L - Liquid
G - Gas
SL - Sludge

NOTES:

HAZARDOUS WASTE INVENTORY

LOCATION: Bldg. 185-NDI

☐ PAGE NUMBER
☐ NUMBER OF PAGES

NO.	DESCRIPTION OF WASTE	HAZARD CODE							EPA HAZARD NUMBER	PHYSICAL FORM				RATE OF GENERATION		PRESENT METHOD OF TREATMENT/STORAGE/DISPOSAL	TREATMENT/STORAGE/DISPOSAL METHOD TO MEET RCRA
		I	C	R	E	H	T	U		SD	L	G	SL	PRESENT	MAXIMUM		
1	Sulfuric acid from lead-acid batteries		x		x				D002 D008		x			192 gallons per year		Neutralized with baking soda and discharged to sanitary sewer	Containerize and turn in to DPDO

LEGEND:
I - Ignitable
C - Corrosive
R - Reactive
E - Extraction Procedure (EP) Toxic
H - Acute Hazardous
T - Toxic
U - Unclassified, To be verified

SD - Solid
L - Liquid
G - Gas
SL - Sludge

NOTES:

HAZARDOUS WASTE INVENTORY

LOCATION: Bldg. 196- Hanger Paint Shop; Wheel and Tire Shop

☐ PAGE NUMBER
☐ NUMBER OF PAGES

NO.	DESCRIPTION OF WASTE	HAZARD CODE							EPA HAZARD NUMBER	PHYSICAL FORM				RATE OF GENERATION		PRESENT METHOD OF TREATMENT/STORAGE/DISPOSAL	TREATMENT/STORAGE/DISPOSAL METHOD TO MEET RCRA
		I	C	R	E	H	T	U		SD	L	G	SL	PRESENT	MAXIMUM		
1	Paint Waste	x			x				D001 D007				x	1500 gallons per year		Containerized and turned in to DPDO	Present method acceptable
2	Paint Thinner	x			x				D001 D007		x			300 gallons per year		Containerized and turned in to DPDO	Present method acceptable
3	Methyl ethyl ketone	x					x		U159		x			500 gallons per year		Containerized and turned in to DPDO	Present method acceptable
4	Toluene						x		U220		x			50 gallons per year		Containerized and turned in to DPDO	Present method acceptable

LEGEND:

I - Ignitable
C - Corrosive
R - Reactive
E - Extraction Procedure (EP) Toxic
H - Acute Hazardous
T - Toxic
U - Unclassified, To be verified

SD - Solid
L - Liquid
G - Gas
SL - Sludge

NOTES:

HAZARDOUS WASTE INVENTORY

LOCATION: Bldg. 196 Hangar Paint, Wheel & Tire Shop

☐ PAGE NUMBER
☐ NUMBER OF PAGES

NO.	DESCRIPTION OF WASTE	HAZARD CODE							EPA HAZARD NUMBER	PHYSICAL FORM				RATE OF GENERATION		PRESENT METHOD OF TREATMENT/STORAGE/DISPOSAL	TREATMENT/STORAGE/DISPOSAL METHOD TO MEET RCRA
		I	C	R	E	H	T	U		SD	L	G	SL	PRESENT	MAXIMUM		
5	Turco 6542*						x		F001		x			1320 gals. per year		Containerized and turned in to DPDO	Present method acceptable
6	Alodine				x				D007		x					Consumed in use for the most part	If excess material must be disposed of, it should be containerized and turned in to DPDO

LEGEND:

I - Ignitable
C - Corrosive
R - Reactive
E - Extraction Procedure (EP) Toxic
H - Acute Hazardous
T - Toxic
U - Unclassified, To be verified

SD - Solid
L - Liquid
G - Gas
SL - Sludge

NOTES:

*Chlorinated solvent - contains dichloromethane, tetrachloroethylene, ammonia, and ether

