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**RCRA PART B PERMIT APPLICATION SECTION  
C: WASTE CHARACTERISTICS VOLUME 3 OF 13  
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**APPLICATION**

**RCRA PART B  
PERMIT APPLICATION**



October 31, 1991

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**SECTION C: WASTE CHARACTERISTICS**

**(Volume 3 of 13)**

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**Fernald Environmental  
Management Project**

U.S. EPA Identification No. 0H6890008976  
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**SECTION C:  
WASTE CHARACTERISTICS**

SECTION C - WASTE CHARACTERISTICS

**RCRA Part B Permit Application  
Fernald Environmental Management Project  
Fernald, Ohio**

This section of the RCRA Part B Permit Application has been prepared in accordance with the requirements of Ohio Administrative Code (OAC) 3745-50-44(A)(2) and (3) and Title 40 of the Code of Federal Regulations (CFR) 270.14 (b)(2) and (3). The Fernald Environmental Management Project (FEMP), previously the Feed Materials Production Center (FMPC), produced uranium metal used in the fabrication of fuel cores and target fuel elements for the Department of Energy (DOE). The FEMP ceased production in September 1989. The FEMP's primary function was changed in August 1990 from uranium metal production to environmental restoration and site clean-up activities.

The FEMP currently stores wastes generated from inactive on-site production processes, restoration activities, ongoing site maintenance and construction, and off-site DOE facilities. Most hazardous waste stored at the FEMP is mixed waste. Mixed waste is defined as waste that contains both a hazardous waste component regulated under RCRA and a radioactive component consisting of source, special nuclear, or byproduct material regulated under the Atomic Energy Act. Any information included in this section on the radioactive portion of mixed wastes generated or stored at the FEMP is included for informational purposes only and is not intended to be part of the facility's RCRA permit. Because there are limited treatment/disposal facilities permitted for mixed wastes, the FEMP is required to store the hazardous waste on-site until additional treatment/disposal facilities become available.

The FEMP is operating under a Consent Decree and its proposed amendments. Under the proposed amendments to this Consent Decree, the parties have agreed to a schedule for RCRA characterization of waste materials stored on site. Wastes have been divided into three groups based on the

following definitions:

- Backlog Waste: any waste generated on or before June 30, 1990.
- Newly Generated Waste: any waste generated after June 30, 1990.
- Newly Identified Backlog Waste: any waste which was generated prior to June 30, 1990, but was not inventoried until after June 30, 1990.

RCRA characterizations on all backlog wastes are being completed according to the schedule agreed upon in the proposed amendments to the Consent Decree. A Consent Decree Progress Report is submitted quarterly to the Ohio Environmental Protection Agency (OEPA) and includes hazardous waste streams characterized under the proposed amendments to the Consent Decree, as well as hazardous waste streams identified during routine RCRA determinations.

**C-1 CHEMICAL AND PHYSICAL ANALYSIS**

The information presented in this section is used to:

- establish hazardous waste identification;
- ensure proper handling and storage of the waste;
- evaluate the preacceptance conditions for receipt of waste from on-site and off-site sources; and
- determine compliance with land disposal restriction requirements.

Hazardous wastes currently generated at the FEMP result from activities such as RCRA closures, CERCLA response actions, underground storage tank removals, construction and maintenance, and miscellaneous activities.

Environmental media, such as soil or groundwater, that is generated during any of these activities and contains a hazardous constituent is managed as a hazardous waste. The media is characterized using the same characterization process used for waste.

Backlog hazardous wastes were generated when the FEMP was operating to produce uranium metal. These processes included metals production and fabrication, maintenance, and general degreasing operations. Hazardous wastes generated during this time were predominantly spent solvents. Hazardous wastes received from off-site DOE facilities that are part of the backlog inventory include spent solvents and barium chloride salts.

The FEMP uses process knowledge and/or analytical data to characterize waste as described in Section C-2 and the FEMP Waste Determination Plan as approved by OEPA. The first step of the waste determination process is evaluation of process information. The FEMP evaluates the adequacy of process knowledge and, if sufficient and conclusive, uses this information to characterize the waste. Typical examples of process knowledge used to complete characterizations include material safety data sheets, standard operating procedures, personnel interviews, and/or material specifications.

When process knowledge is used to determine that a waste is non-hazardous, supporting documentation is maintained in the facility's files. Additional actions such as a visual inspection, a request for additional process information, and/or a request for sampling and analysis of the waste are taken when process knowledge is inadequate to complete a characterization. After adequate information is gathered for the waste, results are evaluated and RCRA waste codes assigned as warranted.

Table C-1 identifies the hazardous wastes stored at the FEMP. This table is submitted to OEPA quarterly as part of the Consent Decree Progress Report to update the ongoing waste determination process which is taking place at the FEMP. Table C-2 summarizes the results of the hazardous waste determinations that have been completed at the FEMP based on analytical data or process knowledge.

#### C-1a Containerized Waste

The FEMP is seeking a permit for storage of containerized hazardous waste. The primary types of containers used for storage include but are not limited to 55 gallon and 85 gallon drums. Additional types of containers that may be used are identified in Section D, Table D-1. Container uses and specifications are also discussed in Section D, Process Information.

Compatibility of the hazardous waste with the container is verified prior to placing a hazardous waste in a container. The verification is completed by comparing analytical data or process knowledge for the hazardous waste to compatibility information for the container. After compatibility verification is completed, the appropriate container is obtained. Most containers used at the FEMP are constructed of carbon steel or stainless steel.

Containerized hazardous wastes are stored at designated hazardous waste storage areas within the FEMP. Because the construction of the storage areas vary, the waste characterization data is used to

determine the appropriate hazardous waste storage area. Two categories of data are used to assist FEMP personnel in selecting a storage location:

- The presence or absence of free liquids, and
- Chemical constituency or compatibility.

Most liquid hazardous waste is stored in the Plant 1 Pad covered structures and inside warehouses. The presence or absence of liquids is determined by a visual inspection of the waste or application of process knowledge.

Chemical constituency or compatibility of each hazardous waste is evaluated to ensure that the hazardous wastes stored in a unit are compatible with each other and with the construction of the unit.

A Reactivity Group Code is assigned to each hazardous waste stream to ensure that incompatible hazardous wastes are not stored together. An example of the current Reactivity Group Codes in use at the FEMP is included as Attachment C-1. These Reactivity Group Codes may be modified as additional hazardous wastes are identified at the FEMP.

#### C-1b Waste in Tank Systems

The requirements of this section are not applicable to the FEMP because the facility is not seeking a permit to operate a tank system to treat or store hazardous waste. The FEMP has hazardous waste management units (HWMUs) that are classified as tank systems. All of the tank systems will be closed during site remediation.

A Sampling and Analysis Plan will be developed as part of the RCRA Closure Plan Information for each tank system. Sampling and Analysis Plans will address the procedures used to sample and characterize any hazardous waste in each tank system.

**C-1c Waste in Piles**

The FEMP is not seeking a permit to operate a hazardous waste pile, therefore this section is not applicable. No hazardous waste piles are currently identified at the FEMP.

**C-1d Landfilled Wastes**

The owner/operator of a hazardous waste landfill is required to demonstrate the presence or absence of free liquids in bulk or containerized waste prior to placement in the landfill, and to provide the methods used to meet these requirements in the Waste Analysis Plan.

The requirements of this section are not applicable because the FEMP is not seeking a permit for a hazardous waste landfill. Although the FEMP has identified two hazardous waste management units (HWMUs) that are classified as landfills, no additional hazardous waste is expected to be placed in either landfill. One landfill has been closed under interim status requirements and the second will be closed in accordance with schedules submitted under the Consent Decree and its proposed amendments.

**C-1e Wastes Incinerated and Wastes Used in Performance Tests**

The owner/operator of an incinerator is required to include the methods that are used to sample and analyze waste prior to incineration in the Waste Analysis Plan. The FEMP is not seeking to permit a hazardous waste incinerator. Therefore, the requirements of this section are not applicable.

The FEMP has identified HWMUs that are classified as incinerators. These incinerators are not in operation and are not expected to be operated to treat hazardous waste. RCRA Closure Plan Information has been or will be submitted for each unit.

**C-1f Wastes to be Land Treated**

The owner/operator of a land treatment unit is required to provide a list of hazardous constituents expected to be in, or derived from, the waste to be land treated based on waste analysis performed in accordance with the Waste Analysis Plan. The same information is required if food chain crops are to be grown in or on the treatment zone. The FEMP is not seeking a permit for the land treatment of hazardous waste, therefore this section is not applicable.

**C-1g Waste in Miscellaneous Treatment Units**

The owner/operator of any miscellaneous treatment unit is required to provide a report on a demonstration of the effectiveness of the treatment based on laboratory or field testing. The FEMP is not seeking a permit to operate a miscellaneous treatment unit, therefore this section is not applicable.

The FEMP has identified units formerly used to treat hazardous waste. The FEMP operated the Barium Chloride Salt Treatment Facility from December 1985 until March 1986. The unit has been closed under RCRA as indicated in the Part A Permit Application. The DOE Site Manager certified on April 17, 1990, that the unit was closed in accordance with the Barium Chloride Salt Treatment Facility Treatment Closure plan.

RCRA Closure Plan Information will be submitted for all other units. Sampling and Analysis Plans will be developed as part of the RCRA Closure Plan Information. Sampling and Analysis Plans will address the procedures used to sample and characterize residues remaining in the treatment units if applicable.

C-1h Waste in Surface Impoundments

The FEMP has identified HWMUs that are classified as surface impoundments. The FEMP is not seeking a permit to operate a hazardous waste surface impoundment. Sampling and Analysis Plans will be developed as part of the RCRA Closure Plan Information to address the procedures used to sample and characterize waste in each surface impoundment.

**C-2 WASTE ANALYSIS PLAN**

This section of the permit application is the FEMP Waste Analysis Plan as required by OAC 3745-54-13(B) and (C), 3745-59-07 and 3745-50-44; 40 CFR 264.13(b) and (c); 268.7, and 270.14(b)(3). The Waste Analysis Plan describes the procedures used at the FEMP to characterize waste in order to manage the waste appropriately. The FEMP Waste Analysis Plan has three objectives:

- To accurately characterize the hazardous physical and chemical properties of each waste stream and assign appropriate hazardous waste codes;
- To provide sufficient information to select the safest hazardous waste storage containers, appropriate hazardous waste storage areas, and establish appropriate shipping and handling techniques, and;
- To determine applicable land disposal restriction information for each hazardous waste stream.

The Waste Analysis Plan may also be used to provide information for the initial screening of hazardous wastes for treatment as treatment facilities become available.

The FEMP has developed a comprehensive sampling and analysis program to ensure that the objectives of this section are achieved. The vehicle for completing waste characterizations is the Material Evaluation Form. An example of the current Material Evaluation Form is provided in Attachment C-2. This form is included as an example of the type of form used by the facility and is subject to change.

The sampling and analysis program is initiated by the process operator or project supervisor who is responsible for the waste generation. These FEMP personnel are trained in waste identification and are required to identify waste materials and complete Material Evaluation Forms for each waste stream generated under their responsibility.

Once completed by the process operator/project supervisor, the Material

Evaluation Form is reviewed by regulatory specialists and a RCRA determination is completed if the information is sufficient. If the information is not adequate, the specialist either requests more information from the process operator/project supervisor or requests sampling of the waste. Waste determinations based on process knowledge also rely on supplemental information to support the information supplied by the process operator/project supervisor. This information can include but is not limited to:

- historical knowledge and/or data on similar FEMP processes;
- conversations with personnel familiar with the process or location;
- text books which describe the processes;
- material safety data sheets; and
- vendor specification information.

The parameters needed to assess the hazardous constituents of the waste are identified and a sampling plan may be prepared if the waste requires sampling and analysis. Preliminary information supplied on the Material Evaluation Form is used to develop the sampling plan.

The sampling plans may include but are not limited to the following information:

- the purpose of sampling;
- the identification of sampling procedures;
- number and location of samples;
- analytical parameters;
- sample volumes and containers;
- Quality Assurance/Quality Control requirements;
- equipment needed;
- decontamination of equipment; and
- health and safety concerns.

After the samples are analyzed and results are received by the FEMP, the results are reviewed by FEMP personnel. A RCRA determination is made based on the results. A diagram of the material evaluation process is

provided in Figure C-1.

#### C-2a Parameters and Rationale

This section provides the parameters and rationale for waste analysis that may apply to any individual waste stream generated or received by the FEMP. Waste streams generated by the FEMP may contain several constituents of concern. Waste is analyzed for specific parameters, as necessary, in order to meet the objectives of the Waste Analysis Plan. A list of the parameters and rationale for analysis of any waste stream generated at the FEMP is provided in Table C-3.

Each waste stream is analyzed for those parameters most likely to yield the maximum amount of chemical and physical information. In addition, specific analyses are selected based on historical knowledge, knowledge of the waste generation process, and the constituents suspected to be in the waste. The waste parameters selected by the FEMP represent those characteristics necessary to manage the waste in compliance with applicable permit conditions.

#### C-2b Test Methods

When process knowledge is insufficient to identify a waste stream as hazardous, analytical methods are used to make such a determination. The test methods employed for the analytical parameters chosen to characterize and monitor the FEMP waste streams are listed in Table C-4. All methods reference SW-846, unless otherwise noted. When a waste stream has the potential to have several waste codes, the applicable analytical tests are conducted on the sample.

Atomic absorption, direct aspiration is the method of choice for metallic analytes. However, where analytical or sample matrix interferences prevent the collection of accurate and/or precise data, the atomic absorption, furnace technique analogs are employed.

An alternative gas chromatographic/mass spectroscopic method (Method 8248) is substituted for the gas chromatography methods listed in Table C-4 if the methods listed in Table C-4 do not provide definitive results for waste characterization or recertification.

For those constituent analyses not addressed in test methods presented in SW-846, American Society of Testing Materials (ASTM) Standards have been adopted as appropriate. "Standard Methods for the Examination of Water and Wastewater," latest edition, prepared and published jointly by American Public Health Association, American Water Works Association, and the Water Pollution Control Federation, may also be used.

For those waste streams that are generated in a solid matrix, sample preparation is needed prior to analysis. The extraction methods for solid matrix wastes are also provided in Table C-4.

Methods used to analyze wastes sent to off-site laboratories are specified in the FEMP's contract with the laboratory. The methods specified in Table C-4 are also required for wastes sent to off-site laboratories for analysis. Laboratory reports document the specific SW-846 method or its analog used to analyze for each constituent. The laboratory of choice may vary because the FEMP must maintain the flexibility to select contract laboratories on a competitive basis. Prior to the selection of a contract laboratory, the laboratory submits Quality Assurance and Quality Control (QA/QC) information to the FEMP. The laboratory is required to meet the QA/QC goals established in SW-846 for analytical procedures. Failure to demonstrate the ability to achieve the QA/QC goals disqualifies the use of that laboratory.

#### C-2c Sampling Methods

The FEMP has developed site-specific sampling procedures which incorporate the sampling methods in SW-846 including Section 3.1 and

4.1, Sampling Considerations; Chapter 9, Sampling Plan; and Chapter 10, Sampling Methods and Samplers and Sampling Procedures for Hazardous Waste Streams (EPA-600/2-80-018).

Due to the fact that wastes generated at the FEMP vary in types of matrices, the sampling methods and equipment used by the facility depend on the individual waste stream matrix. The types of equipment used to sample specific waste types are summarized in Table C-5 which references SW-846.

#### Number of Samples

Sampling procedures used for waste characterization at the FEMP are designed to ensure representative and random sampling. Two general procedures have been developed to ensure representative and random sampling based on the type of container used to store the waste. Both procedures are based on the use of random number tables.

When a waste is stored in drums or containers of 55 gallons or less, the number of representative samples collected is based on the number of containers holding the waste from a generating source. Homogeneity of the waste being sampled is determined by evaluation of information on the Material Evaluation Form and the material type and source code. The following is provided as a general guideline for the number of representative samples required for a given container population:

<u>Number of Containers</u>	<u>Number of Samples for Analysis</u>
1	2
2	2
3 to 15	3
16 to 40	4
41 to 50	5
over 50	10 percent

In order to determine which containers are to be randomly selected, the lot group of containers holding the same waste is sequentially

numbered. After the containers are numbered, a random number table is used to select containers for sampling to minimize the possibility of introducing bias into the process.

For wastes stored in large containers (20 cubic yards and larger), a representative number of samples is based on the construction of the container. The following equation is used to develop the number of representative samples for each container::

$$n = A^x / (GL)^{0.5}$$

Where n is the number of samples;  
A is the area at the top of the container, and  
GL is the greatest length of the container.

In order to determine the sampling location within the container, the container is schematically divided into cubes with dimensions of one foot. Each cube is sequentially numbered. After the cubes are numbered, a random number table is used to select the cube designated for sampling. During actual sampling, if interference is encountered, such as a stone or piece of wood, another location is selected using the random number table and sampled.

Samples collected from 20 cubic yard containers or larger are composited. Composite samples are also used for large populations of containers with capacities of 55 gallons or less. Samples are collected from randomly selected containers and then composited. Sample compositing does not occur when there are physical anomalies between the wastes such as changes in color or the container holds commingled waste such as demolition debris.

Quality control and assurance blanks such as duplicates, equipment blanks, and trip blanks may be collected. Duplicate samples are collected for waste streams with more than one drum at the rate of at least 10 percent. For example, one duplicate sample is collected if three drums of waste are sampled; two duplicate samples are

collected if 11 drums of waste are sampled. Equipment blanks are collected immediately following equipment decontamination. Trip blanks accompany sample shipments every third week. Trip blanks are analyzed for volatile organics (EPA Method 624) each time they are submitted.

Other samples may be collected as specified by the contract laboratory QA/QC procedures. These samples may include laboratory blanks and spiked blanks, split samples, and standards.

#### Sample Containers

The sample containers selected for a particular waste stream are based on the sample matrix and the types of analysis that may be required for that particular waste stream. Where various sample matrices are encountered or more than one analysis is required, the appropriate sample containers are used. The types of containers, preservatives, holding times, and minimum volumes required are presented in Table C-6.

#### QA/QC Procedures

In addition to the quality control samples described earlier, the FEMP uses several established procedures to preserve the integrity of the samples during collection and shipment. These procedures include:

- field logs,
- sampling equipment decontamination,
- chain-of-custody documents, and
- shipping seals.

#### Field Log

A field log is maintained by sampling personnel. The type of information that is recorded in the field log may include but is not limited to:

- sampling date and location;

- time of sampling;
- sampling plan number, if applicable;
- material type and source code, if available;
- sampling personnel
- lot and drum number, if available;
- sampling equipment used;
- number of phases or matrix;
- phase specific identifying number, if applicable;
- physical description;
- sampling anomalies and resolutions to sampling problems;
- customer number for laboratory use;
- requested analysis;
- quantity and type of bottles;
- type of sample (i.e. grab, composite, etc.); and
- identification of containers storing decontamination rinseate and personnel protective clothing.

The field log describes sampling conditions that may prejudice the analytical results.

#### Equipment Decontamination

All sampling equipment is decontaminated prior to sampling. The frequency of decontamination is based on the type of sampling. For those waste streams undergoing composite sampling, equipment is not decontaminated between individually collected samples making the composite. For waste undergoing grab sampling, equipment is decontaminated after each collected sample. In every case, equipment is decontaminated between different waste streams. Periodically, an equipment blank is collected after the equipment undergoes final decontamination for a particular waste stream to ensure that the equipment is decontaminated.

The equipment decontamination procedure is described below:

- 1) The sampling equipment is placed over a collection drum and washed using a warm detergent solution and bottle brush.
- 2) The sampler is rinsed several times with tap water to remove detergent residues.
- 3) The sampler is then rinsed with distilled water and the excess water is drained into the drum.
- 4) The sampler is then air dried or rinsed with isopropanol and allowed to dry.
- 5) The clean sampler is placed in a plastic bag or wrapped in aluminum foil.

#### Chain-of-Custody and Shipping Seals

Sample containers are placed in appropriate shipping containers after sample collection. The containers are cooled, as required, to meet preservative requirements. Sample transport documentation such as analytical requests and chain-of-custody forms are affixed to or placed in the shipping container. The FEMP maintains a strict chain-of-custody procedure for all samples collected for RCRA determination. A chain-of-custody tape or other tamper guard seals are affixed to the shipping container in order to indicate potential container tampering. The shipping container is then sent to the appropriate laboratory for analysis.

#### C-2d Frequency of Analysis

Waste generated at the FEMP is analyzed whenever there is reason to believe that the process generating the waste has changed. Hazardous waste received at the FEMP from off-site sources is analyzed whenever the pre-acceptance inspection indicates that the hazardous waste received at the site does not match the hazardous waste description on the hazardous waste manifest.

The majority of waste generating activities at the FEMP has changed from continuous process sources to project and/or location-specific sources. Wastes generated by unique activities, such as

closure/remedial wastes, are sampled and analyzed as they are generated. Wastes that are generated by continuous processes are usually sampled and analyzed annually unless there is reason to believe that the waste has changed. If there is reason to believe the waste has changed, the waste is sampled and analyzed immediately.

For process wastes that are no longer generated, repeat analysis is not required for proper waste management. Because these wastes are stable and will not change, these wastes are not re-analyzed once they are characterized.

#### C-2e Additional Requirements for Waste Generated Off-Site

The FEMP may accept hazardous waste from off-site facilities. No hazardous waste from off-site facilities is accepted and/or stored at the FEMP unless the conditions of the Consent Decree and its proposed amendments are met.