HAZARDOUS WASTE INVENTORY

LOCATION: Bldg. 357-Civil Engineering Shops

☐ PAGE NUMBER
☐ NUMBER OF PAGES

NO.	DESCRIPTION OF WASTE	HAZARD CODE							EPA HAZARD NUMBER	PHYSICAL FORM				RATE OF GENERATION		PRESENT METHOD OF TREATMENT/STORAGE/DISPOSAL	TREATMENT/STORAGE/DISPOSAL METHOD TO MEET RCRA
		I	C	R	E	H	T	U		SD	L	G	SL	PRESENT	MAXIMUM		
1	Paint thinner	x							D001		x			55 gallons per year		Containerized and turned in to DPDO	Present method acceptable
2	Paint wastes	x							D001				x	55 gallons per year		Containerized and turned in to DPDO	Present method acceptable
3	Toluene						x		U220		x					Containerized and turned in to DPDO	Present method acceptable

LEGEND:

I - Ignitable
C - Corrosive
R - Reactive
E - Extraction Procedure (EP) Toxic
H - Acute Hazardous
T - Toxic
U - Unclassified, To be verified

SD - Solid
L - Liquid
G - Gas
SL - Sludge

NOTES:

HAZARDOUS WASTE INVENTORY

LOCATION: Bldg. 120 - Power Production

☐ PAGE NUMBER
☐ NUMBER OF PAGES

NO.	DESCRIPTION OF WASTE	HAZARD CODE							EPA HAZARD NUMBER	PHYSICAL FORM				RATE OF GENERATION		PRESENT METHOD OF TREATMENT/STORAGE/DISPOSAL	TREATMENT/STORAGE/DISPOSAL METHOD TO MEET RCRA
		I	C	R	E	H	T	U		SD	L	G	SL	PRESENT	MAXIMUM		
1	Sulfuric acid from lead-acid batteries		X		X				D002 D008		X			120 gallons per year		Neutralized with baking soda and poured on ground	Containerize and turn in to DPDO

LEGEND:

I - Ignitable
C - Corrosive
R - Reactive
E - Extraction Procedure (EP) Toxic
H - Acute Hazardous
T - Toxic
U - Unclassified, To be verified

SD - Solid
L - Liquid
G - Gas
SL - Sludge

NOTES:

HAZARDOUS WASTE INVENTORY

LOCATION: Bldg. 379 Vehicle Maintenance/Special Purpose

☐ PAGE NUMBER
☐ NUMBER OF PAGES

NO.	DESCRIPTION OF WASTE	HAZARD CODE							EPA HAZARD NUMBER	PHYSICAL FORM				RATE OF GENERATION		PRESENT METHOD OF TREATMENT/STORAGE/DISPOSAL	TREATMENT/STORAGE/DISPOSAL METHOD TO MEET RCRA
		I	C	R	E	H	T	U		SD	L	G	SL	PRESENT	MAXIMUM		
1	Sulfuric acid from lead-acid batteries		x		x				D002 D008		x			600 gals. per year		Neutralized with baking soda and poured outside on concrete pad	Containerize and turn in to DPDO

LEGEND:

I - Ignitable
C - Corrosive
R - Reactive
E - Extraction Procedure (EP) Toxic
H - Acute Hazardous
T - Toxic
U - Unclassified, To be verified

SD - Solid
L - Liquid
G - Gas
SL - Sludge

NOTES:

HAZARDOUS WASTE INVENTORY

LOCATION: Bldg. 163-Armament Recording Lab

☐ PAGE NUMBER
☐ NUMBER OF PAGES

NO.	DESCRIPTION OF WASTE	HAZARD CODE							EPA HAZARD NUMBER	PHYSICAL FORM				RATE OF GENERATION		PRESENT METHOD OF TREATMENT/STORAGE/DISPOSAL	TREATMENT/STORAGE/DISPOSAL METHOD TO MEET RCRA
		I	C	R	E	H	T	U		SD	L	G	SL	PRESENT	MAXIMUM		
1	Developer System Cleaner 35 percent potassium dichromate		x		x				D002 D007		x			9 quarts per year		Discharged to sanitary sewer	Discontinue use and find substitute product, if possible
2	Photographic Intesifier-100 percent chlorochromate				x				D007		x			Rarely used		Solution discharged to sanitary sewer	Containerize and turn in to DPDO

LEGEND:

I - Ignitable
C - Corrosive
R - Reactive
E - Extraction Procedure (EP) Toxic
H - Acute Hazardous
T - Toxic
U - Unclassified, To be verified

SD - Solid
L - Liquid
G - Gas
SL - Sludge

NOTES: Additional photographic chemicals which are not listed may be used infrequently. Waste from any of these which is potentially hazardous due to EP toxicity should also be containerized for disposal by the DPDO.

HAZARDOUS WASTE INVENTORY

LOCATION: Bldg. 1400 Hospital

☐ PAGE NUMBER
☐ NUMBER OF PAGES

NO.	DESCRIPTION OF WASTE	HAZARD CODE							EPA HAZARD NUMBER	PHYSICAL FORM				RATE OF GENERATION		PRESENT METHOD OF TREATMENT/STORAGE/DISPOSAL	TREATMENT/STORAGE/DISPOSAL METHOD TO MEET RCRA
		I	C	R	E	H	T	U		SD	L	G	SL	PRESENT	MAXIMUM		
1	Mercury				x		x		D009 U151	x				4 pounds per year		Containerized and turned in to DPDO	Present method acceptable

LEGEND:

I - Ignitable
C - Corrosive
R - Reactive
E - Extraction Procedure (EP) Toxic
H - Acute Hazardous
T - Toxic
U - Unclassified, To be verified

SD - Solid
L - Liquid
G - Gas
SL - Sludge

NOTES:

HAZARDOUS WASTE INVENTORY

LOCATION: Bldg 212 Entomology

☐ PAGE NUMBER
☐ NUMBER OF PAGES

NO.	DESCRIPTION OF WASTE	HAZARD CODE							EPA HAZARD NUMBER	PHYSICAL FORM				RATE OF GENERATION		PRESENT METHOD OF TREATMENT/STORAGE/DISPOSAL	TREATMENT/STORAGE/DISPOSAL METHOD TO MEET RCRA
		I	C	R	E	H	T	U		SD	L	G	SL	PRESENT	MAXIMUM		
1	Lindane				x		x		D013 U129		x					Rinsates from containers discharged to sanitary sewer	Containerize rinsate; turn in to DPDO
2	Zinc phosphide			x			x		P122		x					Powder consumed in use	
3	Aluminum phosphide						x		P006		x					Powder consumed in use	
4	Trimec*				x				D016		x					Rinsates from containers discharged to sanitary sewer	Containerize rinsate; turn in to DPDO

LEGEND:

I - Ignitable
C - Corrosive
R - Reactive
E - Extraction Procedure (EP) Toxic
H - Acute Hazardous
T - Toxic
U - Unclassified, To be verified

SD - Solid
L - Liquid
G - Gas
SL - Sludge

NOTES:

* Contains twenty-five percent 2,4-Dichlorophenoxyacetic acid

HAZARDOUS WASTE INVENTORY

LOCATION: Bldg. 212
Entomology

☐ PAGE NUMBER
☐ NUMBER OF PAGES

NO.	DESCRIPTION OF WASTE	HAZARD CODE							EPA HAZARD NUMBER	PHYSICAL FORM				RATE OF GENERATION		PRESENT METHOD OF TREATMENT/STORAGE/DISPOSAL	TREATMENT/STORAGE/DISPOSAL METHOD TO MEET RCRA
		I	C	R	E	H	T	U		SD	L	G	SL	PRESENT	MAXIMUM		
5	Chlordane						x		U036		x					Rinsates from containers discharged to sanitary sewer	Present method acceptable

LEGEND:

I - Ignitable
C - Corrosive
R - Reactive
E - Extraction Procedure (EP) Toxic
H - Acute Hazardous
T - Toxic
U - Unclassified, To be verified

SD - Solid
L - Liquid
G - Gas
SL - Sludge

NOTES:

APPENDIX D

Lagoon Sludge Analysis
(EP Toxicity)

DEPARTMENT OF THE AIR FORCE

UNITED STATES AIR FORCE HOSPITAL CANNON TAC
CANNON AIR FORCE BASE NM 88103

SGPB 23 Nov 83

EP Toxicity - Sewage Lagoons

SG
27 CES/DEMG
IN TURN

1. On 6 September 1983 samples of the sewage lagoon sludge were submitted to Occupational and Environmental Health Laboratory (OEHL) at Brooks AFB, Texas for analysis for EP Toxicity. Results were received on 14 Nov 83.