Generators may provide the FEMP with waste characterization data for each waste stream shipped to the FEMP from an off-site facility as detailed in the Material Evaluation Form in Attachment C-2. Off-site generators are requested to provide the same types of data and level of detail that is required to characterize waste generated at the FEMP. Additional data required by the FEMP that is not included on the Material Evaluation Form is submitted to the FEMP as an attachment to the form. This data usually precedes actual shipment of the waste so that FEMP personnel can review the data and confirm that the waste can be stored at the FEMP. The generator is requested to furnish information for each waste stream such as:

- Physical parameters such as pH, color, physical state, flashpoint, particle size, specific gravity, density, viscosity, liquid content, compatibility;

- TCLP analytical results for toxicity characteristic constituents;
- RCRA waste code(s) with analytical data if the codes have been determined on the basis of analytical information;
- Land disposal restriction information such as total organic carbon, total suspended solids, constituent specific organic scans as necessary; and
- Generator certifications that the information for each waste stream is complete and accurate.

In some cases, the FEMP may request a sample for preacceptance analysis prior to shipment. The analytes selected for testing are based on knowledge of the process generating the waste as supplied by the generator. Upon receipt and review of the analysis, the pre-acceptance/rejection determination is made.

Waste characterization data is evaluated by trained FEMP personnel. If it is determined that the waste can be stored at the FEMP, the generator is notified to schedule shipment of the waste.

When hazardous waste arrives at the FEMP, acceptance verification is initiated by facility personnel according to internal procedures. The following areas are examined prior to acceptance of the waste:

- Documentation
- manifest and land disposal notification/certification;
- Verification of manifest information; container count, weight, waste codes, etc.;
- Container condition;
- Fingerprint analysis of the waste.

Designated trained personnel examine the hazardous waste manifest and land disposal restriction notification and certifications. Absent or incomplete receiving/shipping documentation such as an incomplete hazardous waste manifest or incomplete or missing land

disposal restriction information are corrected or completed prior to acceptance of the hazardous waste shipment.

After verification of container condition and proper labeling, contents of the containers are examined to verify the physical state of the waste. Ten percent of the drum population of each similar matrix waste is sampled and composited to verify the waste characterization. Wastes are sampled and analyzed according to the procedures described in Section C-2. The sample undergoes a fingerprint analysis which includes pH, physical state, flashpoint, specific gravity, and reactivity.

Between receipt of the hazardous waste and verification, the hazardous waste is segregated from other hazardous waste stored at the FEMP or other hazardous waste undergoing acceptance verification. The FEMP does not sign the manifest and formally accept the hazardous waste until fingerprint analysis of the hazardous waste is complete and verified to be within the acceptance criteria described in Table C-7.

The generator is connected immediately if any discrepancies or other problems are discovered in documentation, condition of containers, or identification of the hazardous waste. If discrepancies cannot be resolved, the generator is informed that the hazardous waste shipment has been rejected. When a shipment is rejected, the FEMP completes a new uniform hazardous waste manifest. The generator's name is written in the generator and destination areas. The special instructions section of the manifest identifies the hazardous waste as a rejected shipment and references the attached original manifest from the generator. The FEMP acts as the generator's agent and signs the return manifest. The FEMP will send a letter describing the discrepancy and the attempts to resolve the discrepancy to OEPA and USEPA if the discrepancy is not resolved within 15 days of hazardous waste receipt.

If the hazardous waste meets acceptance criteria, the hazardous waste stream is assigned FEMP material and source codes, a FEMP Reactivity Group Code and a drum number. Each drum is then entered into the facility's hazardous waste tracking system. The hazardous waste tracking system is used to identify and track the location and contents of each hazardous waste container stored at the FEMP. The system records the drum number, hazardous waste code(s), location of the drum, FEMP material and source codes, and the FEMP Reactivity Group Code. Each drum is assigned a storage location based on the physical state, compatibility and flammability of the waste. Any subsequent movement of the hazardous waste at the FEMP is recorded in the hazardous waste tracking system.

C-2f Additional Requirements for Ignitable, Reactive and Incompatible Wastes

Liquid ignitable hazardous wastes are identified through process knowledge or by use of the Pensky-Martens Closed Cup test (EPA Method Number 1010) to determine the flashpoint of the waste.

A small quantity of reactive hazardous wastes have been generated and stored at the FEMP. Reactive hazardous wastes are stored in areas that are compatible with the material stored and are separated from incompatible hazardous wastes. Each hazardous waste stream is assigned a Reactivity Group Code based on the process knowledge and analytical data provided for each hazardous waste stream on the Material Evaluation Form. Only compatible hazardous wastes are stored within each storage unit or containment system.

**C-3 WASTE ANALYSIS REQUIREMENTS PERTAINING TO LAND DISPOSAL RESTRICTIONS (LDR)**

Section C-3 has been prepared in accordance with the requirements of OAC 3745-59 and 40 CFR Part 268.

Third-third rule mixed waste, which include the majority of mixed wastes, has been granted a National Capacity Variance until May 8, 1992. Under this variance, mixed waste, with the exception of spent solvent, dioxin-containing waste, and California list wastes, may be land disposed in units that meet minimum technical requirements without meeting the treatment standard. However, the requirements for waste analysis under OAC 3745-59-07 and 40 CFR 268.7 still apply to hazardous waste under a National Capacity Variance. These requirements include determination of treatability groups, subcategories, and treatment standards for all restricted hazardous wastes, including Third-third mixed waste. Attachment C-3 is an example of the type of form used to document the information used to complete the LDR waste characterization.

**C-3a Waste Characterization**

As a generator and storage facility for mixed waste, the FEMP is required to determine whether its hazardous waste is restricted from land disposal and to properly manage the hazardous waste in accordance with those restrictions.

As described in Section C-2, hazardous wastes are assessed to determine the applicability of all possible hazardous waste codes including both listed and characteristic codes. For hazardous wastes that carry more than one hazardous waste code, subcategories and treatability groups are determined for each hazardous waste code. The FEMP also determines whether the hazardous waste meets applicable treatment standards for each hazardous waste code identified.

Process knowledge may be used to determine the hazardous waste's subcategory such as D001, high Total Organic Carbon, and treatability group wastewater or non-wastewater. In addition, process knowledge may be used to determine whether hazardous wastes meet treatment standards.

When process knowledge is not adequate to determine a hazardous waste's subcategory and treatability group, the hazardous waste is analyzed according to the procedures and analytical methods discussed in Section C-2. In addition, restricted hazardous wastes may require analysis to confirm that they meet concentration based treatment standards for certification purposes.

C-3a(1) Waste Characteristics: Solvent Wastes and Dioxin-Containing Wastes

The FEMP does not accept, generate or store any dioxin-containing wastes identified as F020-F023 or F026-F028. Therefore, the land disposal restrictions for dioxin-containing waste are not applicable to hazardous wastes generated at the FEMP.

The FEMP does accept, generate, and store spent solvent wastes identified as F001-F005. Process knowledge is generally adequate to determine that solvent wastes generated and stored on-site do not meet treatment standards. The FEMP requires analytical data to determine if treatment standards are met prior to accepting any F001-F005 spent solvent wastes from off-site sources.

Hazardous wastes containing spent solvents may meet treatment standards in some instances. In these cases, the FEMP uses existing analytical data and process knowledge, or conducts additional analyses to certify compliance with the treatment standards.

When analyses are required, spent solvent waste is analyzed to determine if the hazardous waste meets concentration based treatment standards by the TCLP, except for F005 and F002 wastes containing benzene and 1,1,2-trichloroethane. The treatment standards for these hazardous wastes are based on the total composition of the hazardous waste, therefore, analysis is performed to determine the total concentration of benzene and 1,1,2-trichloroethane in these hazardous wastes.

Upon receipt of the analytical results, the FEMP compares the results to the treatment standards in 40 CFR 268.41 and 268.43. If the results show that the treatment standards have been met, the FEMP certifies that the hazardous waste meets treatment standards.

C-3a(2) Waste Characteristics: California List Wastes

With the promulgation of the Third-third rule, most of the treatment standards or statutory prohibition levels associated with the California list were superseded by more stringent, waste-specific treatment standards. California list restrictions still apply, however, for hazardous wastes subject to a National Capacity Variance. After May 8, 1992, in certain cases, California list treatment standards or statutory prohibition levels will apply to mixed waste in addition to the Third-third treatment standards. These cases are noted below in discussion of each of the California list restrictions.

Acid Wastes

Treatment standards have been promulgated for acidic hazardous wastes under the Third-third rule, therefore the California list restrictions for acidic hazardous wastes have been superseded, except as they apply to Third-third mixed waste under National Capacity Variance. Acidic hazardous wastes are

tested in accordance with the procedures and methods discussed in Section C-2.

#### Halogenated Organic Compounds (HOCs)

California list restrictions apply to hazardous wastes which contain over 1,000 milligrams per liter (mg/l) of Hazardous Organic Compounds (HOCs) as defined in 40 CFR 268 Appendix III. Many of the compounds identified in the HOC list are also listed hazardous wastes and therefore the treatment standard for the listed waste may take precedence. During the National Capacity Variance for Third-third mixed waste, however, the California list restrictions may apply to the hazardous waste stream while the Third-third treatment standard is not in effect. Solid and liquid hazardous wastes suspected of containing HOCs are tested in accordance with the procedures and methods discussed in Section C-2.

Aqueous wastes with less than 10,000 mg/l of HOCs must be treated to a concentration of less than 1,000 mg/l HOCs prior to land disposal. No treatment method is specified. The following wastes must be destroyed in a RCRA-regulated incinerator or treated by an alternate approved method:

- Aqueous wastes with 10,000 mg/l or more of HOCs;
- Non-aqueous liquid wastes with 1,000 mg/l or more HOCs;
- Sludges or solids with 1,000 mg/l or more HOCs.

#### PCBs

Liquid PCB wastes (as determined by process knowledge) may become subject to the land disposal restrictions if they are mixed with listed hazardous waste or if they exhibit a hazardous waste characteristic (except for Toxicity Characteristic wastes D018-D043 which are excluded from regulation under 40 CFR 261.8). Hazardous wastes suspected of containing PCBs are tested in accordance with the procedures

and methods discussed in Section C-2.

PCBs that are subject to the California list restrictions are treated by the following specific methods:

- Liquids with 50 parts per million (ppm) or more PCBs but less than 500 ppm must be incinerated or burned in high efficiency boilers;
- Liquids with 500 ppm or more PCBs must be incinerated.

#### Cyanide Wastes

Specific standards have been issued for cyanide wastes (D003, F-, P-, and U-list wastes). Therefore, the California list standards for liquid hazardous waste containing cyanide have been generally superseded, except as they apply to Third-third mixed waste under the National Capacity Variance. Hazardous wastes suspected of containing cyanide are tested in accordance with the procedures and methods discussed in Section C-2.

#### Heavy Metals

The California list restrictions applicable to liquid hazardous wastes that contain specified concentrations of the eight heavy metals that are toxicity characteristic waste have been superseded by the Third-third rule, except as they apply to Third-third mixed waste under a National Capacity Variance. California list standards for nickel and thallium are still applicable to all liquid hazardous waste. Liquid hazardous wastes suspected to contain California list heavy metals are tested in accordance with the procedures and methods discussed in Section C-2.

C-3a(3) Waste Characteristics: First-Third Waste With Treatment Standards

The FEMP uses process knowledge and/or supplemental analytical data to determine whether First-third hazardous wastes meet applicable treatment standards. Where analysis is required, representative samples are collected and analyzed using the procedures described in Section C-2.

In most cases, process knowledge is used to determine that hazardous wastes do not meet treatment standards and to determine treatability groups and subcategories. However, when process knowledge is not adequate or when the FEMP believes that the hazardous waste does meet treatment standards, the hazardous waste is analyzed to determine LDR treatability groups and subcategories, and to confirm whether the hazardous waste meets treatment standards.

C-3a(4) Second-Third Wastes With Treatment Standards

The FEMP uses process knowledge and/or analytical data to determine whether Second-third hazardous wastes meet applicable treatment standards. Where analysis is required, representative samples are collected and analyzed using the procedures described in Section C-2.

In most cases, process knowledge is used to determine that hazardous wastes do not meet treatment standards and to determine treatability groups and subcategories. However, when process knowledge is not adequate or when the FEMP believes that the hazardous waste does meet treatment standards, the hazardous waste is analyzed to determine treatability groups and subcategories, and to determine if the hazardous waste meets treatment standards.

**C-3a(5) Third-Third Wastes**

Treatment standards for all Third-third hazardous wastes, including any First- and Second-Third hazardous wastes rescheduled to the Third-third, were promulgated on May 8, 1990. The FEMP uses process knowledge and/or analytical data to determine whether Third-third hazardous wastes meet applicable treatment standards. Where analysis is required, representative samples are collected and analyzed using the procedures described in Section C-2.

In most cases, process knowledge is used to determine that hazardous wastes do not meet treatment standards and to determine treatability groups and subcategories. However, when process knowledge is not adequate or when the FEMP believes that the hazardous waste does meet treatment standards, the hazardous waste is analyzed to determine treatability groups and subcategories, and to determine if the hazardous waste meets treatment standards.

**C-3a(6) Soft Hammer Wastes**

With promulgation of the Third-third rule on May 8, 1990, soft hammer restrictions became obsolete, therefore this section is no longer applicable.

**C-3b Notification and Certification Requirements**

Attachment C-4 is an example of the type of form used to document the LDR information necessary to complete the notification/certification forms that must accompany each off-site hazardous waste shipment. Examples of the types of notification/certification forms that may be used by the FEMP are included in Attachment C-5. The specific notification/certification forms that may be used by the FEMP are discussed below.

**Waste Meeting Applicable Treatment Standards**

If the hazardous waste meets applicable treatment standards, each off-site shipment of hazardous waste is accompanied by the appropriate notification/certification shown in Attachment C-5. The notification includes the Manifest Number, Hazardous Waste No., the Subcategory if applicable, the Treatability Group, the CFR reference for the treatment standard, and the five-letter code where the treatment standard is a specified technology. In addition, for F001-F005 spent solvents and F039 multi-source leachate the concentration based treatment standards are provided for each hazardous constituent identified. The certification is signed by an authorized facility representative.

**Waste Not Meeting the Applicable Treatment Standard**

If the hazardous waste does not meet applicable treatment standards, a notification accompanies each off-site shipment (see sample form in Attachment C-5). The notification includes the Manifest Number, Hazardous Waste No., the Subcategory if applicable, the Treatability Group, the CFR reference for the treatment standard, and the five-letter code where the treatment standard is a specified technology. For F001-F005 spent solvents and F039 multi-source leachate the concentration based treatment standards are provided for each hazardous constituent identified. All applicable California list restrictions under RCRA Section 3004(d) are also identified. The sample notification form for hazardous wastes not meeting the applicable treatment standards is provided in Attachment C-5.

**Waste with Applicable Extensions**

If a hazardous waste is subject to a case-by-case extension or a national capacity variance, the notification identified as "Restricted Wastes Exempt from Land Disposal Prohibitions" in Attachment C-5 is completed prior to shipment of the hazardous waste. The notification includes the Manifest Number, Hazardous Waste No., the Subcategory if applicable, the Treatability Group, the CFR reference for the treatment standard, and the five-letter

code where the treatment standard is a specified technology. For F001-F005 spent solvents and F039 multi-source leachate the concentration based treatment standards are provided for each hazardous constituent identified. In addition, all applicable California list restrictions under RCRA Section 3004(d) are identified. The notification also identifies the specific exemption that applies to the hazardous waste.

#### Treatment of Characteristically Hazardous Waste

If the FEMP treats a characteristically hazardous waste such that the treatment removes the characteristic and subsequently sends the treatment residue to a Subtitle D facility, a notification and certification form is sent to the OEPA Director and EPA Regional Administrator. An example of this form is provided in Attachment C-5 and identified as "Notification and Certification for Wastes No Longer Exhibiting a Characteristic That Is Sent To Subtitle D Facilities." The notification includes the Hazardous Waste No. before treatment, the Subcategory if applicable, the Treatability Group, the CFR reference for the treatment standard, and the five-letter code where the treatment standard is a specified technology. The notification also identifies the originating facility and facility EPA hazardous waste Number and the RCRA Subtitle D facility to which the waste was sent.

#### Lab Packs

The FEMP completes specific notification/certification forms when shipping organo-metallic or organic lab packs to off-site facilities. Examples of the notification/certification forms for lab packs are provided in Attachment C-5. The notification includes the Manifest Number, Hazardous Waste No., the Subcategory if applicable, the Treatability Group, the CFR reference for the treatment standard, and the five-letter code where the treatment standard is a specified technology. In addition, for F001-F005 spent solvents and F039 multi-source leachate the concentration based treatment standards are provided for each hazardous

constituent identified. The certification is signed by an authorized facility representative.

**C-3b(1) Retention of Generator Notices and Certifications**

As discussed in Section C-2e, submission of a complete notification/certification form is required prior to acceptance of any hazardous waste from off-site sources. If visual inspection of the hazardous waste and fingerprint analyses lead the FEMP to suspect that the notification/certification form is incorrect, issues are resolved prior to acceptance of the hazardous waste as further detailed in Section C-2e.

Completed notification/certification forms from off-site generators are filed upon receipt as part of the FEMP operating record.

**C-3b(2) Notification and Certification for Wastes to be Further Managed**

Prior to shipment of any hazardous waste stored at the FEMP to an off-site facility, the FEMP completes a notification/certification form in accordance with the requirements for generators in 40 CFR 286.7 as discussed in Section C-3b. The completed notification/certification form is retained for a minimum of five years (extended indefinitely in the case of unresolved enforcement actions).

**C-3b(3) Notification and Certification for Soft Hammer Wastes Not Subject to California List Prohibitions**

With the promulgation of the Third-third rule, soft hammer provisions became obsolete, therefore, this section is no

longer applicable.

C-3b(4) Additional Notification and Certification Requirements for Treatment Facilities

The FEMP does not treat hazardous wastes, therefore, this section is not applicable.

C-3b(5) Additional Notification and Certification Requirements for Disposal Facilities

The FEMP is not a disposal facility, therefore this section is not applicable.

C-3b(6) Notification and Certification Requirement Pertaining to Landfill and Surface Impoundment Disposal Restrictions

As stated in 40 CFR 268.8(a) this requirement has not been effective since May 8, 1990, therefore, this section is not applicable.

C-3c Additional Requirements Pertaining to Storage of Restricted Wastes

The FEMP stores hazardous and mixed waste. Under the land disposal restrictions, storage of hazardous waste is allowed "solely for the purpose of accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal (40 CFR 268.50)." As discussed previously, however, currently there are very few permitted facilities for the treatment or disposal of mixed wastes.

Mixed wastes have been granted a National Capacity Variance to the effective date of the land disposal restrictions until May 8, 1992

which means that the storage prohibition is not effective until that date. The EPA provided the following guidance in the preamble to the Third-third rule (55 FR 22673):

"No firm time limit is established pursuant to Section 268.50. Generators and owners and operators can store as long as necessary. The legislative history makes it clear that the intent of . . . Section 268.50 is to prohibit the use of long-term storage to circumvent the treatment requirements imposed by the Land Disposal Restrictions. However, if prohibited wastes are stored beyond one year, the owner/operator has the burden of proving (in the event of an enforcement action) that such storage is for the allowable reason; prior to one year, EPA maintains the burden of proving that storage has occurred for the wrong reason."

In addition the EPA issued a policy statement on the civil enforcement of the storage prohibition at facilities which generate mixed waste on August 29, 1991 (56 FR 42730). The policy, which expires on December 31, 1993, states that enforcement of the storage prohibition on generators of small quantities of mixed waste (1,000 cubic feet or less) who are operating in an environmentally responsible manner will be a low priority. The current waste generation rate at the FEMP is being assessed to determine whether the FEMP meets these standards.

The DOE is exploring options and methods for treatment/disposal of mixed waste. Until additional facilities are permitted to receive mixed waste, however, there are very limited options for removal of the waste to off-site facilities.

#### C-3c(1)      Restricted Wastes Stored in Containers

The FEMP has developed and implemented a procedure to label hazardous waste containers. At a minimum, the container

Labels identify the contents of the container and the dates on which accumulation or storage of the hazardous waste began. Container management activities are described in greater detail in Section D, Process Information.

**C-3c(2) Restricted Wastes in Tanks**

The FEMP is not seeking a permit to store hazardous waste in tanks. In addition, the FEMP does not store restricted hazardous wastes in tanks excluded from permitting requirements under 40 CFR 270.1(c)(2).

**C-3c(3) Storage of Liquid PCB Wastes**

Liquid PCB wastes on site are stored in indoor hazardous waste storage areas. These storage areas are designed and constructed to meet the facility standards established in 40 CFR 761.65(b). As discussed in Section C-3c, the FEMP may be required to store the mixed TSCA/RCRA/radioactive waste on site for greater than one year because of the lack of treatment or disposal facilities for mixed waste.

**C-3d Additional Requirements for Treatment Facilities**

Because the FEMP does not treat hazardous wastes, this section is not applicable to the FEMP.

**C-3e Additional Requirements for Land Disposal Facilities**

Because the FEMP does not dispose of hazardous waste on site, this section does not apply to the FEMP.

**C-3f Exemptions From and Extensions To Land Disposal Restrictions**

The FEMP has not applied for a case-by-case extension to an

effective date, exemption from a prohibition, or variance from the land disposal restrictions.

C-3f(1) Case-by-Case Extension to an Effective Date

The FEMP has not applied for an extension to the effective date of any restriction listed in 40 CFR Part 268 Subpart C.

C-3f(2) Exemption from a Prohibition

The FEMP has not applied for an exemption from a prohibition for the disposal of a restricted hazardous waste.

C-3f(3) Variance from a Treatment Standard

The FEMP has not applied for a variance from any treatment standard.

C-3f(4) Additional Requirements for Surface Impoundments Exempted from Land Disposal Restrictions

The FEMP is not seeking a permit for the treatment of hazardous waste in a surface impoundment.

C-3g Requirements for Land Disposal Facilities with an Approved Exemption or Extension

The FEMP has not been granted an exemption, extension or variance from the land disposal restrictions. If a case-by-case extension or exemption from the storage prohibitions of 40 CFR 268.50 is ever granted to the FEMP, the FEMP will provide a copy of the Notice of Approval to the OEPA Director and EPA Regional Administrator.

SECTION C:  
TABLES

RCRA REGULATED HAZARDOUS WASTE STORAGE

Revised: September 30,

2477

WASTE NAME	PHYSICAL STATE (1)	U.S. EPA HAZARDOUS WASTE NOS.	BASIS FOR HAZARD LISTING (2)	WASTE SOURCE	LAND BAN STATUS (4)	MATERIAL AND SOURCE CODES (5)
1,1,1-TRICHLOROETHANE STILL BOTTOMS	SL	F001, D001	I, T	SOLVENT DISTILLATION	R(c)	043-YAQ
1,1,2-TRICHLOROETHANE	L	U227	T	LABORATORY	R(e)	013-733
ACETONITRILE IN WATER	L	U108, D001	I, T	LABORATORY	R(e)	013-733
ADHESIVES	L	D001	-	LABORATORY	N(b)	013-733
AEROSOL PAINT CANS, NON-EMPTY	L, S	D001	-	WASTE MANAGEMENT	N(b)	[003-700]
AGITENE	L	D001, D005, D008	-	PLANTS 1, 2/3, 5, 6, LABORATORY	N(b)	003-100; 003-241; 003-500; 003-600; 003-733; 003-746; 003-775
AMMONIUM VANADATE	L	P119	E, I	BOILER PLANT	N(b)	[015-768]
BARIIUM CHLORIDE	L	D005	H	LABORATORY	R(e)	013-733
BARIIUM CHLORIDE CHROME RESIDUE	L	D007	E	LABORATORY	N(b)	010-733
BARIIUM CHLORIDE SALT	L	D005	E	BARIIUM CHLORIDE TREATMENT PROCESS	N(b)	012-300
BARIIUM HYDROXIDE	S, SL	D005	E	METAL HEATING TREATING	N(b)	044-FTA; 000-FTA;
BARIIUM SALT	SL	D005	E	LABORATORY	N(b)	013-733
BARIIUM SULFATE FILTER CAKE	S	D001, D005, D007	E	PLANT 2/3	N(b)	[001-245]
BATTERIES	S, SL	D002, D006, D009	E, I	PILOT PLANT	N(b)	045-300
BATTERIES, FLASHLIGHT/BEEPER	L, S	P015	C, E	MACHINE AND MAINTENANCE SHOP	R(d)	[003-746, 003-775]
BERYLLIUM	L	D007, D011	C, E	PLANT 6	R(d)	[003-600]
BLENDING AND SCREENING SOLIDS	S	D006	H	MOLD AND CRUCIBLE COATING	N(b)	013-500
CADMIUM SPRINGS	S	D001, D002, D007	E	LABORATORY	N(b)	043-732
CHROMIC ACID	L	D001, D003	E	STORES, PLANT 9	N(b)	053-743; 053-027
COBALT TRIFLUORIDE	S	D005	C, E, I	LABORATORY	R(d)	013-733
CONTAMINATED ALUMINA-SODA LIME	S	D005	I, R	LABORATORY	N(b)	[047-733]
CONTAMINATED BURNABLES	L, S	D005	E	HEXAFLOURIDE PROCESSING	N(b)	018-FYC
CONTAMINATED MERCURY	S	F002	E	PILOT PLANT	N(b)	027-362
CONTAMINATED NON-BURNABLES	S	D011	T	LABORATORY	N(b)	051-733
CONTAMINATED SOIL	S	D004, D005, D007, D008	E	PLANT 2/3 DIGESTION	R(c)	025-210
CONTAMINATED SOIL	L, SL, S	D010, D011	E	PLANT 2/9 DIGESTION	N(b)	011-211
CONTAMINATED SOIL, WATER, ROCKS, BRICKS	L, S	D008	E	PLANT 2/3 DIGESTION	N(b)	011-212
CONTAMINATED SOIL WITH FREE LIQUIDS	L, SL	D002, D004, D007, D008, D011	E	WASTE MANAGEMENT	N(b)	[011-700]
CONTAMINATED SOIL AND ROCKS	S	D005	C, E	PLANT 2/3 DIGESTION	R(d)	011-211
			E	FMI	N(b)	011-FTA

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- (1) LIQUID (L), SOLID (S), SEMI-SOLID (SL)
- (2) IGNITABLE (I), CORROSIVE (C), REACTIVE (R), TOXICITY CHARACTERISTIC (E), ACUTE HAZARDOUS (H), TOXIC (T) WASTES
- (3) POSSIBLE SAMPLE MATRIX INTERFERENCE; WILL BE RE-ANALYZED
- (4) LDR STATUS - Current status with respect to Land Disposal Restrictions regulations:  
 N(e) - not restricted, no LDRs proposed/promulgated for TC organics  
 N(b) - not restricted, variance for "third-third" mixed waste through 5/8/92  
 R(c) - restricted from land disposal, LDRs for solvent waste promulgated 11/8/86  
 R(d) - restricted from land disposal, California waste promulgated 7/8/87  
 R(e) - restricted from land disposal, Third-third waste promulgated 5/8/90
- (5) DETERMI' NS FOR MATERIAL/SOURCE CODES IN BRACKETS ARE SUBJECT TO CHANGE P 3 RECEIPT OF ANALYSIS

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RCRA REGULATED HAZARDOUS WASTE STORAGE

TABLE C-1

Revised: September 30,

WASTE NAME	PHYSICAL STATE (1)	U.S. EPA HAZARD WASTE NO.	HAZARD LISTING (2)	WASTE SOURCE	LAND BAN STATUS (4)	MATERIAL AND SOURCE CODES (5)
CONTAMINATED SOIL AND ROCKS	S	D005, D006, D007, D008, D009	E	PLANT 6	N(b)	011-500
CONTAMINATED SOLVENT	L	F001	T	DECONTAMINATION	R(c)	[013-742]
CONTAMINATED/SPENT SOLVENTS	L	F002	T	PLANT 5	R(c)	[001-500]
CONTAMINATED/SPENT SOLVENTS	L	F001, F002, D018	E,T	PLT 2/3, PLT 5 CASTING, GARAGE	R(c)	[003-768; 013-202; 013-630; 013-738; 013-768; 013-775]
CONT. PROTECTIVE CLOTHING (TANK 6)	S	F001, F005	T	LABORATORY	R(c)	[027-761]
COOLING TOWER WOOD AND SEMISOLIDS	S,SL	D037	T	GENERAL SUMP	R(c)	[027-765; 043-765]
DIESEL FUEL/RAINWATER	L	D003	E	WATER TREATMENT	R(c)	[047-733]
DISCARD MAINTENANCE PRODUCTS	L	D018	E	LABORATORY	N(a)	[012-741; 022-741]
DISCARD MAINTENANCE PRODUCTS	L	D001, D018	E,I	GARAGE	R(c)	003-100
DISCARD MAINTENANCE PRODUCTS	S	D001	E,I	PLANT 1	N(b)	003-705
DISCARD MAINTENANCE PRODUCTS	L	D002	E	RUST BLDG	N(b)	003-100
DISCARD MAINTENANCE PRODUCTS	L	D001, D008, D018, D035	E,I	PLANT 1	N(b)	003-100; 003-710; 013-700;
DISCARD MAINTENANCE PRODUCTS	L	D001, D003, D035	E,I,R	PLANT 1	N(b)	003-100
DISCARD MAINTENANCE PRODUCTS	L	D018	E	PLANT 1	N(b)	003-100
DISCARD PROCESS RESIDUES	SL	D002	E	PLANT 1	N(a)	003-100
DISCARD PROCESS RESIDUES	L,SL,S	F001	C	HOT RAFFINATE BUILDING	R(d)	001-235
DISCARD PROCESS RESIDUES	S	F002, D039	T	PLT 6 MACHINING	R(c)	[001-820]
DISCARD PROCESS RESIDUES	S	F002, F005, D006, D007, D008, D018, D040	E,T	PILOT PLANT	R(c)	001-381
DRUM DECONTAMINATION RESIDUES	L,S,SL	D006	E	PLANT 6 DEGREASING	R(c)	001-660
DRY SPILL CLEANUP	S	F001	T	DRUM RECONDITIONING	N(b)	[021-132]
DUST COLLECTOR BAGS	S	D004, D006, D008	E	PILOT PLANT	R(c)	[027-300]
DUST COLLECTOR BAGS	S	D006	E	PLANT 1	N(b)	029-101
DUST COLLECTOR RESIDUES	S	D007	E	PLANT 1	N(b)	[029-140; 029-143]
DUST COLLECTOR RESIDUES	S	D008	E	PILOT PLANT	N(b)	062-332
DUST COLLECTOR RESIDUES	S	D006, D008	E	PILOT PLANT	N(b)	[062-310; 062-311; 062-313]
ETHYL ETHER	L	D001,U117	E	LABORATORY	N(b)	062-665; 062-101
FURNACE SALT	S	D004, D006, D008, D010 (3)	E	PLANT 6	R(e)	013-733
FURNACE SALT	S	D005	E	PLANT 6	N(b)	[061-916; 061-917]
GASOLINE	L	D001, D018	E,I	DECONTAM, PLANT 1, SERVICE BLDG	N(b)	[000-811]

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- (1) LIQUID (L), SOLID (S), SEMI-SOLID (SL)
- (2) IGNITABLE (I), CORROSIVE (C), REACTIVE (R), TOXICITY CHARACTERISTIC (E), ACUTE HAZARDOUS (H), TOXIC (T) WASTES
- (3) POSSIBLE SAMPLE MATRIX INTERFERENCE; WILL BE RE-ANALYZED
- (4) LDR STATUS - Current status with respect to Land Disposal Restrictions regulations:
  - N(a) - not restricted, no LDRs proposed/promulgated for TC organics
  - N(b) - not restricted, variance for "third-third" mixed waste through 5/8/92
  - R(c) - restricted from land disposal, LDRs for solvent wastes promulgated 11/8/86
  - R(d) - restricted from land disposal, California waste promulgated 7/8/87
  - R(e) - restricted from land disposal, Third-third waste promulgated 5/8/90
- (5) DETERMINATIONS FOR MATERIAL/SOURCE CODES IN BRACKETS ARE SUBJECT TO CHANGE PER 3 RECEIPT OF ANALYSIS

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RCRA REGULATED HAZARDOUS WASTE STORAGE

Revised: September 30,

2477

WASTE NAME	PHYSICAL STATE	U.S. EPA HAZARD WASTE Nos.	BASIS FOR HAZARD LISTING (2)	WASTE SOURCE	LAND BAN STATUS (4)	MATERIAL AND SOURCE CODES (6)
GRIT BLAST	L, S	D008	E	PLANT 2/3	N(b)	[028-240]
HILCO CAKE & SOAKED FLOOR DRI	L, SL	D001, D016	E, I	PLANT 5	N(b)	[020-510]
INCINERATOR CINDERS	L, S	F001	T	KELLY INCINERATOR	R(c)	033-240
INCINERATOR CINDERS	S	D008	E	RESIDUES FROM GENERATION & BURNING	N(b)	[033-FYA]
LABORATORY ACIDS	L	D001, D002	C, I	LABORATORY	R(d)	013-733
LAB-PACKED FLAMMABLE LIQUIDS	L	D001, U108, U117, U161, U213	I, T	LABORATORY	R(e)	013-733
LAB-PACKED WATER AND SAMPLES	L	U359	E	PILOT PLANT SOLVENT EXTRACTION	N(b)	001-375
LEAD	S	D007	E	DECONTAMINATION, PLANT 6	N(b)	003-500; 049-742;
LEAD ACID BATTERIES	L, S	D008	C, E	GARAGE	R(e)	049-741
LEAD AND WOOD SHAVINGS	S	D002, D004, D008	E	PLANT 1	N(b)	[049-100]
LEAD BRICKS, WINDOWS, SHASHINGS, HAMME	S	D008	E	PLANT 5	N(b)	049-500
LEADED GASOLINE	L	D001, D008, D018	E, I	TANK 12	R(d)	013-744
LIME SCALE AND SEMISOLID	SL	F001, F005	I, T	BUILDING 45	R(d)	[012-761]
LIQUID AND SOLID SAMPLES	L, S	F002, D004, D005, D006, D007, D008, D010, D018	E, T	WASTE MANAGEMENT	R(c)	050-700
MAGNESIUM FLAKES	L, S	D003	R	PLANT 6	N(b)	[019-511]
MERCURY BATTERIES	L, S	D002, D009	C, E	PLANTS 2, 5, LABORATORY	R(d)	003-241; 003-600; 051-733;
MERCURY BATTERIES AND SPILL CLEANUP	L, S	D002, D009, U151	C, E, T	LABORATORY	R(d)	051-733
MERCURY SPILL RESIDUE	L, S	U151	T	INSTRUMENT SHOP, LABORATORY	R(d)	051-733; 061-749
MERCURY SPILL RESIDUE	S	D009	E	LABORATORY	N(b)	061-733
MERCURY-CONTAINING COMPOUNDS	L, SL	D009	E	LABORATORY	R(d)	051-733
METHANOL/CYCLOHEXANE	L	F003, D001	I	LABORATORY	R(c)	013-733
METHYL ETHYL KETONE AND WATER	L	U159	I, T	DECONTAMINATION	N(b)	[003-742]
METHYL ISOBUTYL KETONE	L	D001, U161	I	LABORATORY	R(e)	013-733
NICKEL-CADMIUM BATTERIES	L, S	D002, D008	C, E	LABORATORY	R(d)	003-733
NON-METALLIC SAMPLES	S	D001, D003	I, R	PLANT 1	N(b)	047-140
NON-OILY SEMISOLIDS	L, SL	F001, D019	E, T	GARAGE	R(c)	041-741
NON-OILY SEMISOLIDS	L, SL	F002, D039	E, T	PLANT 2/3	R(c)	042-200
NON-RECOVERABLE TRASH	S	D007, D010	E	MAINTENANCE	N(b)	003-745
NON-RECOVERABLE TRASH	S	F001, D029, D039, D040	E, T	PLANT 2/3	R(c)	027-200
NON-RECOVERABLE TRASH	L, SL	F001, D008	E, T	PLANT 2/3, PLANT 5	R(c)	003-200

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- (1) LIQUID (L), SOLID (S), SEMI-SOLID (SL)
- (2) IGNITABLE (I), CORROSIVE (C), REACTIVE (R), TOXICITY CHARACTERISTIC (E), ACUTE HAZARDOUS (H), TOXIC (T) WASTES
- (3) POSSIBLE SAMPLE MATRIX INTERFERENCE, WILL BE RE-ANALYZED
- (4) LDR STATUS - Current status with respect to Land Disposal Restrictions regulations:
  - N(a) - not restricted, no LDRs proposed/promulgated for TC organics
  - N(b) - not restricted, variance for "third-third" mixed waste through 5/8/92
  - R(c) - restricted from land disposal, LDRs for solvent wastes promulgated 11/8/86
  - R(d) - restricted from land disposal, California waste promulgated 7/8/87
  - R(e) - restricted from land disposal, Third-third waste promulgated 5/8/90
- (5) DETERMINATIONS FOR MATERIAL/SOURCE CODES IN BRACKETS ARE SUBJECT TO CHANGE PER "G RECEIPT OF ANALYSIS"

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TABLE C-1  
RCRA REGULATED HAZARDOUS WASTE STORAGE

Revised: September 30,

2477

WASTE NAME

PHYSICAL STATE

U.S. EPA HAZARD WASTE NO.

BASIS FOR HAZARD LISTING (2)

WASTE SOURCE

LAND BAN MATERIAL AND SOURCE CODES (5)

WASTE NAME	PHYSICAL STATE	U.S. EPA HAZARD WASTE NO.	BASIS FOR HAZARD LISTING (2)	WASTE SOURCE	LAND BAN MATERIAL AND SOURCE CODES (5)
OIL AND SOLVENTS	L	F002, D001, D007, D008, D010, D018	E, I, T	SITE CLEANUP	015-700
OIL CLEAN-UP MATERIALS	S	D018	E	PLANT 1, PLANT 2, LABORATORY	[003-137; 003-730; 020-200; 027-200;]
OILY HILCO FILTER CAKE	SL	D001	I	PLANT 6, PLANT 1 DRUM BALER	020-137; 020-610;
OILY RAGS	S	D018	E	PLANT 5, PLANT 1	[003-603; [003-100]
OILY RAGS	S	F002, D018	E, T	PLANT 6	[003-656]
OILY RAGS	S	F002, D010, D018	E, T	GARAGE	[003-738]
OILY RAGS	S	F002, D008, D018	E, T	PLANT 2, OIL STORAGE AREAS	[003-203; 003-603; 003-747;
OILY RAGS, CLEANUP MATERIAL	S	F002, D018	E, T	DECONTAMINATION	003-769; 003-776]
OILY SEMISOLID	L, SL	D001	I	PLANT 6	[003-742]
OILY SEMISOLID	L, SL	F001, D008, D032, D033	E, T	PLANT 2/3	041-655
OILY SEMISOLID	L, SL	F002, D018	E, T	PLANT 6	039-200
OILY SEMISOLID	L, SL	FOO2	T	PLANT 6	[039-655]
OILY SEMISOLID	L, SL	F002, F003	I, T	PLANT 6	[041-620; 041-642]
OILY SEMISOLID	L, SL	F005, D001, D008, D035	E, I, T	PLANT 8	[020-800]
OILY SEMISOLID	L, SL	F001, D029, D039, D040	E, I, T	PLANT 6	043-135
OILY SEMISOLID	L, SL	F001, F003, F005, D001	E, T	PLANT 8	039-655
OILY SEMISOLID	L, SL	D019, D039, D040	E, I, T	PLANT 8	039-853
OILY SEMISOLID	L, SL	F002, D008	E, T	PLANT 8	[011-800]
OILY SEMISOLID	SL	D005, D008	E	EXTRUSION & MACHINING OPERATIONS	041-FTA
OILY SEMISOLID	L, SL	F001, D007	E, T	PLANT 9	039-965
OILY SEMISOLID	SL	D018	E	PLTS 1, 2 (DENITRATION), LABORATORY	[039-730; 041-260; 043-100]
OILY SEMISOLID	L, SL	F001, D010, D035	E, T	PILOT PLANT	041-351
OILY SEMISOLID	L, SL	F001, D001, D039	E, I, T	PLANT 8	041-800
OILY SEMISOLID	L, SL	D008	E	PLANT 2/3	028-200
OIL-SOAKED DIRT	S	F001, D008	E, T	PLANT 8	039-600
OXIDIZING CHEMICALS	S	F001	T	GARAGE	[011-741]
PAINT CHIPS	L	D001	I	LABORATORY	013-733
PAINT THINNER	S	D008	I	SEWAGE TREATMENT	049-768
PAINT THINNER CLEANUP PADS	L	D001	I	PILOT PLANT	[013-300]
	S	F005	T	MAINTENANCE	[013-745]

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- (1) LIQUID (L), SOLID (S), SEMI-SOLID (SL)
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 R(e) - restricted from land disposal, Third-third waste promulgated 5/8/90
- (5) DETERMINATIONS FOR MATERIAL/SOURCE CODES IN BRACKETS ARE SUBJECT TO CHANGE PER RECEIPT OF ANALYSIS

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RCRA REGULATED HAZARDOUS WASTE STORAGE

Revised: September 30

2477

WASTE NAME	PHYSICAL STATE (1)	U.S. EPA HAZARD WASTE NO.	BASIS FOR HAZARD LISTING (2)	WASTE SOURCE	LAND BAN STATUS (4)	MATERIAL AND SOURCE CODES (6)
PAINT THINNERS	L	F002, F003, F005, D001	I, T	PAINT SHOP	R(g)	[013-748]
PHENOL	L	U188	T	LABORATORY	N(b)	013-733
POTASSIUM CYANIDE SOLUTION	L	P098	H	LABORATORY	N(b)	003-733
PRESSURE-TREATED WOOD	S	D006	E	WASTE MANAGEMENT	N(b)	003-705
PUMP OIL AND RAGS	L, S	F001	T	PLANT 1	R(c)	[003-100]
PVC PIPING (PERCHED WATER PROJECT)	S	F001	T	PLANT 6	R(c)	003-900
RAGS	S	F002, F003, F005	I, T	PAINT SHOP	R(c)	[003-748]
RAGS, GLOVES, PROTECTIVE COVERALLS	S	U107	T	WASTE MANAGEMENT	N(b)	[027-700]
RAGS w/1,1,1-TRICHLOROETHANE	S	F001, F002, D008, D018	E, T	MAINTENANCE SHOP	R(g)	[003-602]
RAM PIT	S	D003, D018	E, R	METAL PRODUCTION AREA	N(b)	[014-614]
SAMPLES, NON-METALLIC, MISC.	S	D005	E	RMI	N(b)	[047-FTA]
SAMPLES, NON-METALLIC, MISC.	S	D007	E	LABORATORY	N(b)	047-731
SAND/GRIT BLAST PAINT RESIDUES	S	D008	E	SAND BLASTING	N(b)	008-700
SCRAP SALTS	S	D005, D008	E	RMI	N(b)	066-FTA
SCRAP SALTS, LOW FLUORIDE	S	D004, D008	E	PLANT 6	N(b)	066-810
SCRAP U308	S	D005	E	CASTING AREA	N(b)	[101-FTA; 062-FTA]
SCRAP U308	S	D005, D010	E	LABORATORY	N(b)	[101-534]
SODIUM AMIDE	S/L	D003	R	LABORATORY	R(e)	003-733
SODIUM URANATE EVAPORATOR RESIDUE	SL	D004, D006, D008	E	RMI	N(b)	[069-FTA]
SOIL BORINGS (on/offsite well drilling)	S	D004, D005, D006, D007, D008	E	ONSITE AND OFFSITE WELL DRILLINGS	N(b)	011-AS1
SOIL BORINGS (on/offsite well drilling)	S	F002, D039, D040	E, T	ONSITE AND OFFSITE WELL DRILLINGS	R(c)	011-AS1
SOIL BORINGS (on/offsite well drilling)	S	F001	T	MAINTENANCE AREA, PILOT PLANT	R(c)	011-AS1
SOIL BORINGS (on/offsite well drilling)	S	D040	E	ONSITE AND OFFSITE WELL DRILLINGS	N(a)	011-AS1
SOIL BORINGS (on/offsite well drilling)	S	D006, D007, D008	E	ONSITE AND OFFSITE WELL DRILLINGS	N(b)	011-AS1
SOIL BORINGS (on/offsite well drilling)	S	D004, D005, D006, D007	E	ONSITE AND OFFSITE WELL DRILLINGS	N(b)	011-AS1
SOIL BORINGS (on/offsite well drilling)	S	D004, D006, D007, D008	E	ONSITE AND OFFSITE WELL DRILLINGS	N(b)	011-AS1
SOIL BORINGS (on/offsite well drilling)	S	D004, D005, D006, D007, D008, D011	E	ONSITE AND OFFSITE WELL DRILLINGS	N(b)	011-AS1
SOIL BORINGS (on/offsite well drilling)	S	D005, D006, D007, D008	E	ONSITE AND OFFSITE WELL DRILLINGS	N(b)	011-AS1
SOIL WITH OIL AND WATER	S	D018	E	ONSITE AND OFFSITE WELL DRILLINGS	N(b)	011-AS1
SOLIDS CONTAMINATED BY LAB SAMPLES	S	D004, D005, D006, D007, D008	E	DECONTAMINATION	N(a)	[011-742]
SOLVENT CONTAMINATED PALLET WOOD	S	D022, F002, F003	E, T	LABORATORY	R(c)	[003-733]
		F002	T	SITE CLEANUP	R(c)	003-700