2. The attached results indicated that the sludge samples were all within acceptable limits for landfilling. The maximum permissible concentrations (MPC's) in milligrams per liter (mg/L) are listed under each chemical tested for.

3. Refer any questions to Lt. Scott at extension 3063.

Eric Scott

ERIC J SCOTT, 2LT, USAF, BSC
Chief, Bioenvironmental Engineering

1 Atch
Sampling Results (4 pages)

LABORATORY ANALYSIS REPORT AND RECORD *(General)*

DATE: November 8, 1983

TO: Brooks Air Force Base

FROM:

SAMPLE IDENTITY: Bulk

DATE RECEIVED: September 27, 1983

SAMPLE FROM: Cannon AFB, NM 88103

LAB CONTROL NR: 46704-46707

TEST FOR: EP Tox Metals

AF-1467

mg/L

OEHL No.	Base No.	ARSENIC	BARIUM	CADMIUM	CHROMIUM	LEAD	MERCURY	SELENIUM	SILVER
46704	GL830320	0.05	0.6	0.03	<0.1	0.02	<0.0005	<0.01	<0.02
46705	GL830321	0.03	<0.03	0.02	<0.1	<0.01	<0.0005	<0.01	<0.02
46706	GL830318	<0.01	0.7	0.02	<0.1	<0.01	<0.0005	<0.01	<0.02
46707	GL830319	<0.01	<0.3	0.03	<0.1	<0.01	<0.0005	<0.01	<0.02
	LOD	0.01	0.3	0.01	0.1	0.01	0.0005	0.01	0.02

CHIEF, LABORATORY OPERATIONS BRANCH

REQUESTING AGENCY *(Mailing Address)*

USAF HOSP/SGPB
Cannon AFB NM 88103

FORM

LABORATORY ANALYSIS REPORT AND RECORD *(General)*

DATE: November 8, 1983

TO: Brooks Air Force Base

FROM:

SAMPLE IDENTITY: Bulk

DATE RECEIVED: September 27, 1983

SAMPLE FROM: Cannon AFB, NM 88103

LAB CONTROL NR:

TEST FOR: EP Toxicity Pesticides/Herbicides

AF-1466

OEHL No.	Base No.	µg/L ENDRIN	µg/L LINDANE	µg/L METHOXYCHLOR	µg/L TOXAPHENE	µg/L 2,4-D	µg/L 2,4,5-TP
46704	GL830320	< 0.04	< 0.02	< 0.4	< 2.	< 0.05	< 0.05
46705	GL830321	< 0.04	< 0.02	< 0.4	< 2.	< 0.05	< 0.05
46706	GL830318	< 0.04	< 0.02	< 0.4	< 2.	< 0.05	< 0.05
46707	GL830319	< 0.04	< 0.02	< 0.4	< 2.	< 0.05	< 0.05
	LOD	0.04	0.02	0.4	2.	0.05	0.05

REQUESTING AGENCY *(Mailing Address)*

BULK MATERIAL SAMPLING DATA

(Use this space for mechanical imprint)

OEHL USE ONLY

WORKPLACE OR SITE IDENTIFIER: 0028 CESL

BASE: Cannon AFB NM 88103

ORGANIZATION: SGPB

WORKPLACE OR SITE: Sewage Lagoon

DATE COLLECTED (YYMMDD): 180906

BLDG NO/LOCATION:

ROOM/AREA:

MAIL REPORTS TO (circle if change)