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- (1) LIQUID (L), SOLID (S), SEMI-SOLID (SL)
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  - R(d) - restricted from land disposal, California waste promulgated 7/8/87
  - R(e) - restricted from land disposal, Third-third waste promulgated 5/8/90

(5) DETERMINATIONS FOR MATERIAL/SOURCE CODES IN BRACKETS ARE SUBJECT TO CHANGE PER RECEIPT OF ANALYSIS

RCRA REGULATED HAZARDOUS WASTE STORAGE

TABLE C-1

Revised: September 30, 1980

WASTE NAME	PHYSICAL STATE	U.S. EPA HAZARD WASTE NO.	BASIS FOR HAZARD LISTING	WASTE SOURCE	LAND BAN STATUS	MATERIAL AND SOURCE CODES
(1)	(1)	(1)	(2)	(4)	(4)	(6)
SOLVENT-CONTAMINATED RAGS	S	F001, F002, D018	E, T	PLANT 2, PAINT SHOP	R(G)	[003-202; 003-746; 003-776;]
SPENT 1,1,1-TRICHLOROETHANE	L	F001, F002, D008, D018	E, T	MAINTENANCE SHOP	R(G)	[013-502]
SPENT ACETONE	L	F003, D001	I	LABORATORY	R(G)	013-733
SPENT CHLORINATED SOLVENTS	L	F001, D001	I, T	DEGREASING OPERATIONS	R(G)	[013-YAC]
SPENT CHLOROFORM	SL	D022	E	LABORATORY	R(G)	013-733
SPENT METHANOL	L	F003, D001	I	LABORATORY	R(G)	013-733; 013-732
SPENT METHYLENE CHLORIDE	L	F002	T	LABORATORY	R(G)	013-733
SPENT TBP/KEROSENE	L	D001, D002, D007	C, I, E	PLANT 2/3, LABORATORY	R(d)	[022-221]
SPENT XYLENE	L	F003, D001	I	LABORATORY	R(G)	013-733
SPILLED TETRACHLOROETHYLENE	L	U210	T	PAINT SPRAY BOOTHS, LABORATORY	R(d)	013-723
BUMP CAKE W/FREE LIQUIDS	L, SL	D005, D007	E	LABORATORY	R(d)	027-733
BUMP SEMISOLID	L, SL	F001, D029, D039	E, T	PILOT PLANT	N(b)	002-362
TANK 6 (UST) CLEANOUT	L, SL	F001, D018	E, T	GARAGE	R(G)	043-738
TANK 8 CLEANOUT RESIDUES	L, S, SL	D008, D018	E	TANK 5 CONTENTS	R(G)	015-741
TANK CLEANINGS	SL	D018	E	CLEAN UP ACTIVITIES	N(b)	001-400
TANK CLEANINGS	SL	D001, D002, D007	E	TANKS 1, 2, 5, 9, 10, 11, 12, 13	R(d)	[012-741; 039-100; 039-741]
TBP AND KEROSENE	L	F001, D018	E	TANK 6	N(b)	[039-745]
TBP/KEROSENE SEMISOLID	SL	D018	C, E, I	LABORATORY	R(d)	[013-730]
TRASH	S	F003, D005, D006, D007, D008	E	LABORATORY	N(e)	[022-732]
TRASH, CONTAMINATED	S	U228	E, T	GARAGE	R(G)	027-741
TRICHLOROETHYLENE	L	D007	E, I	LABORATORY	R(G)	[003-733]
U308 FOR OXIDATION	L	D001	T	LABORATORY	R(d)	013-733
UNFIRED REDUCTION CHARGES	S	D002, D005, D007	E	RMI REOXIDATION	N(b)	[134-FTA]
URANYL NITRATE SOLUTION	L	D011	I	PILOT PLANT	N(b)	070-320
USED DEVELOPING/FIXING SOLUTION	L	D008, D018	C, E	PLANT 2/3	R(d)	150-200
USED OIL	L	F002, D010, D018	E	PHOTO LAB, GRAPHICS, LABORATORY	N(b)	013-730; 013-743; 013-756; 847-700
USED OIL	L	F001, D039, D040	E	BOILER PLANT	N(b)	[015-769]
USED OIL	L	F001, F002, D008, D018	E, T	GARAGE	R(G)	[015-739]
USED OIL	L	F001, D019, D029, D039, D040	E, T	PILOT PLT, PLANT 6	R(G)	015-351; 015-600
USED OIL	L	F002, D008	E, T	PLANT 2/3	R(G)	[015-203; 015-747]
USED OIL	L	F001	E, T	DRUM BALER	R(G)	015-137
USED OIL	L		E, T	PLANTS 2/3, 8	R(G)	[015-200; 015-600; 015-653]
USED OIL	L		T	PLANT 9	R(G)	015-601

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- (1) LIQUID (L), SOLID (S), SEMI-SOLID (SL)
- (2) IGNITABLE (I), CORROSIVE (C), REACTIVE (R), TOXICITY CHARACTERISTIC (E), ACUTE HAZARDOUS (H), TOXIC (T) WASTES
- (3) POSSIBLE SAMPLE MATRIX INTERFERENCE; WILL BE RE-ANALYZED
- (4) LDR STATUS - Current status with respect to Land Disposal Restrictions regulations:  
 N(e) - not restricted, no LDRs proposed/promulgated for TO organics  
 N(b) - not restricted, variance for "third-thirds" mixed waste through 5/8/02  
 R(G) - restricted from land disposal, LDRs for solvent waste promulgated 11/8/86  
 R(d) - restricted from land disposal, California waste promulgated 7/8/87  
 R(e) - restricted from land disposal, Third-third waste promulgated 5/8/80
- (5) DETERMINED FOR MATERIAL/SOURCE CODES IN BRACKETS ARE SUBJECT TO CHANGE
- (6) RECEIPT OF ANALYSIS

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# RCRA REGULATED HAZARDOUS WASTE STORAGE

Revised: September 30

2477

WASTE NAME	PHYSICAL STATE (1)	U.S. EPA HAZARD WASTE NOS.	BASIS FOR HAZARD LISTING (2)	WASTE SOURCE	LAND BAN STATUS (4)	MATERIAL AND SOURCE CODES (5)
USED OIL	L	F002, D005, D008, D018	E, T	PILOT PLANT	R(c)	[015-300]
USED OIL	L	F001, D008, D009, D039	E, T	LABORATORY	R(c)	[015-503; 015-769; 015-776]
USED OIL	L	F002, D008, D018	E, T	PLANTS 2/3, MAINTENANCE	R(c)	[015-730]
USED OIL	L	F002, D018	E, T	GARAGE, PLANT 1	R(c)	[015-742; 015-197]
USED OIL	L	D018	E	PLANT 1, 2, 4, PILOT PLT.	N(e)	[009-742; 015-100; 015-107; 015-197; 015-200; 015-301; 015-400; 015-708; 015-730; 015-742; 015-YAQ]
USED OIL	L	F001, D008, D007, D008, D019, D029, D040	E, T	OIL STORAGE AREA, DECONTAMINATION LABORATORY	R(c)	[015-501; 015-510; 015-530; 015-520; 015-558]
USED OIL FILTERS	L	F002	T	PLANT 9 CASTING	R(c)	[003-741]
USED PAINT THINNER	S, SL	D012	E	PLANTS 6, 9	R(c)	[013-376; 012-200]
U-CONTAMINATED WATER	L	F002, D001, D008	E, I, T	GARAGE	N(e)	[013-100]
VANADIUM PENTOXIDE	L	D039	E	WASTE MANAGEMENT	R(c)	[013-732]
WASTE BENZENE	L	P120	H	PILOT PLT SOLV EXT. PLANT 2/3	R(d)	[013-732]
WASTE BENZENE	L	D001, D018	E, I	LABORATORY	R(e)	[013-732]
WASTE CARBON TETRACHLORIDE	L	D001, D018, U019	E, I, T	PLANT 1	N(b)	[003-733]
WASTE ETHYL ETHER	L	D018, U211	E, T	LABORATORY	R(e)	[003-710; 003-743; 013-735; 013-742]
WASTE LABORATORY SOLID	L	F003, D003	E, T	LABORATORY	R(c)	[003-733]
WASTE PAINT	S	D005, D006, D007, D008	I, R	BUILDING 79	N(b)	[013-745]
WASTE RAGS, PAPER, ETC.	L, S, SL	D001	E	LABORATORY	R(c)	[013-735]
WASTE SOLVENTS	S	F002, F003, D004, D005, D008, D022	E, I, T	LABORATORY	R(c)	[013-745]
WASTE SOLVENT	L	F003, F005, D001, D039	E, I, T	MAINTENANCE	R(c)	[013-735]
WASTE SOLVENTS, MIXED	L	F001, D007, D018, D019, D021, D029, D039, D040	E, T	LAUNDRY OPERATIONS, SERVICE BLDG.	R(c)	[013-746]
WATER/GAS MIXTURE	L	F001, F002, D018	E, T	DEGREASING	R(c)	[012-741]
WATER/GAS MIXTURE	L	D001, D008, D018	E, I	TANK 8	N(b)	[012-741]
WATER/GAS MIXTURE	L	D001, D018	E, I	TANK 9	N(b)	[012-741]
WET SUMP CAKE	L, SL	D008, D018	E	TANK 10	R(d)	[012-741]
		D002, D007, D010	C, E	CLEANING AREAS	N(b)	[068-HXA]

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- (1) LIQUID (L), SOLID (S), SEMI-SOLID (SL)
- (2) IGNITABLE (I), CORROSIVE (C), REACTIVE (R), TOXICITY CHARACTERISTIC (E), ACUTE HAZARDOUS (H), TOXIC (T) WASTES
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- (5) DETERMINATIONS FOR MATERIAL/SOURCE CODES IN BRACKETS ARE SUBJECT TO CHANGE PER "G" RECEIPT OF ANALYSIS

RCRA REGULATED HAZARDOUS WASTE STORAGE

Revised: September 30, 1991

WASTE NAME	PHYSICAL STATE (1)	U.S. EPA HAZARD WASTE NO.	HAZARD LISTING (2)	WASTE SOURCE	LAND BAN STATUS (4)	MATERIAL AND SOURCE CODES (5)
WET SUMP CAKE	L,SL	F002, D005	E,T	SALT BATH TREATMENT	R(c)	[068-VXB]
WET SUMP OR FILTER CAKE	SL	D005	E	PILOT PLANT	N(b)	969-362
WET SUMP OR FILTER CAKE	L,SL,S	F002, D039	E,T	PILOT PLANT	R(c)	068-380; 068-381
WET SUMP OR FILTER CAKE	L,SL,S	F002, D039, D040	E,T	SERVICE BUILDING	R(c)	068-735

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- (1) LIQUID (L), SOLID (S), SEMI-SOLID (SL)
- (2) IGNITABLE (I), CORROSIVE (C), REACTIVE (R), TOXICITY CHARACTERISTIC (E), ACUTE HAZARDOUS (H), TOXIC (T) WASTES
- (3) POSSIBLE SAMPLE MATRIX INTERFERENCE; WILL BE RE-ANALYZED
- (4) LDR STATUS - Current status with respect to Land Disposal Restrictions regulations:  
 N(e) - not restricted, no LDRs proposed/promulgated for TC organics  
 N(b) - not restricted, variance for "third-third" mixed waste through 5/8/92  
 R(c) - restricted from land disposal, LDRs for solvent wastes promulgated 11/8/86  
 R(d) - restricted from land disposal, California waste promulgated 7/8/87  
 R(e) - restricted from land disposal, Third-third waste promulgated 5/8/90
- (5) DETERMINATIONS FOR MATERIAL/SOURCE CODES IN BRACKETS ARE SUBJECT TO CHANGE PER RECEIPT OF ANALYSIS

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SECTION C - WASTE CHARACTERISTICS  
Table C-2  
Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
19	Oily Semisolds	Oil Decantation - Plant 8 Oxidation System	solid	D001, D019 D039, D040 F001, F003, F005	Ba Pb As Cd Ag Hg Cr U	0.44 <0.05 <0.05 0.02 0.02 <0.001 <0.04 380 1.71	4.3 4.37 0.37 0.1 0.2 0.001 0.32 3200 10.8	3
					U235	1.71	10.8	
					Ethylbenzene	1.2	3.7	2
					Tetrachloroethylene	<2.3	14	
					Toluene	<5.0	9.7	
					1,1,1-TCA	5.6	44	
					1,1,2-TCA	<0.50	3	
					Trichloroethylene	<1.1	6.5	
					Total Xylenes	3.9	6.1	
					Acetone	<2.1	12.5	
					MEK	<1.2	5	
					Carbon Tetrachloride	<0.75	7.2	
			olly liquid 30%		Ba	0.305	0.307	3
					Pb	0.627	27.2	
					As	<0.200	10	
					Cd	<0.1	5	
					Ag	<0.05	2.5	
					Hg	<0.0002	0.0002	
					Cr	<0.5	25	
					Ethylbenzene	<0.05	10.9	
					Tetrachloroethylene	0.351	471	
					Toluene	0.0928	26.8	
					1,1,1-TCA	9.34	1790	
					1,1,2-TCA	0.134	2.22	
					Trichloroethylene	0.0614	171	

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low	High	Physical Parameters	No. of Samples
			liquid 30%						1
					Ba	0.16			
					Pb	<0.70			
					As	<0.02			
					Cd	<0.05			
					Ag	<0.01			
					Hg	0.004			
					Cr	<0.08			
					Ethylbenzene	<0.08			
					Tetrachloroethylene	<0.47			
					Toluene	<0.17			
					1,1,1-TCA	<0.20			
					1,1,2-TCA	<0.10			
					Trichloroethylene	<0.22			
					Total Xylenes	<0.10			
					Acetone	1			
					MEK	1.1			
					Carbon Tetrachloride	<0.15			
					U	310			
					U235	2.852			
			solid 70%						4
					Ba	0.328	0.91		
					Pb	0.07	0.965		
					As	0.02	0.2		
					Cd	<0.01	0.1		
					Ag	0.11	0.5		
					Hg	<0.0002	0.0002		
					Cr	<0.04	0.5		

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**SECTION C - WASTE CHARACTERISTICS**  
**Table C-2**

**Analytical and Process Information for FEMP Wastestreams**

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
477	Liquid				1,1,1-TCA	0.54 19200		3
					Carbon Tetrachloride	<0.38 290		
					U	9500 27000		
					U235	85.5 198		2
					Ethylbenzene	<0.21 27.5		
					Tetrachloroethylene	<1.2 2370		
					Toluene	<0.42 800		
					1,1,2-TCA	<0.25 0.8		
					Trichloroethylene	<1.1 25.4		
					Total Xylenes	<0.25 405		
					Acetone	<2.1 6.1		
					MEK	<0.63 1.6		
					Ba	<0.40 3.12		
					Pb	<1.30 1.3		
					As	<0.20 0.5		
Cd	<0.10 0.2							
Ag	<0.20 0.44							
Hg	<0.005 0.005							
Cr	<0.16 0.21							
Ethylbenzene	<6.3 130							
Tetrachloroethylene	<35 700							
Toluene	<13 250							
1,1,1-TCA	61 1000							
1,1,2-TCA	<7.5 150							
Trichloroethylene	<16 330							
Total Xylenes	<7.5 490							
Acetone	<31 630							
MEK	<19 380							
Carbon Tetrachloride	<11 230							
U	20 3200							
U235	0.058 9.6							

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SECTION C - WASTE CHARACTERISTICS  
Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
26	Scrap Salts High Fluoride	Plant 1 General	solids	D008	Ba Cr Pb Hg Cd U	0.383 1.145 <0.025 0.119 <0.100 35.84 <0.0002 0.001 <0.015 0.096 1520 139000 15.35 500.4		5
28	Wet Sump or Sump Cake Oil Cont'd.	Service Bldg and Admin Bldg	moist solids	D039, D040, F002	Tetrachloroethene Trichloroethene U U235	18300 61100 <2600 6250 5421 26000 21.684 124.8		2
			wet solids		Tetrachloroethene Trichloroethene U U235	59 50300 <8.7 5200 2360 18000 9.676 99		4
			liquid phase		Tetrachloroethene Trichloroethene U U235	11 <5 2.1 0.6	Flash Point >200	1
43	Wet Sump or Filter Cake	Sump Catch Basin - Pilot Plant Sump	brown mud	D039, F002	U U235 Ba Cd Cr Hg 1,1-DCA 1,2-DCE 4-Methyl-2-Pentanone	26200 238.42 25.65 0.3 0.16 0.01 <0.005 0.01 <0.01	pH 11.2	1

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SECTION C - WASTE CHARACTERISTICS  
Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
62	Clean Out Semisolids	Plant 2 & 3 General	liquid	D039, F002	MEK	<0.010		1
					Tetrachloroethene	0.03		
					Toluene	0.003		
					Trichloroethene	<0.005		
					Xylenes	0.01		
					Ba	1.4	Flash Point >200	
					Ag	1.59	pH 8.3	
					AS	<0.10		
					1,1,1-TCA	3.6		
					Carbon Tetrachloride	0.56		
					Toluene	1.5		
					Tetrachloroethylene	1.7		
					Ethylbenzene	0.47		
					Xylenes	0.88		
					MEK	<0.260		
Trichloroethylene	<0.220							
U	1000							
U235	10							
Ba	0.2	1.44	3					
Ag	<0.050	0.06						
AS	<0.020	0.2						
1,1,1-TCA	<0.500	9.84						
Carbon Tetrachloride	<0.031	0.56						
Toluene	<0.322	1.5						
Tetrachloroethylene	<1.170	3.42						
Ethylbenzene	0.108	0.47						
Xylenes	<0.250	0.88						
MEK	0.0482	0.63						
Trichloroethylene	0.0864	0.54						
U	67	36000						
U235	0.576	363.6						

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SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples	
477	Contaminated Rocks, Soil etc.	North Side Digestion - Plant 2 Digestion	water	D004, D005, D007, D008, D010, D011	Ba	2.08		1	
					Ag	0.08			
					As	<0.05			
					1,1,1-TCA	<0.050			
					Carbon Tetrachloride	<0.380			
					Toluene	<0.420			
					Tetrachloroethylene	<1.170			
					Ethylbenzene	<0.210			
					Xylenes	<0.250			
					MEK	<0.630			
					Trichloroethylene	<0.540			
					U	2000			
					U235	19.4			
					Ba	0.46	Flash Point >200		2
					Ag	2.41	pH 3.9		
					As	<0.05			
					1,1,1-TCA	<0.200			
					Carbon Tetrachloride	<0.150			
					Toluene	<0.170			
					Tetrachloroethylene	<0.480			
Ethylbenzene	<0.090								
Xylenes	<0.100								
MEK	<0.630								
Trichloroethylene	<0.540								
U	1000								
U235	9.8								
As	<0.2	121							
Ba	12.7	125.2							
Cd	<0.02	0.7							
Cr	<0.03	254							
Pb	<0.1	76.3							
Se	<0.2	13							

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SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
477					Ag	<0.02 38.5		
					Hg	<0.002 0.017		
					Acetone	0.13 1.13		3
					MEK	<0.01 0.06		
					Ethylbenzene	<0.01 0.03		
					Toluene	0.002 0.14		
					Benzene	<0.01 0.084		
					Methylene Chloride	0.008 0.1		
					Xylenes	<0.01 0.1		
					Benzene	<0.050		
					MEK	<.100		
					Tetrachloroethene	<.050		
					U	191779 4.2		
					U235	0.046 2397		
			wet sand		As	2.02		1
					Ba	2.28		
					Cd	<0.10		
					Cr	2.61		
					Pb	1.25		
					Sa	0.53		
					Ag	0.47		
					Hg	0.002		
					Acetone	0.79		
					MEK	<0.01		
					Ethylbenzene	0.02		
					Toluene	0.17		
					Benzene	0.04		
					Methylene Chloride	0.01		
					Xylenes	0.19		
					Benzene	<.050		
					MEK	<.100		
					Tetrachloroethene	<.050		

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SECTION C - WASTE CHARACTERISTICS