ORIGINAL	0028	Cannon AFB, NM 88103 / SGPB
COPY 1		
COPY 2		

SAMPLE COLLECTED BY (Name, Grade, AFSC): Joseph Sobczak Amn 90230

SIGNATURE: Joseph Sobczak

AUTOVON: 681-3063

REASON FOR SUBMISSION: O

A-ACCIDENT/INCIDENT C-COMPLAINT F-FOLLOWUP/CLEANUP
R-ROUTINE BACKGROUND/PERIODIC SURVEY O-OTHER

OEHL PID:

SOURCE BEING SAMPLED: Contaminated Sewage

EXISTING CONTROLS (Personal protective equipment, Engineering, Administrative): N/A

SAMPLE COLLECTION DATA

OEHL SAMPLE NUMBER				
BASE SAMPLE NUMBER			GL830318	GL830319
ANALYSES REQUESTED	A	CHECK FOR	[ ] MAJOR COMPONENTS	[ ] MAJOR COMPONENTS
	B	NAME	Contaminated Sewage	Contaminated Sewage
		NIOSH NO		
	C	NAME		
		NIOSH NO		
	D	NAME		
		NIOSH NO		
	E	CHECK FOR	[X] HAZARDOUS/TOXIC WASTE	[X] HAZARDOUS/TOXIC WASTE
MATERIAL NAME				
LOT NUMBER				
NSN (FSN)				
SPECIFICATION (MIL or FED)				
MANUFACTURER'S NAME				
DESCRIPTION OF MATERIAL USAGE (Heated, brushed, sprayed, etc.)				
SUPPORTING SAMPLES	OEHL SAMPLE NO			
	BASE SAMPLE NO			
	SAMPLE TYPE			

COMMENTS

AF FORM JAN 81 2751

BULK MATERIAL SAMPLING DATA

(Use this space for mechanical imprint)

OEHL USE ONLY

WORKPLACE OR SITE IDENTIFIER: 0028 OESL

BASE: Cannon AFB, NM 88103

ORGANIZATION: SGPB

WORKPLACE OR SITE: Sewage Lagoon

DATE COLLECTED (YYMMDD): 830906

BLDG NO/LOCATION:

ROOM/AREA:

MAIL REPORTS TO (circle if change)

ORIGINAL	0028	Cannon AFB, NM 88103/SGPB
COPY 1		
COPY 2		

SAMPLE COLLECTED BY (Name, Grade, AFSC): Joseph Sobczak Amn 90730

SIGNATURE: Joseph Sobczak

AUTOVON: 681-3063

REASON FOR SUBMISSION: O

A-ACCIDENT/INCIDENT C-COMPLAINT F-FOLLOWUP/CLEANUP
R-ROUTINE BACKGROUND/PERIODIC SURVEY O-OTHER

OEHL PID:

SOURCE BEING SAMPLED: Contaminated Sewage

EXISTING CONTROLS (Personal protective equipment, Engineering, Administrative): N/A

SAMPLE COLLECTION DATA

OEHL SAMPLE NUMBER				
BASE SAMPLE NUMBER			GL830320	GL830321
ANALYSES REQUESTED	A	CHECK FOR	☐ MAJOR COMPONENTS	☐ MAJOR COMPONENTS
	B	NAME	Contaminated Sewage	Contaminated Sewage
		NIOSH NO		
	C	NAME		
		NIOSH NO		
	D	NAME		
		NIOSH NO		
	E	CHECK FOR	☒ HAZARDOUS/TOXIC WASTE	☒ HAZARDOUS/TOXIC WASTE
MATERIAL NAME				
LOT NUMBER				
NSN (FSN)				
SPECIFICATION (MIL or FED)				
MANUFACTURER'S NAME				
DESCRIPTION OF MATERIAL USAGE (Heated, brushed, sprayed, etc.)				
SUPPORTING SAMPLES	OEHL SAMPLE NO			
	BASE SAMPLE NO			
	SAMPLE TYPE			