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Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
			sand		As	3.18		1
					Ba	6.03		
					Cd	<0.10		
					Cr	<0.50		
					Pb	1.49		
					Se	<0.42		
					Ag	0.64		
					Hg	<0.002		
					Acetone	0.03		
					MEK	<0.01		
					Ethylbenzene	<0.01		
					Toluene	0.08		
					Benzene	<0.01		
					Methylene Chloride	<0.01		
					Xylenes	0.01		
					Benzene	<0.50		
					MEK	<1.00		
					Tetrachloroethene	<0.50		
			mud		As	<0.2		1
					Ba	14.2		
					Cd	<0.1		
					Cr	<0.5		
					Pb	<0.2		
					Se	<0.42		
					Ag	<0.1		
					Hg	<0.0002		
					Acetone	<1.250		
					MEK	<1.250		
					Ethylbenzene	<0.625		
					Toluene	<0.625		
					Benzene	<0.625		
					Methylene Chloride	<0.625		
					Xylenes	<0.625		
					Tetrachloride	<0.625		

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SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
R477	75 Contaminated Solvent	Maintenance Section - Analytical Lab	black solid	D001, D039, F003, F005	U	2200		1
					U235	25.08		
					Cr	<0.500		2
					Pb	<0.200		
					Se	<0.328		
					Ba	<0.200		
					Ethylbenzene	278		
					Toluene	96.1		
					Xylenes	1420		
					MEK	<125		
					Tetrachloroethene	<62.5		
					Acetone	<125		
			liquid 85%		Cr	<0.500	0.5	
					Pb	<0.200	1.2	
					Se	<0.328	0.328	
					Ba	<0.200	0.267	
					Ethylbenzene	<0.625	304	
					Toluene	1.4	119	
					Xylenes	2.94	1580	
					MEK	<1.250	125	
					Tetrachloroethene	0.65	62.5	
					Acetone	11	125	
					U	17	65	
					U235	0.235	0.65	
			cont. abs. pads		Cr	<0.500		1
					Pb	0.258		
					Se	0.425		
					Ba	<0.200		
					Ethylbenzene	<0.005		
					Toluene	0.059		

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SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

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Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
80	Dust Collector Residues - High Fluoride	Inspection - Plant 6	powder	D006, D008				2
			brown liquid					1
					Cr	<0.500		
					Pb	<0.200		
					Se	<0.328		
					Ba	<0.200		
					Ethylbenzene	91		
					Toluene	114		
					Xylenes	725		
					MEK	<125		
					Tetrachloroethene	<62.5		
					Acetone	580		
					U	4036		
					U235	38.746		
					Ba	0.155	0.852	
					Cd	0.075	1.704	
					Cr	0.069	0.107	
					Pb	<0.100	15.49	
					Hg	0.001	0.001	
					Ag	<0.025	0.072	
					Se	<0.150	0.21	
					Methylene Chloride	0.002	0.005	
					Acetone	0.027	0.16	
					Tetrachloroethene	0.002	0.005	
					Toluene	0.054	0.055	
					Xylenes	<0.005	0.018	
					1,1,1-TCA	0.004	0.005	
					MEK	<0.010	0.07	

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SECTION C - WASTE CHARACTERISTICS  
Table C-2

Analytical and Process Information for FEMP Wastestreams

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Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
83 Discard Process Residues etc.	Sump Catch Basin - Pilot Plant	liquids	D039, F002	granular	4-Methyl-2-Pentanone	<0.010 0.054		1
					U	6.4 45.5		
					U235	0.051 0.214		
					Ba	0.368		
					Cd	0.135		
					Cr	0.638		
					Pb	<0.100		
					Hg	<0.0002		
					Ag	0.217		
					Se	<0.150		
					Methylene Chloride	0.009		
					Acetone	0.028		
					Tetrachloroethene	0.022		
					Toluene	0.017		
					Xylenes	<0.005		
					1,1,1-TCA	<0.005		
					MEK	<0.010		
					4-Methyl-2-Pentanone	<0.010		
					U	54.7		
					U235	0.366		
					As	<0.05		
					Ba	0.19		
					Cd	<0.05		
Pb	<0.65							
Ag	0.13							
Acetone	<0.42							
Benzene	<0.08							
Ethylbenzene	<0.08							
MEK	<0.25							
MIBK	<0.17							
Tetrachloroethylene	<0.47							
Toluene	<0.17							

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SECTION C - WASTE CHARACTERISTICS  
Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low	High	Physical Parameters	No. of Samples	
84 Discard Process Residues etc.	Hot Raffinate Bldg. - Plant 2	Plant 2	liquid	D002	solids	As	<0.01	1.3		1
						Ba	0.798	1.01		
						Cd	<0.010	0.04		
						Pb	1.01	1.42		
						Ag	0.11	0.23		
						Benzene	0.0243	1.3		
						Ethylbenzene	0.274	1.3		
						MEK	0.153	3.8		
						MIBK	0.305	2.5		
						Toluene	0.176	2.5		
						1,1,1-TCA	0.125	3		
						Trichloroethylene	0.0276	3.3		
						Trichlorotrifluoroethane	0.192	9.4		
						Trichlorofluoromethane	0.185	4.3		
						U	6.03	32000		
	U235	0.078	352							
	Acetone	<6.3	6.3							
	Tetrachloroethylene	15	38							
	Ethyl Acetate	0.0631								
	2-Nitropropane	0.153								
	As	0.96		Flash Point >200	1					
	Ba	19.9								
	Cd	0.05		pH 1.8						

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SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
2477			sludge		Cr	0.05		1
					Pb	0.11		
					Se	1.66		
					Ag	<0.015		
					Tetrachloroethane	<0.250		
					Toluene	<0.250		
					MEK	<0.500		
					1,1,1-TCA	<0.250		
					U	1004		
					U235	9.438		
					As	<0.20		
					Ba	1.18		
					Cd	<0.02		
					Cr	<0.03		
					Pb	<0.10		
					Se	<0.15		
					Ag	<0.015		
					Tetrachloroethane	<0.005		
					Toluene	<0.005		
					MEK	<0.010		
					1,1,1-TCA	<0.005		
					U	1800		
					U235	17.1		
	grey-green cake				As	<0.20		1
					Ba	2.77		
					Cd	<0.02		
					Cr	0.06		
					Pb	<0.10		
					Se	0.19		
					Ag	0.03		
					Tetrachloroethane	0.025		
					Toluene	0.004		

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SECTION C - WASTE CHARACTERISTICS  
 Table C-2  
 Analytical and Process Information for FEMP Wastestreams

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Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
86 onlaminated Rocks Soil etc.	South Side Digestors - Plant 2 green liquid	D002, D004, D007, D008, D011	solids	NA	MEK	<0.010		1
					1,1,1-TCA	0.009		
					U	4618		
					U235	43.871		
					As	<0.200		
					Ba	1.957		
					Cd	<0.015		
					Cr	0.079		
					Pb	<0.100		
					Se	0.28		
					Ag	0.017		
					Tetrachloroethene	0.051		
					Toluene	0.005		
					MEK	<0.010		
					1,1,1-TCA	<0.005		
U	5661							
U235	54.912							
As	70.5	Flash Point >200	1					
Ba	31.6	pH 0.8						
Cd	1.6							
Cr	44.4							
Pb	66.8							
Hg	0.0006							
Ag	31.6							
Acetone	0.675							
Benzene	<0.005							
Ethylbenzene	<0.005							
Tetrachloroethene	<0.005							
Toluene	<0.005							
Xylenes	<0.005							
MEK	<0.010							
U	96983							

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**SECTION C - WASTE CHARACTERISTICS**  
**Table C-2**  
**Analytical and Process Information for FEMP Wastestreams**

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Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
			black sludge		U235	1212		
					As	1.84		1
					Ba	2.26		
					Cd	<0.100		
					Cr	0.738		
					Pb	1.13		
					Hg	0.0005		
					Ag	0.553		
					Acetone	0.22		
					Benzene	0.014		
					Ethylbenzene	0.033		
					Tetrachloroethene	0.017		
					Toluene	0.064		
					Xylenes	0.018		
					MEK	<0.010		
					Benzene	<0.050		
					Tetrachloroethene	<0.050		
					MEK	<0.100		
					U	20000		
					U235	248		
			damp dirt		As	<0.050		2
					Ba	0.319	0.364	
					Cd	<0.050		
					Cr	<0.200		
					Pb	0.762	1.02	
					Hg	<0.002		
					Ag	3.01	3.46	
					Acetone	<1.000		
					Benzene	<0.210		
					Ethylbenzene	<0.210		
					Tetrachloroethene	<1.200		
					Toluene	<0.420		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

**SECTION C - WASTE CHARACTERISTICS**  
**Table C-2**  
**Analytical and Process Information for FEMP Wastestreams**

2477

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low	High	Physical Parameters	No. of Samples	
92	Wet Sump or Filter Cake	Pilot Plant Sump	moist solids	D039, F002	Tetrachloroethane	Xylenes	<0.250			2
						MEK	1.2			
						Benzene	<0.080	<0.084		
						MEK	<0.047			
						U	2300			
						U235	18.17			
						As	<0.100			
						Ba	<0.200			
						Cd	<0.050			
						Cr	<3.200			
						Pb	<4.550			
						Hg	<0.002			
						Ag	12.7			
						Acetone	1.6			
						Benzene	<0.210			
Ethylbenzene	<0.210									
Tetrachloroethane	<1.200									
Toluene	<0.420									
Xylenes	<0.250									
MEK	<0.630									
Benzene	<0.084									
Tetrachloroethane	<0.047									
MEK	<0.025									
U	128000									
U235	921.6									
Ba	0.633	3.171								
Cr	0.056	0.208								
Hg	0.0002	0.002								
Cd	<0.015	0.025								
Se	<0.150	0.15								
Pb	<0.100	0.1								

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK - Process Knowledge

SECTION C - WASTE CHARACTERISTICS  
Table C-2  
Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
					Trichlorofluoromethane	0.039 0.15		
					1,1-DCE	0.013 0.042		
					1,1-DCA	0.72 6.4		
					1,2-DCE	<0.005 2.6		
					MEK	0.023 0.098		
					1,1,1-TCA	44 52		
					Trichloroethene	0.012 1.8		
					Benzene	<0.005 0.01		
					4-Methyl-2-Pentanone	<0.010 0.093		
					Tetrachloroethene	70 200		
					Toluene	<0.005 0.025		
					Ethylbenzene	0.018 0.04		
					Xylenes	0.06 0.12		
					U	4.39 16.4		
					U235	0.037 0.149		
			solids					
					Ba	2.74		
					Cr	0.039		
					Hg	<0.0002		
					Cd	<0.015		
					Se	0.734		
					Pb	0.206		
					Trichlorofluoromethane	<1.200		
					1,1-DCE	<0.620		
					1,1-DCA	<0.620		
					1,2-DCE	<0.620		
					MEK	<1.200		
					1,1,1-TCA	5.7		
					Trichloroethene	1.1		
					Benzene	<0.620		
					4-Methyl-2-Pentanone	<1.200		
					Tetrachloroethene	7900		
					Toluene	0.35		
					Ethylbenzene	1.2		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK - Process Knowledge

# SECTION C - WASTE CHARACTERISTICS

## Table C-2

### Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low	High	Physical Parameters	No. of Samples	
477	98 Oily Sludges, High Free Metal	Water Treatment Area - Plant 6	liquid	D001	oil phase	Xylenes	1.4			1
						U	10.5			
						U235	0.096			
						As	<0.200			
						Ba	<0.200			
						Pb	<0.200			
						Ag	<0.050			
						Hg	0.00042			
						Acetone	0.341			
						Xylenes	0.0664			
						As	<0.200			
						Ba	<0.200			
						Pb	<0.200			
						Ag	<0.050			
Hg	<0.00020									
Acetone	<1.250									
Xylenes	2.47									
As	1.24									
Ba	0.279									
Pb	0.597									
Ag	0.195									
Hg	<0.00020									
Acetone	<1.780									
Xylenes	<0.890									
As	<0.2	0.2	Flash Point >200 >	2						
Ba	<0.2	0.2	pH 6.9 7.1							
Hg	<0.0002	0.0002								
Acetone	0.145	0.559								
Ethyl Benzene	0.00942	0.05								
MEK	0.0992	0.1								
99	Clean Out Semisolids	Garage - Procurement	liquid	D019, F001						

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK - Process Knowledge

# SECTION C - WASTE CHARACTERISTICS

## Table C-2

### Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples												
2477			liquid 40%				Flash Point >200 pH 6.6	1												
									As	<0.02										
									Ba	0.12										
									Hg	<0.001										
									Acetone	<0.42										
									Ethyl Benzene	<0.08										
									MEK	<0.25										
									Tetrachloroethylene	<0.47										
									Toluene	<0.17										
									1,1,1-TCA	1.6										
									Xylenes	<0.10										
									Carbon Tetrachloride	0.22										
									U	1.2										
									U235	0.008										
									solid 60%								1			
																		As	0.01	
																		Ba	0.8	
																		Hg	<0.001	
																		Acetone	<310	
																		Ethyl Benzene	<63	
																		MEK	<190	
																		Tetrachloroethylene	<350	
																		Toluene	<130	
1,1,1-TCA	1100																			
Xylenes	<75																			
Carbon Tetrachloride	170																			
U	4800																			

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

**SECTION C - WASTE CHARACTERISTICS**  
**Table C-2**

**Analytical and Process Information for FEMP Wastestreams**

CO

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
100	Solvent Semisolids	Analytical Laboratory General	grey powder	D007, D011	U235	24.96		2
					Ba	0.106 0.188		
					Cd	0.074 0.137		
					Cr	1.39 3.02		
					Pb	0.592 1.15		
					Ag	1.93 4.11		
					U	16.2 33.1		
					U235	0.152 0.314		
114	Discard Process Residues etc.	Degreasing & Pickling - Plant 6	solids	D006, D007, D008, D018, D040, F002, F005	As	8.25 11.8		2
					Cd	3.7 3.76		
					Cr	4.78 5.47		
					Pb	4.01 7.22		
					Hg	0.002 0.004		
					Ag	0.11 0.19		
					Ethylbenzene	0.44 0.9		
					Xylenes	1.34 3		
					Benzene	<0.40 5.6		
					Chlorobenzene	<0.90 4.1		
					Toluene	<0.83 4.8		
					Trichloroethene	<1.10 5.1		
					U	6900 7100		
					U235	21.3 36.57		
135	Wet Sump or Filler Cake	None Established	moist black cake	D005	Ba	2079 3050		2
					Cd	0.018 0.026		
					Cr	0.055 0.065		
					Hg	<0.0002 0.0002		
					Se	0.585 0.646		
					4-Methyl-2-Pentanone	0.013 0.05		
					Toluene	0.019 0.046		
					U	32.7 31.9		
					U235	0.185 0.186		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

# SECTION C - WASTE CHARACTERISTICS

## Table C-2

### Analytical and Process Information for FEMP Wastestreams

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Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
2477	Contaminated Non-burnables	Plant 2 & 3 General	solids	D008	U	202 41000		3
					U235	1.394 282.9		
					U	150		
222A	Contaminated Non-burnables	Plant 1 General	solids	F002	U235	1.755		1
					U	4812		
					U235	58.706		
222B	Contaminated Non-burnables	Plant 1 General	oil pads	D004, D008, D011, F005	Ba	0.21 2.06		2
					Cd	0.023 0.031		
					Pb	0.261 0.673		
					Ag	0.013 0.034		
					Cr	<0.009 0.017		
					Xylenes	0.22 0.3		
					Tetrachloroethane	<1.200 1.6		
					Ethylbenzene	<0.200 0.21		
					U	1000 3900		
					U235	7.4 26.52		
					Pb	3.73 5.36		
					Ag	0.7 6.26		
As	<0.10 3.83							
Cd	<0.03 0.11							
Cr	<0.40 0.97							
Toluene	0.68 1.62							
Xylenes	<0.250 0.538							

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

# SECTION C - WASTE CHARACTERISTICS

## Table C-2

### Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
223	Contaminated Non-burnables	Plant 2 Digestion	solid	F002	Toluene Xylenes	0.68 1.62 <0.250 0.538		2
21	Scrap Salts	FTA?	Group "A" statistical results	D005, D008	Ba	3.86 4.01		12
					Cd	0.074 0.076		
					Pb	0.111 0.113		
					Ag	0.043 0.06		
					Acetone	5.5 6.7		
					Tetrachloroethylene	1.7 1.9		
					U	1700 2100		
					U235	15.3 19.11		
					Ba	0 1.988		
					Pb	0.127 0.337		
					Se	0.173 0.277		
					Ag	0.057 0.125		
	Acetone	0.08 0.12						
	Carbon Disulfide	0.003 0.005						
	Methylene Chloride	0.003 0.005						
	MEK	0.01 0.022						
	1,1,1-TCA	0.003 0.005						

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

**SECTION C - WASTE CHARACTERISTICS**  
**Table C-2**

**Analytical and Process Information for FEMP Wastestreams**

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Sample Plan	Waste Description	Generating Source	Type	Hazard Code	Constituent	Range (ppm) Low	High	Physical Parameters	No. of Samples
2477					2-Nitropropane	0.012	0.02		
					Toluene	0.003	0.005		
					Tetrachloroethylene	0	0.025		
					Ethylbenzene	0.003	0.005		
					Xylenes	0.003	0.005		
					MIBK	0.007	0.027		
					U				
					U235	1768	5272		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Low	High	Physical Parameters	No. of Samples
27	Oily Semisolid for Oxidation			F001, D001 D039	As	<0.005	0.007	Flash Point; 100, >200	6
					Ba	0.128	0.181		
					Cd	<0.005	0.012	pH: 6.7-7.4	
					Cr	<0.008	0.008		
					Pb	<0.03	0.082		
					1,1,1-TCA	0.054	10300		
31	Contaminated Solvent (perchloroethylene)	Service Bldg. to Admin. Bldg.	735	F001, D007, D018, D019, D021, D029, D039, D040	Toluene	<0.0055	35		4
					Ethylbenzene	<0.00275	230		
					Xylenes	<0.00275	1100		
					1,1-DCA	<5.5	59		
					Tetrachloroethylene	<2.75	7		
					U	3	597		
					U235	0.023	1.91		
					AS	<0.005	0.06	Flashpoint: >200, >200	
					Ba	0.922	3.8		
					Cd	<0.005	0.158		
					Cr	0.104	352		
					Pb	<0.03	0.71		
74	Contaminated Rocks, Soil, etc.	Waste Management	D008	Tetrachloroethylene	27	125000		3	
				1,1-Dichloroethylene	4.5	5000			
				1,1,1-TCA	6.2	5000			
				Chlorobenzene	6.4	33			
				Toluene	5.7	5000			
				Benzene	5.5	5000			
				TCE	5.5	1200			
				Carbon Tetrachloride	<0.5	34			
				U	2	77			
				U235	0.008	0.254			
				Ba	<0.2	<0.2			
				Cd	<0.1	<0.1			
Cr	<0.5	<0.5							

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

2477

SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm)	Physical Parameters	No. of Samples
						Low High		
2477	Used Oil	Laboratory General		F001, D008, D009, D039	Pb Acetone U U235	18.8 <0.01 67 0.523	36.15 19 97 0.737	2
89	Used Oil	Laboratory General		F001, D008, D009, D039	Ba Cd Cr Pb Hg Tetrachloroethylene 1,1,1-TCA Toluene Xylenes U U235	0.863 0.1 <0.040 545 4.42 20 0.7 12 2 126 0.693	1 Flash Point: >200 0.125 pH: 5.1 5.4 702 6.48 108 19 18 3.4 145 0.798	2
97	Oily Semisolids	Sump Liquor Processing - Pit 9	965	F001, D007	Ba Cr Pb Se Ag Acetone 2-Nitropropane 1,1,1-TCA U U235	0.276 12 1.74 <0.20 <0.050 <1.2 <2.5 <0.62 2530 22.264	0.532 Flash Point: 29 0.192 0.734 0.941 4.5 9.1 1500 2890 25.432 pH: 3.5 4.1	3
128	Solvent Semisolids	Drum Painting Booth	135	F005, D001, D008, D035	Ba Pb Se Acetone Ethylbenzene Toluene	0.403 0.372 <0.2 320 20000 1100	1.16 Flash Point: 78 <90 0.2 pH: 4.4 4.9 6200 76000 4100	2

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK - Process Knowledge

SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low	High	Physical Parameters	No. of Samples
201	Oil Semisolids	Inspection - Plant 6	655	F001, D029, D039, D040	MEK Xylenes U U235	530 3900 0.0082 0.00005	6200 5800 7 0.046	Flash Point: >200 >200 ph: 2.3 6	6
236	Contaminated Burnables	Plant 2 & 3 - General		F001, D029, D039, D040	As Ba Cr Cd Cr Pb Ag 1,1,1-TCA Acetone MEK Tetrachloroethylene Xylenes TCE 1,1-DCE Ethylbenzene U U235	<0.10 0.29 <0.50 1.1 1.1 <5.0 1.1 0.36 1 <0.50 <0.25 <0.25 <0.25 <0.25 <0.25 0.2 89 0.214	0.51 1.9 5 2.6 50 2.5 92 15 1.2 48 1.1 0.31 0.82 0.32 2050 4.92		4
					Ba Cr Pb Hg Ag	16.8 1.9 12.3 0.018 <0.70	136 22.2 123 0.26 0.7		4
					1,1-DCE 1,1,1-TCA TCE 1,1,2-Trichloro Toluene Ethylbenzene	<0.050 0.055 0.028 <0.005 <0.005 <0.005	6.2 860000 11000 2400 25000 13000		7

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

# SECTION C - WASTE CHARACTERISTICS

## Table C-2

### Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
237	Sump Cake with Copper	None Established	362	D005, D007	Tetrachloroethylene	1.4 190000	Flash Point: >200 pH: 6.2-6.5	6
					1,2-DCA	<0.62		1
					Ba	<0.2	1900	2
					Cr	<0.5	55	
					Ag	<0.05	0.31	
					Acetone	<0.01	0.062	
					Methylene Chloride	<0.005	0.025	
					U	19	150	
					U235	0.139	0.825	
					239	Wastewater	Plant 2 & 3 - General	D039
Acetone	0.57	3.3						
Ethylbenzene	0.022	0.064						
MIBK	0.081	0.18						
Toluene	0.017	0.028						
Methylene Chloride	0.11	0.11						
1,1,1-TCA	1.1	2.8						
Tetrachloroethylene	0.21	1.1						
Trichloroethylene	0.16	0.16						
Xylenes	0.22	0.5						
240	Discard Process Residues	Pilot Plant Solvent Extraction	D039	1,1,2-Trichloro	<0.005	0.006		
				U	0.3	18		
				U235	0.002	0.086		
				Ba	0.254	0.594	pH: 2.7 3.5	3
				Cd	0.103	0.124		
				Cr	0.582	1.424		
				Pb	0.254	0.554		
				Ag	<0.05	0.108		
				Hg	0.002	0.002		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

# SECTION C - WASTE CHARACTERISTICS

## Table C-2

### Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low	High	Physical Parameters	No. of Samples					
2477					Acetone	0.21	0.88							
					Benzene	0.005	0.006							
					MIBK	<0.01	0.1							
					MEK	0.044	0.074							
					Tetrachloroethylene	0.032	1.4							
					1,1,1-TCA	0.11	0.35							
					Xylenes	0.0093	0.089							
					Trichlorofluoromethane	<0.005	0.024							
					U	86	110							
					U235	0.636	0.814							
					243	Oily Semisolids for Oxidation	None Established	351	F001, D010, D035	Ba	<0.2	2.28		
										Pb	<0.2	1.18		
										Se	<0.02	4.18		
										Ag	<0.05	0.2		
										1,1,1-TCA	7.8	30000		
Acetone	<1.2	9.6												
MEK	<1.2	9												
U	42	1372												
U235	0.072	2.195												
248	Non-Recoverable Trash	Maintenance Sect. Service & Admin. Bldg.	245	D007, D010						Cr	<0.5	20.1		
					Pb	<0.2	0.965							
					Se	0.21	5.03							
					4-Methyl-2-Pentanone	<1.2	7.5							
					Toluene	0.32	12							
					Ethylbenzene	<0.62	220							
					Trichloroethylene	<0.62	0.62							
					U	2	324							
					U235	0.022	2.365							
					Xylenes	11	25							

Analytical results in bold/italic type are TCLP. All others are total waste analysis. PK = Process Knowledge

**SECTION C - WASTE CHARACTERISTICS**  
**Table C-2**

**Analytical and Process Information for FEMP Wastestreams**

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
2473 250	Contaminated Rocks, Soil, etc.	Plant 5 General	500	D005, D006, D007, D008, D009	Ba	56.5 426		3
					Cd	1.4 3		
					Cr	19.2 37.6		
					Pb	86.7 150		
					Hg	<0.05 0.29		
					Acetone	0.042 8.9		
					Methylene Chloride	<0.0056 0.003		
					MEK	<0.0012 0.26		
					Milk	<0.0012 0.061		
					Toluene	<0.0062 0.01		
					Ethylbenzene	<0.0062 0.002		
					Xylenes	<0.0062 0.009		
					U	696 1136		
					U235	4.037 5.566		
254	Oily Semisolids	Plant 2 & 3 - General		F001, D008, D039, D040	Ba	<0.2 0.638		5
					Pb	<0.2 7.29		
					Hg	<0.0013 0.011		
					Se	<0.2 0.2		
					Ag	<0.05 0.05		
					Acetone	<1.2 64		
					Ethylbenzene	<0.062 400		
					MIBK	<1.2 6.2		
					Toluene	<0.62 77		
					1,1,2-Trichloro	<0.62 2.8		
					MEK	<1.2 6.2		
					Methylene Chloride	<0.62 6.3		
					Tetrachloroethylene	<0.62 900		
					1,1,1-TCA	9.6 5700		
					Trichloroethene	<0.62 130		
					Xylenes	<0.62 1600		
					U	26 18563		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK - Process Knowledge

SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
259	Contaminated Burnables	Procurement - Garage	741	F001, D018	TCLP Metals	ND		2
					U235	0.122 109.522		
					1,1,1-TCA	12 59		
					Toluene	17 60		
					Ethylbenzene	14 49		
					Xylene	88 320		
					U	21 104		
					U235	0.105 0.51		
265	Used Oil	Plant 6 - General	600	F001, D039, D040	Benzene	2.6		1
					Ba	<0.2 0.389		
					1,1,1-TCA	1.6 38000		4
					Acetone	0.44 100		
					Toluene	<0.12 0.82		
					Methylene Chloride	<0.12 7.7		
					TCE	<0.12 0.86		
					Tetrachloroethylene	<0.12 54		
					U	9.3 46		
					U235	0.02 0.129		
267	Used Oil	N-R Furnace: Casting - Pll 9	921	F001, D006, D007, D008, D019, D029, D040	Ba	<0.2 57.8	Flash Point:	4
					Cd	<0.1 3.12	>200 >200	
					Cr	<0.5 12.2		
					Pb	1.15 106.8		
					Hg	<0.0002 0.00497		
					Ag	<0.05 0.552		
					1,1,1-TCA	120 170000		
					Toluene	<0.5 27		
					Acetone	5.5 950		
					U	39 780		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

# SECTION C - WASTE CHARACTERISTICS

## Table C-2

### Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
269	Solvent Semisolids	Garage RCRA Service & Admin. Bldg.	738	F001, D029, D039	1,1-DCE	<0.5 96		2
					U235	0.273 6.708		
					Ba	0.481	1.27 Flash point:	6
					Cd	<0.005	>200	
					Cr	<0.008	0.009 pH: 6.9	
					Pb	<0.03	0.048	
					Acetone	<0.57	7.4	
					1,1-DCE	<0.25	19	
					1,1-DCA	<1.2	200	
					1,2-DCA	<0.050	0.18	
					MEK	<1.2	28	
					4-Methyl-2-Pentanone	<0.06	0.4	
					Toluene	0.11	9.7	
					1,1,1-TCA	<0.11	650	
					Carbon Tetrachloride	<0.25	0.91	
					Methylene Chloride	<0.050	3.2	
					U	8	11000	
					U235	0.037	46.2	
					Xylenes	<0.01	3.4	3
					Tetrachloroethylene	<0.050	18	
79	Dust Collector Residues - High F	Pilot Plant Spencer Vacuum	Black Crystals	D007	Ba	0.127		1
					Cd	<0.005		
					Cr	0.273		
					Pb	0.093		
					Ag	0.006		
					U	4.08		
					U235	0.0086		
					Black			
					Ba	0.235		1

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

SECTION C - WASTE CHARACTERISTICS  
Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples	
68	Contaminated Oil Insoluble	Plant 1 - General Code	Oil	D018	U235	0.4125		1	
						33			
						Ba	<0.050	0.022	
						Cd	<0.050	0.05	
						Cr	2.89	0.08	
						Pb	1.08	0.3	
						Ag	0.08	0.05	
						U235	0.1754		
						U	13.6		
68	Contaminated Oil Insoluble	Plant 1 - General Code	Oil	D018	U235	0.036		2	
						2.89			
						1.03			
						0.07			
						0.0767			
						10.8			
						Ba	<0.050	0.022	
						Cd	<0.005	0.05	
						Cr	<0.008	0.08	
						Pb	<0.030	0.3	
Ag	<0.005	0.05							
68	Contaminated Oil Insoluble	Plant 1 - General Code	Oil	D018	U235	1.35	5.633	2	
						1.35	Flash Point:		
						2.488	>200	>200	
							66.34		
							>200		
							0.015	0.015	
							pH: 6-7		
							0.025	0.025	
							<0.150	0.15	
							1.04	1.5	
	101	197							
68	Water	Plant 1 - General Code	Water	D018	U235	1.35	Flash Point:	1	
						2.488	>200		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

2477

SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low	High	Physical Parameters	No. of Samples
61	Contaminated Oil Insoluble	Pilot Plant - Heat Treating Salt Bath	Oil	F001, D039, D040	<p><i>Ba</i> 0.588 6.373 Flash Point: 2.59 &gt;200 &gt;200</p> <p><i>Cd</i> &lt;0.038 4.33 pH: 3.8 5</p> <p><i>Cr</i> &lt;0.062 3 17</p> <p>Acetone 2 12</p> <p>MEK 3 17</p> <p>Toluene 0.32 0.52</p> <p>Tetrachloroethylene &lt;0.050 0.5</p> <p>4-Methyl-2-Pent 0.4 &lt;1.0</p> <p>Ethylbenzene &lt;0.50 0.11</p> <p>Trichloroethylene &lt;0.050 0.5</p> <p>1,1,1-TCA &lt;0.50 72</p> <p>U235 0.0108 0.8128</p> <p>U 4 254</p>				3
			Water		<p><i>Ba</i> 0.184 Flash Point: &gt;200</p> <p><i>Cd</i> 0.152</p> <p><i>Cr</i> 0.049 pH: 4.9</p> <p>Acetone 14</p> <p>MEK 6.8</p> <p>Toluene &lt;0.50</p> <p>Tetrachloroethylene &lt;0.500</p> <p>4-Methyl-2-Pent &lt;1.00</p> <p>Ethylbenzene &lt;0.50</p> <p>Trichloroethylene &lt;0.500</p> <p>1,1,1-TCA 0.38</p> <p>U235 1.0728</p>				1

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

SECTION C - WASTE CHARACTERISTICS  
Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
110	Contaminated Solvent	Laboratory Samples	Solids	D007	Cr Pb Hg Ag U235 U	7.5 9.05 2.22 2.56 0.01 0.024 0.136 0.246 0.055 0.9 23.9 23.9		2
112	Scrap Salts Low F	Plant 6 Rolling Operations	Powder	D004, D008	As Ba Cd Cr Pb Ag p-Cresol Nitrobenzene MEK U235 U	<0.20 3.249 0.042 0.149 0.744 0.765 <0.010 <0.010 1.7 6.509 2712		1
196	Dust Collector	Plant 1 - Maintenance	Moist Solids	D004, D006, D008	Cd Cr	2.126 0.211		1

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

SECTION C - WASTE CHARACTERISTICS  
Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples	
52	Contaminated Oil Insoluble	Plant 1 - Drum Bath	Oily Water	F001, D019, D029, D039, D040	Pb	0.187		Flash Point: >200 pH: 6.7	1
					As	<0.200			
					Ba	<0.010			
					Se	<0.150			
					Ag	<0.025			
					Hg	<0.002			
					U235	0.116			
					U	6.36			
					Cd	0.137			
					Cr	1.3			
					Pb	3.25			
					As	4.04			
					Ba	0.747			
					Se	<0.33			
					Ag	1.28			
Hg	<0.0002								
U235	0.557								
U	67.9								
					Ba	0.094			
					Cd	<0.015			
					Cr	<0.025			
					Ag	<0.025			
					Acetone	18			
					1,1,1-TCA	890			
					1,1-DCE	26			
					MEK	10			
					Tetrachloroethylene	19			
					Trichloroethylene	18			
					p-Cresol	-0.048			
					Carbon Disulfide	<5.0			
					Carbon Tetrachloride	<5.0			
					U235	0.033			

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

2477

CO

# SECTION C - WASTE CHARACTERISTICS

## Table C-2

### Analytical and Process Information for FEMP Wastestreams

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2477

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low	High	Physical Parameters	No. of Samples
			Oily Liquid		U	6			
	Laboratory Xylene	Material 061/ Source 733		F003, D001	Ign., Xylene	PK			
	Laboratory Methanol	Material 013/ Source 733		F003, D001	Ign., Methanol	PK			
	Wastewater Treatment Semi-solid - Oily	Material 039/ Source 655		F002, D018	1,1,1-TCA, benzene	PK			
	Boring #1674 Inside PP	Material 011/ Source ASI		F001	TCE Total Thorium Total Uranium	0.46 28 359	0.6	pH: 5 6	2
	Agilene	Material 015/ Source 768		D001, D005, D008	Ign., As, Pb,	PK		Ignitable	

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

**SECTION C - WASTE CHARACTERISTICS**  
**Table C-2**  
**Analytical and Process Information for FEMP Wastestreams**

2477

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
	Cont. Mercury From Vacuum Pumps	Material 051/ Source 733		D009	Hg		UF6	
	Used Oil Maintenance	Material 015/ Source 739		F002, D008, D018	1,1,1-TCA, Pb, Benzene			PK
	Used Oil	Material 015/ Source 739		F002, D010, D018	1,1,1-TCA, Se, Benzene			PK
	Oil Soaked Rags	Material 003-6/ Source 738		F002, D010, D018	1,1,1-TCA, Se, Benzene			PK
	Spent Solvents	Material 013/ Source 738		F001, F002, D018	1,1,1-TCA, Ign., Benzene			PK
	Cooling Water Wood & Sludges	Material 027/ Source 765		D037	Pentachlorophenol			PK
	Mg with oil	Material 014/ Source 514		D003, D018	Reac., Benzene			PK
	Transformer Oil	Material 015/ Source 742		D018	Benzene			PK
	Rainwater & Diesel Fuel	Material 012/ Source 741		D018	Benzene			PK
	Crankcase Oil	Material 015/ Source 742		D018	Benzene			PK
	Leaded Gasoline From Tank 12	Material 013/ Source 744		D001, D008	Ign., Pb			PK

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

**SECTION C - WASTE CHARACTERISTICS**  
**Table C-2**  
**Analytical and Process Information for FEMP Wastestreams**

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm)		Physical Parameters	No. of Samples
						Low	High		
2477	Water/Gas Mix Tank 8	Material 012/ Source 741		D001, D008, D018	Ign., Pb, Benzene		PK		
	Water/Gas Mix Tank 9	Material 012/ Source 741		D008, D018	Pb., Benzene		PK		
	Water/Gas Mix Tank 10	Material 012/ Source 741		D008, D018	Pb, Benzene		PK		
	Dry Cell Batteries	Material 003/ Source 500		D002, D009	Corr., Hg		PK		
	Waste Aerosol Paint Cans	Material 003/ Source 600		D001	Ign.		PK		
	Used Oil	Material 015/ Source 203		F001, F002, D008, D018	1,1,1-TCA, Pb, Benzene		PK		
	Solvent Rags	Material 003/ Source 202		F001, F002, D018	1,1,1-TCA, Pb		PK		
	Oily Rags	Material 003/ Source 747		F002, D008, D018	1,1,1-TCA, Benzene		PK		
	Solvent Rags	Material 003/ Source 746		F001, F002, D018	1,1,1-TCA		PK		
	1,1,1-TCA	Material 013/ Source 746		F001, F002, D018	1,1,1-TCA		PK		pH: 5.9
	Used Oil	Material 015/ Source 747		F001, F002, D008, D018	1,1,1-TCA, Benzene, Lead		PK		pH: 6.8
	1,1,1-TCA	Material 013/ Source 747		F001, F002,	1,1,1-TCA,		PK		

Analytical results in bold/italic type are TCLP. All others are total waste analysis. PK = Process Knowledge

**SECTION C - WASTE CHARACTERISTICS**  
**Table C-2**  
**Analytical and Process Information for FEMP Wastestreams**

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
	1,1,1-TCA Rags	Material 003/ Source 775		F001, F002, D018	1,1,1 TCE, Methyl Chloroform			PK
	Used Oil	Material 015/ Source 776		F002, D008, D018	1,1,1 TCE, Benzene, Lead			PK
	Oilly Rags	Material 003/ Source 776		F002, D008, D018	1,1,1 TCE, CFCs, Benzene			PK
	Elemental Mercury (Spill Cleanup Material)	Material 051/ Source 733		U151	Mercury			PK
	Solids Contaminated w/ Lab Samples	Material 003/ Source 733		F002, F003, D004, D005, D006, D007, D008, D022	Arsenic Barium Lead Methylene Chloride Cadmium Chromium Methanol Acetone Chloroform			PK PK PK PK PK PK PK PK PK
	Wipes, Resins, Solids	Material 003/ Source 733		F002, F003, D004, D005, D008, D022	Methanol Acetone Xylene Chloroform Methylene Chloride Barium Arsenic Lead			PK PK PK PK PK PK PK PK

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

# SECTION C - WASTE CHARACTERISTICS

## Table C-2

### Analytical and Process Information for FEMP Wastestreams

00

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
	Oil Soaked Absorbent Pads	Material 003/ Source 730		D018	Benzene	PK		
	NICAD Batteries	Material 003/ Source 733		D002, D006	Cadmium	PK		
	Contaminated Trash	Material 003/ Source 733		D005, D006, D007, D008	Barium Chromium Cadmium Lead	PK PK PK PK		
	Scrap U308 & Chloride Salts	Material 052/ Source FTA		D005	Barium	PK		
	Scrap U308 Vertical Quench Sludge	Material 101/ Source FTA		D005	Barium	PK		
	Hydraulic Oil (semi-solid)	Material 039/ Source 730		D018	Benzene	PK		
	Floor Dry contaminated w/Oil	Material 020/ Source 200		D018	Benzene	PK		
	Hydraulic Oil from Baler	Material 015/ Source 137		F002, D018	1,1,1-TCA Benzene	PK PK		
	Oil Soaked Absorbent Pads	Material 003/ Source 730		D018	Benzene	PK		
	Hydraulic Fluid (freight elevator)	Material 015/ Source 730		D018	Benzene	PK		
	Oltspec Paint	Material 003/ Source 135		D001	Ign.	PK		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

03

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm)		Physical Parameters	No. of Samples
						Low	High		
2477	Waste Oil Plant #1	Material 015/ Source 100		D018	Benzene			PK	
	Semi-solid	Material 043/ Source 100		D018	Benzene			PK	
	Unknown Liquid	Material 013/ Source 100		D001, D018	Benzene, Ign.			PK	
	Battery Terminal Protector	Material 003/ Source 100		D001	Ign.			PK	
	Adhesive Activator	Material 003/ Source 100		D001	Ign.			PK	
	Gasket & Paint Remover	Material 003/ Source 100		D001	Ign.			PK	
	Unknown Liquid	Material 003/ Source 100		D001	Ign.			PK	
	Klinglast Aerosol	Material 003/ Source 100		D018	Benzene			PK	
	Compressed Gas Lubricant	Material 003/ Source 100		D001, D018	Ign., Benzene			PK	
	Brake Cleaner (compressed gas)	Material 003/ Source 100		D001	Ign.			PK	
	Aerosol Solvent	Material 003/ Source 100		D018	Benzene			PK	

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

SECTION C - WASTE CHARACTERISTICS  
Table C-2  
Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
2477	Tire Repair	Material 003/ Source 100		D001	Ing.	PK		
	Bathroom Cleaner	Material 003/ Source 100		D002	Corr.	PK		
	Spray Paint	Material 003/ Source 100		D001	Ign.	PK		
	Stainless Steel Cleanser	Material 003/ Source 100		D018	Benzene	PK		
	Wire Rope Lubricant	Material 003/ Source 100		D018	Benzene	PK		
	Galvanizing Chemical	Material 003/ Source 100		D001, D003, D035	Ign., MEK, Reac.	PK		
	Starting Fluid	Material 003/ Source 100		D001	Ign.	PK		
	Galvanizing Compound	Material 003/ Source 100		D001, D008, D018, D035	Ign., Pb, Benzene, MEK	PK		
	Oil Contaminated with Solvent	Material 015/ Source 700		F002, D001, D007, D008, D010, D018	Ign., Benzene Aluminum Arsenic Beryllium Cadmium Iron Lithium Sodium Lead Copper	PK 163 1.4 <3.25 0.34 2900 <1 6800 40 350		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

**SECTION C - WASTE CHARACTERISTICS**  
**Table C-2**  
**Analytical and Process Information for FEMP Wastestreams**

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples		
2477	Treated Wood	Material 003/ Source 705		D006	AS	5.6 9.4		4		
					Cd	<0.2 2.31				
	Contaminated Protective Gear	Material 027/ Source 761		F001, F005	1,1,1 TCA, Xylene, MEK				PK	
	Contaminated Oil Dry/Floor Sweep	Material 020/ Source 510		D001, D018	Ign., Benzene				PK	
					AS	<0.2				
					Ba	0.36				
					Cd	0.044				
					Cr	0.04				
					Pb	<0.05				
					Se	<0.2				
					Ag	<0.01				
					Hg	<0.0002				
					TCLP Organics				ND	
Lab Pack (water rinse)	Material 001/ Source 375		D007	Arsenic				<0.005 7		7
				Barium				0.028 59.7		
				Cadmium				<0.005 0.109		
				Selenium				<0.005 <0.005		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

**SECTION C - WASTE CHARACTERISTICS**  
**Table C-2**  
**Analytical and Process Information for FEMP Wastestreams**

2477

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
	Lab Pack (residue)	Material 001/ Source 375		D007	Arsenic Barium Cadmium Selenium Silver Chromium (total) Chrom (hexavalent) Chrom (trivalent) Lead Mercury	0.012 0.675 0.01 <0.01 0.2 - - 0.325 <0.1 <0.0002	<1.0 3700 0.225 0.375 <1.0 30 30 1.475 <0.1	
	Lab Pack (MIBK)	Material 013/ Source 733		D001, U161	MIBK, Ign.	PK		
	Lab-packed Flammable Liquids	Material 013/ Source 733		D001, U108, U117, U161, U213, U359		PK		
	Lab Pack (sodium amide)	Material 003/ Source 733		D003	Ign., Sodium Amide	PK		
	TBP and Kerosene	Material 013/ Source 730		D001, D002, D007	Ign., Cor., Cr	PK		
	Spilled	Material 027/		U210	Tetrachloroethylene	PK		