COMMENTS

AF FORM JAN 81 2751

APPENDIX E

Oily Water Separators Inventory

Oil/Water Separators

FAC #	Capacity	Service Frequency	Information Source*	Discharges to	If on SC Subsistance Removed
108	500 gal	1 per mo.	SC, IRP, RFW	Sanitary Sewer	Petroleum, Oil
119	375 gal	" " "	" " "	Storm Sewer	" "
121	500 gal	" " "	" " "	Sanitary Sewer	" "
129	500 gal	" " "	" " "	" "	" "
165	600 gal	" " "	" " "	Storm Sewer	" "
170	500 gal	" " "	" " "	Sanitary Sewer	" "
186	2@600 gal	" " "	" " "	" "	" "
194	200 gal	" " "	" " "	Storm Sewer	" "
195	200 gal	" " "	" " "	" "	" "
196	200 gal	" " "	" " "	" "	" "
326	50 gal & 22C gal UG Storage tank	" " "	SC, RFW	Dry Well	JP-4
357 5144	1700 gal	" " "	SC, IRP, RFW	Sanitary Sewer	Oil
374 5077	2@760 gal 1@1675 gal	" " "	" " "	" "	"
379	500 gal	" " "	" " "	" "	Petroleum, Oil
390	1@2000 gal 1@ 375 gal	" " "	SC, RFW		JP-4
680	1@1000 gal 1@ 400 gal		IRP, RFW	Dry Well Sanitary Sewer	
4095	135 gal	2 per yr	SC, IRP		Oil
5114	100 gal	2 per mo.	SC, IRP, RFW	Leaching Well	Petroleum, Oil
5120	100 gal	2 per yr.	" " "	" "	" "
5121	100 gal	2 per yr.	" " "	" "	" "
HUSH HOUSE			Construction Plans	" "	" "

*NOTE: SC=Current Service Contract
IPR=Installation Restoration Program
RFW=Removal of Fuel Waste-1979

APPENDIX F

Pesticide Inventory

PESTICIDE INVENTORY

NOUN	FSN	EPA REG. NO.	UNITS/QUANTITY
Avitrol .5%		11649-7	
Baygon 2% Roach Bait	6840-498-4057	3125-121-ZA	
Diazinon 48% E.C.	6840-00-782-3925	551-220	
Diazinon 5% Granules		34911-13	
Diazinon Powder 2%	6840-753-5038	6830-19	
Diphacione .005%	6840-088-4664	41987-1AA	
D-Phenothrin 2% Aerosol	6340-01-067-5574	901-79	
Dursban 10CR Granules	6840-01-028-4181	464-517	
Hi-Yield 5% Sevin			
Garden and Pet Dust	6840L0010214855	34811-6AA	
Malathion 57% E.C.	6840-655-9222	551-131	
Malathion, Technical 91%	6840-926-1481	241-110-AA	
Naphthalene Moth Flakes	6810-597-6111		
Pivalyl .025% Bait	6840-753-4873	6311-6	
PT260 Diazinon 1%	6840-P260	499-156-AA	
PT270 Dursban .5%	6840-P270	499-147-AA	
PT565 Pyrethrum .5%	6840-P565	499-182-AA	
Purina			
Fly Patrol - Fly Bait 1%	6840-P0000024855	602-260-AA	
Rodenticide .3%		USDA Reg. No.	
Universal, Anti-Coaguland	6840-753-4872	6311-7	
Roost No-more 2%			
Bird Repellent		876-437-AA	
Sevin (Carbarryl) 80% WP	6840-932-7297	1016-43	
RESTRICTED USE INSECTICIDES - RODENTICIDES			
Chlordane 73% E.C.	6840-270-8262	1348-58	
Lindane E.C. 12%	6840-242-4213		
Lindane Powder 1%	6840-242-4219		
Prairie Dog Baid			
Zinc Phosphide 2%	6810-100-1100-4855	6704-74	
Aluminum Phosphide	68-00-145-0016	40285-1	
HERBICIDES			
Monuron 80% WP	6840-00514-0644	2749-60	
Round-up	6840L0009354855	524-308-AA	
Trimec 27.59%	6840-00383-3177	2217-543-AA	
Trimec 27.59%	6840-00383-3177	2217-543-ZB	
Bentgrass			
Broad Leaf Herbicide	6840-00383-3177	2217-529-AA	
Dentax 140	59004-8520-081		
Stump Remover			