Analytical results in bold/italic type are TCLP. All others are total waste analysis. PK = Process Knowledge

SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

CS

2477

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
	Tetrachloroethylene	Source 733						
	Water from UST #8	Material 012/ Source 741		D008, D018	Pb, Benzene			PK
	UST Cleaning Residu	Material 039/ Source 100		D008, D018	Pb, Benzene			PK
	Gasoline	Material 012/ Source 100		D001, D018	Ign., Benzene			PK
	Tank Cleanings	Material 039/ Source 741		D008, D018	Pb, Benzene			PK
	Contaminated Oil Dry	Material 003/ Source 137		D018	Benzene			PK
	Offspec Paint	Material 003/ Source 137		D001	Ign.			PK
	Tank Cleanout	Material 039/ Source 745		D018	Benzene			PK
	Lab Pack (1,4-Dioxan stabilized)	Material 013/ Source 733		D001, U108	1,4-Dioxane, Ign.			PK
	Gasoline	Material 013/ Source 300		D001, D018	Ign., Benzene		pH: 7.7	PK
	Miscellaneous Cleanup Materials	Material 003/ Source 742		F002, D018	1,1,1 TCA, Benzene			PK
	Paint Thinner	Material 013/ Source 300		D001	Ign.			PK

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Low	High	Physical Parameters	No. of Samples
2477	Used Paint Thinner	Material 013/ Source 705		F002, D001, D008	Ign., Pb	PK			
	Used Motor Oil	Material 015/ Source 705		D018	Benzene	PK			
	Soil Borling #1508	Material 011/ Source ASI		D006, D007, D008	Cadmium Chromium Lead	2.6 20.7 14.8			
	Soil Borling #1509	Material 011/ Source ASI		D004, D006 D007, D008	Arsenic Cadmium Chromium Lead Mercury	5.1 4.2 24.3 21.1 PK			
	Soil Borling #1512	Material 011/ Source ASI		D004, D005, D006, D007, D008	Arsenic Barium Cadmium Chromium Lead	5.1 135 3.3 20.8 25.4			
	Soil Borling #1513	Material 011/ Source ASI		D005, D006, D007, D008	Barium Cadmium Chromium Lead	128 3.4 19.5 20.9			
	Soil Borling #1514	Material 011/ Source ASI		D004, D005, D006, D007, D008	Arsenic Barium Cadmium Chromium Lead	10 156 3.4 19.8 15.4			

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

SECTION C - WASTE CHARACTERISTICS  
Table C-2  
Analytical and Process Information for FEMP Wastestreams

CS

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
	Soil Borling #1511	Material 011/ Source ASI		D004, D005, D006, D007	Arsenic Barium Cadmium Chromium	7.6 PK PK PK		
	Paint (possibly gray epoxy)	Material 013/ Source 742		D001	Ign.	PK		
	Contaminated Oil, Soluble	Material 009/ Source 742		D018	Benzene	PK		
	Lead (three drums)	Material 003/ Source 500		D008	Lead	PK		
	Water, Sludge, & Absorbent Pads	Material 011/ Source 800		F002, D008	Lead	PK		
	Lead - Counterweight Bearings	Material 049/ Source 742		D008	Lead	PK		
	Petroleum Product w/Rainwater	Material 015/ Source 742		D018	Benzene	PK		
	Cutting Fluid Absorbent	Material 003/ Source 730		D018	Benzene	PK		
	Cleanout UST #III	Material 022/ Source 741		D018	Benzene	PK		
	Developer Fixer	Material 013/ Source 743		D011	Silver	PK		
	Oil Drum Contaminated w/oil	Material 003/ Source 137		D018	Benzene	PK		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

**SECTION C - WASTE CHARACTERISTICS**  
**Table C-2**  
**Analytical and Process Information for FEMP Wastestreams**

Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
2477	Boring #1515 (from fire train)	Material 011/ Source ASI		D004, D005, D006, D007, D008	Arsenic Barium Cadmium Chromium Lead	5.7 134 2.9 14.3 18.5		
	Unfired Reaction Charges	Material 079/ Source 320		D001	Oxidizer		PK	
	Hydraulic Fluid from Baler	Material 003/ Source 137		D018	Benzene		PK	
	Oil Unknown Generation	Material 015/ Source 100		D018	Benzene Metals		PK	
	Oil from Baler in Plant 1	Material 015/ Source 137		D018	Benzene		PK	
	Zinc Compound (aerosol)	Material 003/ Source 705		D001	Oxidizer		PK	
	Oil	Material 015/ Source 400		D018	Benzene		PK	
	Oil	Material 015/ Source 100		D018	Benzene		PK	
	Oilly Rags	Material 003/ Source 100			Benzene Metals		PK PK	
	Oil - Strong Solvent Odor	Material 015/ Source YAO		D018	Benzene 1,1,1-TCE		PK PK	

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

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Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm) Low High	Physical Parameters	No. of Samples
	Butlered KCN Soln (about 2 lt @ 30G)	Material 003/ Source 733		P098	Potassium Cyanide	PK		
	Mercury Spill Cleanup & Spent Mercury	Material 051/ Source 733		D009	Mercury	PK		
	Lead & Wood Shaving	Material 049/ Source 100		D008	Lead	PK		
	Batteries from Flashlights & Beepers collected in SAAs	Material 003/ Source 735		D002, D006, D009	Corrosivity Cadmium Lead Mercury	PK PK PK PK		
	Boring #1594	Material 011/ Source ASI		F001	TCE	Analysis (0.160) ppm		
	Dry Cell Batteries (Building 11)	Material 003/ Source 775		D001	Oxidation	PK		
	Non-Empty Aerosol Cans	Material 003/ Source 746		D001	Oxidizer	PK		
	Pressure Treated Lumber	Material 003/ Source 705		D006	Cadmium	EP-Tox Metals		
	Oil Dry Contaminated w/ oil from Baler	Material 003/ Source 137		D018	Benzene	PK		
	Paint Thinner Cleanup Pads	Material 013/ Source 745		F005		PK		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

# SECTION C - WASTE CHARACTERISTICS

## Table C-2

### Analytical and Process Information for FEMP Wastestreams

00  
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Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm)		Physical Parameters	No. of Samples
						Low	High		
Rags w/ 1,1,1-TCE		Material 003/ Source 502		F001, F002, D008, D018	Lead				PK
					Benzene				PK
					1,1,1-TCA				PK
Dry Spill Cleanup Materials		Material 027/ Source 300		F001					PK
Labpacked Flammable Stabilized		Material 013/ Source 733		D001, U108, U117, U161, U213, U359	Oxidizer				PK
					1,4-Dioxane				
					Ethyl Ether				
Anhydrous Ether, Stabilized		Material 013/ Source 733		D001, U117	Ethyl Glycol - THF				
					Methyl Isobutyl - Ketone				
					Monomethyl Ether				
Oily Rags w/ Free Standing Liquid		Material 003/ Source 100		D018	Benzene				PK
Oil & Sludge		Material 020/ Source 800		F002, F003					PK
Magnesium Flake & Oily Rags		Material 019/ Source 511		D003	Corr.				PK

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

SECTION C - WASTE CHARACTERISTICS

Table C-2

Analytical and Process Information for FEMP Wastestreams

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Sample Plan	Waste Description	Generating Source	Type	Hazard Codes	Constituent	Range (ppm)		Physical Parameters	No. of Samples
						Low	High		
	Boring Cutting #1261	Material 011/ Source ASI		F001	TCA		PK		
	Container of Pump Oil & Rags	Material 003/ Source 100		F001			PK		
	Grit, Blast, Water	Lead		D008	Lead		PK		
	Lead Acid Batteries	Material 049/ Source 741		D002, D004, D008	Arsenic		PK		
	Soil Boring #1251	Material 011/ Source ASI		F001	TCE		PK		

Analytical results in bold/italic type are TCLP. All others are total waste analysis.

PK = Process Knowledge

SECTION C - WASTE CHARACTERISTICSTABLE C-3FEMP WASTE ANALYSIS PARAMETERS AND RATIONALE FOR THEIR SELECTIONPhysical Characteristics

<u>Parameter</u>	<u>Rationale</u>
Visual Appearance	Verifies process knowledge, establishes screening criteria for off-site shipments and on-site receipt of hazardous wastes, and can verify potential waste changes.
Particle Size	This parameter determines pumpability.
pH	This parameter establishes the selection of compatible containers and storage areas, confirms hazardous waste determinations, determines compatibility with other waste handling procedures, and establishes disposal criteria.
Specific Gravity	This parameter provides information that can be important during waste handling operations.
Reactivity	This parameter verifies hazardous waste determinations, applicability of California list land disposal restrictions, handling and storage criteria.
Viscosity	This parameter provides information on pumpability of the material and is needed for spill response procedures.
Flashpoint	This parameter confirms the hazardous waste determination, dictates handling procedures, directs selection of storage areas, and establishes disposal criteria.
Liquid Content	This parameter directs selection of containers and storage areas, dictates handling procedures, establishes land disposal criteria, provides information for spill response, and establishes criteria for off-site shipments and on-site receipt of hazardous waste.
Solids (suspended and size)	Type and concentration of solids are important for aqueous and slurry/sludge samples to determine incineration and appropriate land disposal restriction treatment technology; and land disposal restriction treatability group. Significant changes in solid concentrations may reflect a change in chemical composition.

SECTION C - WASTE CHARACTERISTICSTABLE C-3FEMP WASTE ANALYSIS PARAMETERS AND RATIONALE FOR THEIR SELECTIONMetallic Element Concentration

<u>Parameter</u>	<u>Rationale</u>	
Arsenic (D004)	These parameters verify hazardous waste determinations and establish applicable land disposal restriction criteria. These parameters are defined as toxic metals by 40 CFR 261.24 and OAC 3745-51-24. These parameters may be found in combination with each other and/or with other hazardous organic constituents.	
Barium (D005)		
Cadmium (D006)		
Chromium (D007)		
Lead (D008)		
Mercury (D009)		
Selenium (D010)		
Silver (D011)		
Aluminum		These parameters are needed to provide complete characterization of the waste and to determine applicability of land disposal restrictions. These parameters may be found in combination with hazardous metal and/or organic constituents.
Potassium		
Antimony		
Sodium		
Beryllium		
Thallium		
Copper		
Titanium		
Iron		
Zinc		
Lithium	These parameters establish the special handling and storage procedures for radioactive materials, direct the selection of storage areas, and are needed to determine the suitability for off-site receipt of hazardous wastes. These parameters are found in combination with other hazardous metal and/or organic constituents. These parameters are included for informational purposes only and are not intended to be part of the facility's RCRA permit.	
Manganese		
Magnesium		
Nickel		
Uranium		
Thorium		

SECTION C - WASTE CHARACTERISTICSTABLE C-3FEMP WASTE ANALYSIS PARAMETERS AND RATIONALE FOR THEIR SELECTIONToxic PesticidesParameterRationale

Endrin (D012)		These parameters verify hazardous waste determinations and establish applicable land disposal restrictions. These parameters are defined as toxic in OAC 3745-51-24 and 40 CFR 261.24. These parameters may be found in combination with each other and/or other hazardous constituents.
Lindane (D013)		
Methoxychlor (D014)		
Toxaphene (D015)		
2,4-D (D016)		
2,4,5-TP	Silvex	
(D017)		

SECTION C - WASTE CHARACTERISTICSTABLE C-3FEMP WASTE ANALYSIS PARAMETERS AND RATIONALE FOR THEIR SELECTIONTotal Organic CompoundConcentration

<u>Parameter</u>	<u>Rationale</u>
Benzene (D018)	These parameters verify hazardous waste determinations. These parameters are defined as toxic organics by 40 CFR 261.24. These parameters may be found in combination with each other and/or with other hazardous metal or organic constituents.
Carbon Tetrachloride (D019)	
Chlordane (D020)	
Chlorobenzene (D021)	
Chloroform (D022)	
Cresol (o,m,and p) (D023 - D026)	
1,2-Dichlorobenzene (D027)	
1,2-Dichloroethane (D028)	
1,2-Dichloroethylene (D029)	
1,2-Dinitrotoluene (D030)	
Heptachlor (D031)	
Hexachlorobenzene (D032)	
Hexachlorobutadine (D033)	
Hexachloroethane (D034)	
Methyl Ethyl Ketone (D035)	
Pentachlorophenol (D037)	
Pyridine (D038)	
Tetrachloroethylene (D039)	
Trichloroethylene (D040)	
2,4,5-Trichlorophenol (D041)	
2,4,6-Trichlorophenol (D042)	
Vinyl Chloride (D043)	

SECTION C - WASTE CHARACTERISTICS

## TABLE C-3

## FEMP WASTE ANALYSIS PARAMETERS AND RATIONALE FOR THEIR SELECTION

Other Organic ConcentrationsParameter

Appropriate organic constituents identified in 40 CFR 261 Subpart D and 40 CFR 268 Subpart D.

Rationale

Other organic constituents are evaluated to determine the presence of listed hazardous wastes and applicability of land disposal restrictions. The exact parameter(s) evaluated will be dependent on the generating source. Presence of an organic substance above detectable levels identified in a waste stream will verify hazardous waste determinations, determine applicable land disposal restrictions and determine whether waste meets land disposal treatment standards. These parameters may be found in combination with each other and/or with characteristic hazardous parameters.

Total Organic Carbon

This parameter is used to determine the waste's treatability group; wastewater or non-wastewater, for the land disposal restrictions.

SECTION C - WASTE CHARACTERISTICS

## TABLE C-3

## FEMP WASTE ANALYSIS PARAMETERS AND RATIONALE FOR THEIR SELECTION

Physical Analyses for Offsite Treatment

<u>Parameter</u>	<u>Rationale</u>
Specific Anions/Cations	These parameters may be run on aqueous slurry sludge or inorganic solid samples to account for major constituents or type of acid/base/salt present; wastes containing cyanide and sulfide must be measured at the ppm level because there are possible toxic effects to be considered during handling and storage or incineration.
Ash Content	Ash content is important for evaluating suitability of wastes for incineration and to determine potential slag formation and assess particulate loading. Changes in ash content may reflect significant changes in the inorganic constituents of the waste.
Heat of Combustion (Btu)	This parameter is needed to determine suitability of the waste for incineration, heat load for proper incineration operation, and allows for determination of auxiliary fuel usage requirements. Changes in Btu level of a waste may reflect changes in the organic composition of the waste.
Percent Water	Water concentration will determine whether the waste should be treated as an aqueous waste and whether it is suitable for incineration; water concentration can be used to determine storage (especially compatibility) and handling requirements, and provide material balance on solid wastes; changes in water content must be known to assure adequate treatment.

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SECTION C - WASTE CHARACTERISTICS  
TABLE C-4

Waste Codes, Test Methods, and Method Numbers Used to Analyze FEMP Wastes

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WASTE CODE	RATIONALE	PARAMETER	EXTRACTION/TEST METHOD	METHOD #
D001	Ignitibility	Flash Point	Pensky-Martens Closed Cup	1010
D002	Corrosivity	pH	Electrometric	9040
D003	Reactivity	Cyanides	Colorimetric total and amenable cyanide	9010
D004	Toxic Metal	Arsenic	Inductively Coupled Plasma (ICP)	7060 (7061)
D005	Toxic Metal	Barium	ICP	7080 (7081)
D006	Toxic Metal	Cadmium	ICP	7030 (7131)
D007	Toxic Metal	Chromium	Flame/Furnace AA (FFAA)	7190 (7191)
D008	Toxic Metal	Lead	FFAA	7420 (7421)
D009	Toxic Metal	Mercury	Cold Vapor	7470 (7471)
D010	Toxic Metal	Selenium	FFAA	7740 (7741)
D011	Toxic Metal	Silver	FFAA	7760 (7761)
D012	Toxic Pesticide	Endrin	GCOP/GCMSS	8080/8250
D013	Toxic Pesticide	Lindane	GCOP/GCMSS	8080/8250
D014	Toxic Pesticide	Methoxychlor	GCOP/GCMSS	8080/8270
D015	Toxic Pesticide	Toxaphene	GCOP/GCMSS	8080/8250
D016	Toxic Pesticide	2,4-D	GC Chlorinated Herbicides	8150
D017	Toxic Pesticide	2,4,5-TP Silvex	GCCH/GCMSS	8150/8250
D018	Toxic Organic	Benzene	GC Aromatic Volatiles (GCAV)	8020/8240
D019	Toxic Organic	Carbon Tetrachloride	GC MS Volatiles (GCM SV)	8010/8240
D020	Toxic Organic	Chlordane	GC Halogenated Volatiles (GCHV)/GCM SV	8080/8250
D021	Toxic Organic	Chlorobenzene	GC MS Semivolatiles (GCMSS)	8080/8250
D022	Toxic Organic	Chloroform	GCAV/GCM SV	8020/8240
D027	Toxic Organic	1,4-Dichlorobenzene	GCHV/GCM SV	8010/8240
D028	Toxic Organic	1,2-Dichloroethane	GCHV/GC Chlorinated Hydrocarbon GCMSS	8010/8120/8250
D029	Toxic Organic	1,1-Dichloroethene	GCHV/GCM SV	8010/8240
D030	Toxic Organic	2,4-Dinitrotoluene	GCCH/GCM SV	8090/8250
D031	Toxic Organic	Hepachlor	GC Nitroaromatic & Ketones (GCNK)/GCMSS	8060/8250
D032	Toxic Organic	Hexachlorobenzene	GCOP/GCMSS	8080/8250
			GCCH/GCMSS	8120/8250

SECTION C-1 - WASTE CHARACTERISTICS  
TABLE C-4

Waste Codes, Test Methods, and Method Numbers Used to Analyze FEMP Wastes

WASTE CODE	RATIONALE	PARAMETER	EXTRACTION/TEST METHOD	METHOD #
D033	Toxic Organic	Hexachlorobutadiene	GCCH/GCMSS	8120/8250
D034	Toxic Organic	Hexachloroethane	GCHV/GCMSV	8010/8240
D035	Toxic Organic	Methyl Ethyl Ketone	GC Nonhalogenated Volatiles (GCNV/GCMSV)	8015/8240
D036	Toxic Organic	Nitrobenzene	GCNK/GCMSS	8090/8250
D037	Toxic Organic	Pentachlorophenol	GCMSSV/GCMSS	8040
D038	Toxic Organic	Pyridine	GCNK/GCMSS	8090/8250
D039	Toxic Organic	Tetrachloroethylene	GCHV/GCMSV	8010/8240
D040	Toxic Organic	Trichloroethylene	GCHV/GCMSV	8010/8240
D041	Toxic Organic	2,4,5-Trichlorophenol	GCMSSV/GCMSS	8040/8250
D042	Toxic Organic	2,4,6-Trichlorophenol	GCMSSV/GCMSS	8040/8250
D043	Toxic Organic	Vinyl Chloride	GCMSSV/GCMSS	8010/8240
F001	Toxic Organic	Toxic Halogenated Solvent	Chlorinated Hydrocarbons	8120
F002	Toxic Organic	Toxic Halogenated Solvent	Chlorinated Hydrocarbons	8120
F003	Ignitable Organic	Ignitable Organic Solvent	GCMSS	8240
F004	Toxic Organic	Toxic Non-Halogenated Solvent	GCNK/GCMSS/GCMSV	8090/8250/8040
F005	Toxic Organic	Toxic Non-Halogenated Solvent	GCMSS	8240
P015	Toxic Metals	Beryllium	ICP/FFAA	6010/7090 (7911)
P119	Toxic Metals	Ammonium Vanadate	ICP/FFAA	6010/7910 (7911)
P120	Toxic Metals	Vanadium Oxide	ICP/FFAA	6010/7910 (7911)
P028	Toxic Organic	Benzyl Chloride	GCCH/GCMSS	8120/8250
P051	Toxic Organic	Endrin & Metabolites	GCOP/GCMSS	8080/8250
P075	Toxic Organic	Nicotine	GCOP/GCMSS	8080/8250
P098	Toxic Salt	Potassium Cyanide	Colorimetric Total and Aneenable Cyanide	9010
P123	Toxic Organic	Toxaphene	GCOP/GCMSS	8080/8250
U188	Toxic Organic	Phenol	GCMSSV/GCMSS	8040/8250
U227	Toxic Organic	1,1,2-Trichloroethane	GCHV/GCMSV	8010/8240
U228	Toxic Organic	Trichloroethylene	GCHV/GCMSV	8010/8240
U019	Ignitable Toxic Organic	Benzene	GCAV/GCMSV	8020/8240
U036	Toxic Organic	Chlordane, alpha & gamma isomers	GCOP/GCMSS	8080/8250

SECTION-Q - WASTE CHARACTERISTICS  
TABLE C-4

Waste Codes, Test Methods, and Method Numbers Used to Analyze FEMP Wastes

WASTE CODE	RATIONALE	PARAMETER	EXTRACTION/TEST METHOD	METHOD #
U037	Toxic Organic	Chlorobenzene	GCAV/GCMSV	8020/8240
U043	Toxic Organic	Chloroethene	GCCH	8120
U044	Toxic Organic	Chloroform	GCHV/GCMSV	8010/8240
U052	Toxic Organic	Cresol (Cresylic Acid)	GCMSV/GCMSS	8040/8250
U078	Toxic Organic	1,1-Dichloroethylene	GCCH	8120
U079	Toxic Organic	1,2-Dichloroethylene	GCCH	8120
U105	Toxic Organic	2,4-Dinitrobenzene	GCMSS	8130
U127	Toxic Organic	Hexachlorobenzene	GCCH/GCMSS	8090/8250
U128	Toxic Organic	Hexachlorobutadiene	GCCH/GCMSS	8120/8250
U129	Toxic Organic	Cyclohexane	Nonhalogenated Volatile Organic (NVO)	8015
U131	Toxic Organic	Hexachloroethane	GCHV/GCMSV	8015
U159	Ignitable Toxic Organic	2-Butanone	NVO	8010/8240
U169	Ignitable Toxic Organic	Nitrobenzene	GCNK/GCMSS	8015
U196	Toxic Organic	Pyridine	GCNK/GCMSS	8090/8250
U210	Toxic Organic	Tetrachloroethylene	GCCH	8090/8250
U211	Toxic Organic	Tetrachloroethane	GCCH	8120
U240	Toxic Organic	2,4-Dichlorophenyl-acetic acid (Salts & Esters)	GC Chlorinated Herbicides/GCMSS	8120 8150/8250
U247	Toxic Organic	Methoxychlor		
U018	Toxic Organic	Benzo [a] pyrene	GC PAR/GCMSS/HPLC PAH	8100/8250/8310
U056	Ignitable Organic	Cyclohexane	GCMSSV	8020
U050	Toxic Organic	Chrysene	GC PAH/GCMSS/HPLC PAH	8100/8250/8310
U101	Toxic Organic	2,4-Dimethyl phenol	GC Phenols/GCMSS	8040/8250
U107	Toxic Organic	Di-n-octyl phthalate	GC Phthalate Esters	8060
U108	Toxic Organic	1,4 Dioxane	GC Non-Halogenated Volatile Organics	8015
U117	Toxic Organic	Diethyl Ether	GCNHV/GCMSS	8015/8240
U151	Toxic Metal	Mercury	ICP Cold Vapor	7470/7471
U161	Toxic Organic	Methyl Isobutyl Ketone	GC NHVO/GCMSS	8015/8240
U213	Toxic Organic	Tetrahydrofuran	GCMSS	8240
U220	Ignitable Organic	Toluene	GC Aromatic Volatile Organic	8020/8024

SECTION 4 - WASTE CHARACTERISTICS  
 TABLE C-4  
 Waste Codes, Test Methods, and Method Numbers Used to Analyze FEMP Wastes

WASTE CODE	RATIONALE	PARAMETER	EXTRACTION/TEST METHOD	METHOD #
U226	Toxic Organic	Trichloroethane	GCHV	8010/8240
U359	Toxic Organic	Ethylene Glycol Monocetyl Ether	GC Acrylonitrile/GCHSS	8030/8240
	Supplemental	Aluminum	FFAA	7020
	Supplemental	Antimony	FFAA	7040 (7041)
	Supplemental	Beryllium	FFAA	7090 (7091)
	Supplemental	Copper	FFAA	7210
	Supplemental	Iron	FFAA	7380
	Supplemental	Lithium	FFAA	SM 303A
	Supplemental	Magnesium	FFAA	7450
	Supplemental	Manganese	FFAA	7460
	Supplemental	Nickel	FFAA	7520
	Supplemental	Potassium	FFAA	7610
	Supplemental	Sodium	FFAA	7770
	Supplemental	Thallium	FFAA	7840 (7841)
	Supplemental	Titanium	FFAA	SM 303C
	Supplemental	Zinc	FFAA	7950
	Supplemental	Particle soil	Microscopy	N/A
	Supplemental	Specific gravity	Gravimetric	ASTM D 1217
	Supplemental	Density	Gravimetric	ASTM D 22167
	Supplemental	Viscosity	Paint filter liquid test	9095
	Supplemental	Free Liquid Content	Paint filter liquid test	9095
	Toxic Metal	TCLP Prep Method		1311/3005 (3010,3020,3040)
	Toxic Semivolatile	TCLP Prep Method		1311/3510 (3520)
	Toxic Volatile	TCLP Prep Method		1311/5030
	Metals	Total Analysis Prep Method		3050

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SECTION C - WASTE CHARACTERISTICS  
TABLE C-4  
Waste Codes, Test Methods, and Method Numbers Used to Analyze FEMP Wastes

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WASTE CODE	RATIONALE	PARAMETER	EXTRACTION/TEST METHOD	METHOD #
		Semivolatiles	Total Analysis Prep Method	(3010,3020,3040) 3550
		Volatiles	Total Analysis Prep Method	5030 (3500,3540, 3580,5040)
All	LDR Treatability Group	Total Organic Carbon		9060
All	LDR Treatability Group	Total Suspended Solids		EPA Method 160.2
	LDR California List	Halogenated Organic Compounds/TOX		9022
	LDR California List	Cyanides	Colorimetric Total and Amenable Cyanide	9010
	LDR California List	PCBs	GCECD	8080

- \* Inductively Coupled Plasma (ICP)
- \* Flame/Fumare AA (FFAA)
- \* Gas Chromatograph Aromatic Volatiles (GCAV)
- \* Gas Chromatograph Mass Spectrometer Volatiles (GCMSV)
- \* Gas Chromatograph Halogenated Volatiles (GCHV)
- \* Gas Chromatograph Organochloride Pesticide (GCOP)
- \* Gas Chromatograph Mass Spectrometer Semivolatiles (GCMSS)
- \* Gas Chromatograph Chlorinated Hydrocarbons (GCCCH)
- \* Gas Chromatograph Nitroceromatic & Ketones (GCNK)
- \* Gas Chromatograph Nonhalogenated Volatiles (GCNV)
- \* Gas Chromatograph Electron Capture Detector (GCECD)

Section C - Waste Characteristics  
 Table C-5  
 SAMPLING EQUIPMENT FOR PARTICULAR WASTE TYPES

Waste Location or Container

Waste Type	Drum	Sand and Bags	Storage Tanks or Bins	Waste Piles	Ponds, Lagoons, and Pits	Pipe
Free flowing liquid and slurries	Coliwasa Tube Thief	N/A	Bleed valve Weighted bottle Vacuum sampler	N/A	Weighted bottle Dipper Vacuum sampler	Vacuum sampler Dipper
Sludges	Tube Thief Trier	N/A	Tube Thief Trier	Tube Thief Trier	Tube Thief Trier	Tube Thief
Moist powders or granules	Tube Thief Thief	Tube Thief Trier	Tube Thief Trier	Tube Thief Trier	Tube Thief Trier	Tube Thief Dipper
Dry powders or granules	Thief Thief	Thief Thief	Thief Trier	Thief Trier	Thief Trier	Dipper Trier
Sand or packed powders and granules	Auger Shovel Trier	Auger Shovel Trier	Shovel Trier	Shovel Trier	Thief Shovel Trier	Shovel Trier
Large grained solids	Large Trier	Large Trier	Large Trier	Large Trier	Large Trier	N/A

Source: SW-846

FEMP REV 0 1091

SECTION C - WASTE CHARACTERISTICS

TABLE C-6

Sample Containers, Preservatives, Holding Times, and Minimum Sample Volumes

Analysis	Parameter	Holding Time	Minimum Volume	Preservative	Container Type
TCLP	metals	6 months <sup>1</sup>	Solids: 1 pint Liquids/ multi- phase: liter	Cool to 4°C Liquids only: HNO <sub>3</sub> to pH < 2	Plastic
	volatiles	14 days	Solids: (3) 4 oz jar (ZHS) Liquids: (3) 40 ml (ZHS)	Cool to 4°C	Glass, teflon lined septum
	semi- volatiles	14 days	Solids: 1 pint Liquids: 1 gallon	Cool to 4°C	Glass, teflon- lined cap
	Pesticides	14 days	Solids: 1 pint Liquids: 1 gallon	Cool to 4°C	Glass, teflon- lined cap
Totals	Metals	6 months <sup>1</sup>	Solids: 1 pint Liquids/ multi- phase: liter	Cool to 4°C Liquids only: HNO <sub>3</sub> to pH < 2	Plastic
	Volatiles	14 days	Solids: (3) 4 oz jar (ZHS) Liquids: (3) 40 ml (ZHS)	Cool to 4°C	Glass, teflon lined septum

<sup>1</sup>Holding time for mercury is 28 days.

Holding time for hexavalent chromium is 24 hours.

SECTION C - WASTE CHARACTERISTICS

TABLE C-6

Sample Containers, Preservatives, Holding Times, and Minimum Sample Volumes

Analysis	Parameter	Holding Time	Minimum Volume	Preservative	Container Type
Totals	Semi-volatiles	14 days	Solids: 1 pint Liquids: 1 gallon	Cool to 4°C	Glass, teflon- lined cap
	PCBs	14 days	1 liter	Cool to 4°C	Glass, teflon- lined cap
Miscellaneous	pH	immediate			Plastic
	flash point		100 mls		Plastic or glass
	corrosivity	immediate	1 liter		Plastic
	cyanide		500 ml	0.6g ascorbic acid N <sub>2</sub> OH to pH > 12	Plastic
	TOC		50 ml	H <sub>2</sub> SO <sub>4</sub> to pH < 2	Plastic
	TSS	7 days	250 ml	Cool to 4°C	Plastic or glass
	Specific Gravity		50 ml		Plastic

SECTION C - WASTE CHARACTERISTICS

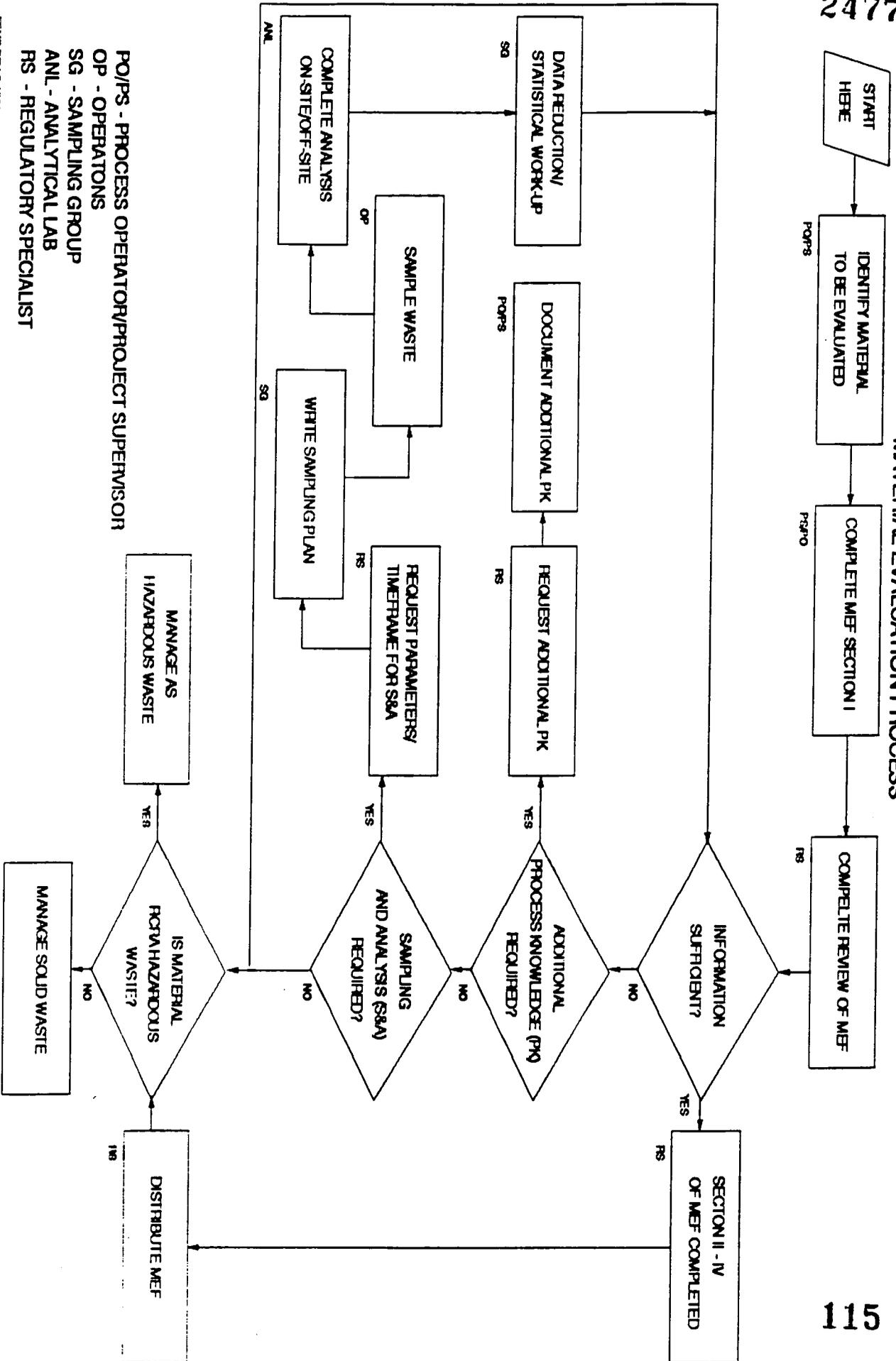
TABLE C-7

ACCEPTANCE CRITERIA ON FINGERPRINT ANALYSIS  
FOR WASTE RECEIVED FROM OFF-SITE

<u>Parameter</u>	<u>Acceptance Criteria</u>
pH	The pH must be within two units of the value on the MEF to be acceptable unless the variation changes the regulatory determination in which case the variation is unacceptable.
Physical State	The physical state must agree with the designation on the MEF.
Flashpoint	The flashpoint must be within 20% of that reported on the MEF.
Specific Gravity	The specific gravity must be within 20% of that reported on the MEF.
Compatibility	The presence/absence of cyanide must agree with the MEF. The presence/absence of sulfides must agree with the MEF.



SECTION C - WASTE CHARACTERISTICS  
FIGURE C-1  
MATERIAL EVALUATION PROCESS





SECTION C - WASTE CHARACTERISTICS

## ATTACHMENT C-1

## HAZARDOUS WASTE COMPATIBILITY CHART

REACTIVITY GROUP DESCRIPTION	REACTIVITY GROUP CODE (RGC)	A	B	C	D	E	F	G	H	I	J	K
Nitriles, Halogenated Organics	A	X	X	O	O	X	X	X	O	O	X	X
Combustibles (hydrocarbons)	B	X	X	O	X	X	X	X	X	O	O	X
Mineral acids and other corrosive mixtures	C	O	O	X	O	O	O	O	O	O	O	O
Caustics	D	O	X	O	X	O	X	X	X	O	O	X
Toxic Metals and Metal Compounds	E	X	X	O	O	X	X	X	X	O	X	X
Fluorides (inorganic)	F	X	X	O	X	X	X	X	X	O	X	X
Water-containing Mixtures	G	X	X	O	X	X	X	X	X	O	O	X
Cyanide Solutions and Compounds	H	O	X	O	X	X	X	X	X	O	O	X
Strong Oxidizers	I	O	O	O	O	O	O	O	O	X	O	O
Free Metals	J	X	O	O	O	X	X	O	O	O	X	O
Ignitable (Alcohols, D001)	K	X	X	O	X	X	X	X	X	O	O	X

X = Compatible

O = Not Compatible



SECTION C - WASTE CHARACTERISTICS

ATTACHMENT C-2

Material Evaluation Form

**FMPC  
MATERIAL EVALUATION FORM**

MEF NO.: \_\_\_\_\_

MEF REV. NO.: \_\_\_\_\_

SECTION I - MATERIAL GENERATOR				
1. FMPC SRC: _____ MTC: _____		2. PLANT AND/OR BUILDING NO.: _____		3. PROCESS AREA: _____
4. EQUIPMENT NAME(S): _____			5. MEF NO. DATE: _____	MEF REV. DATE: _____
7. APPROXIMATE NET WEIGHT OF FULL CONTAINER? <input type="checkbox"/> <100 lbs. <input type="checkbox"/> 100 to 1000 lbs. <input type="checkbox"/> >1000 lbs.			8. DOES MATERIAL CONSIST OF MORE THAN ONE SUBSTANCE? <input type="checkbox"/> YES <input type="checkbox"/> NO	
9. IS MATERIAL A WASTE? <input type="checkbox"/> YES <input type="checkbox"/> NO		10. COMMON NAMES: _____		11. CHEMICAL NAMES: _____
12. COMMON/CHEMICAL NAME SOURCE: <input type="checkbox"/> Process Information <input type="checkbox"/> MSDS <input type="checkbox"/> Container Label <input type="checkbox"/> FMPC Lot Code		OTHER: _____		13. SIMILAR MATERIAL NAME: _____
				14. SIMILAR MATERIAL LOT CODE(S): _____
15. SUBSTANCES SUSPECTED:				
<input type="checkbox"/> Aerosols	<input type="checkbox"/> Cresol	<input type="checkbox"/> Endrine	<input type="checkbox"/> Methylene Chloride	<input type="checkbox"/> TBP/Kerosene
<input type="checkbox"/> Arsenic	<input type="checkbox"/> m-Cresol	<input type="checkbox"/> Heptachlor	<input type="checkbox"/> Motor/Engine Oil	<input type="checkbox"/> Tetrachloroethylene
<input type="checkbox"/> Barium	<input type="checkbox"/> o-Cresol	<input type="checkbox"/> Hexachlorobenzene	<input type="checkbox"/> Nitrobenzene	<input type="checkbox"/> 1,1,1-Trichloroethane
<input type="checkbox"/> Benzene	<input type="checkbox"/> p-Cresol	<input type="checkbox"/> Hexachloroethane	<input type="checkbox"/> Other Organics	<input type="checkbox"/> 2,4,5-TP (Silvex)
<input type="checkbox"/> Cadmium	<input type="checkbox"/> 2,4-D	<input type="checkbox"/> Hexachloro-1,3-butadiene	<input type="checkbox"/> Paint Stripper	<input type="checkbox"/> 2,4,5-Trichlorophenol
<input type="checkbox"/> Carbon Tetrachloride	<input type="checkbox"/> Degreaser	<input type="checkbox"/> Hydraulic Oil	<input type="checkbox"/> Paint Thinner/Mineral Spirits	<input type="checkbox"/> 2,4,6-Trichlorophenol
<input type="checkbox"/> Chlordane	<input type="checkbox"/> 1,4-Dichlorobenzene	<input type="checkbox"/> Ink	<input type="checkbox"/> Pentachlorophenol	<input type="checkbox"/> Toxaphene
<input type="checkbox"/> Chlorobenzene	<input type="checkbox"/> 1,2-Dichloroethane	<input type="checkbox"/> Lead	<input type="checkbox"/> Perchloroethylene	<input type="checkbox"/> Trichloroethylene
<input type="checkbox"/> Chloroform	<input type="checkbox"/> 1,1-Dichloroethylene	<input type="checkbox"/> Lindane	<input type="checkbox"/> Pyridine	<input type="checkbox"/> Unknown
<input type="checkbox"/> Chromium	<input type="checkbox"/> 2,4-Dinitrotoluene	<input type="checkbox"/> Mercury	<input type="checkbox"/> Selenium	<input type="checkbox"/> Vinyl Chloride
<input type="checkbox"/> Coolants	<input type="checkbox"/> Enamel	<input type="checkbox"/> Methoxychlor	<input type="checkbox"/> Silver	<input type="checkbox"/> Xylene
		<input type="checkbox"/> Methyl ethyl ketone	<input type="checkbox"/> Synthetic oil	<input type="checkbox"/> Oil
16. a. REASON FOR SUSPECTING ALL SUBSTANCES AND QUANTITY: _____				
16. b. SOURCE FOR REASON AND QUANTITY: (Attach MSDS if Available)				
<input type="checkbox"/> Personnel Interviews	<input type="checkbox"/> AEDO Log	<input type="checkbox"/> MSDS	<input type="checkbox"/> Prior Evaluation of Similar Material	
<input type="checkbox"/> Historical Records	<input type="checkbox"/> Physical Evidence	<input type="checkbox"/> Container Label	What Material: _____	
<input type="checkbox"/> FMPC Lot Code	<input type="checkbox"/> Process Information	<input type="checkbox"/> Sump Report	SRC: _____ MTC: _____	
<input type="checkbox"/> Spill Database				
16. c. HEALTH AND SAFETY CONCERNS/ REQUIREMENTS: _____			16. d. SIGNATURE AND DATE: _____	
17. HAS THE "FINGERPRINT" VISUAL INSPECTION BEEN COMPLETED? <input type="checkbox"/> YES <input type="checkbox"/> NO		18. NUMBER OF PHASES: _____		19. pH (IF KNOWN): (Attach Lab Results)
				20. FLASH POINT (IF KNOWN): (Attach Lab Results)
21. HAS A PAINT FILTER TEST BEEN COMPLETED? <input type="checkbox"/> YES <input type="checkbox"/> NO				
22. IS IT REACTIVE? <input type="checkbox"/> YES <input type="checkbox"/> NO		EXPLAIN: _____		
23. IS IT IGNITABLE? <input type="checkbox"/> YES <input type="checkbox"/> NO		EXPLAIN: _____		
24. OTHER INFORMATION: (Example: Is the Material a Product or Waste?) _____				
25. ADDITIONAL SOURCES OF INFORMATION: _____				
26. PRIMARY CONTACT INDIVIDUAL: _____		EXTENSION: _____		DATE COMPLETED: _____

NOTE: Form shall be completed using ink or a typewriter.  
NOTE: Only WMCO employees shall sign this form.

(Continued on Reverse)

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FMPC MATERIAL EVALUATION FORM (Continued)

MEF NO.:

MEF REV. NO.:

SECTION II - FACILITY AND MATERIALS EVALUATION

1. IS MATERIAL A WASTE? 2. IS IT EXCLUDED UNDER 261.4(a)? 3. IS IT EXCLUDED UNDER 261.4 (b)? 4. DOES IT CONTAIN A LISTED WASTE AS PER 261 SUBPART D? 5. DOES IT EXHIBIT ANY CHARACTERISTICS AS PER 261 SUBPART C? 6. IS IT A RO HAZARDOUS SUBSTANCE? 7. CLASSIFICATION AS A WASTE: 8. PRIMARY BASIS FOR CLASSIFICATION: 9. IS IT SUBJECT TO LAND BAN RESTRICTIONS? 10. DISTRIBUTE PER SECTION IV, ITEM 9. 11. OTHER INFORMATION SOURCES USED: 12. PRIMARY CONTACT INDIVIDUAL: 13. IS SAMPLING REQUIRED? 14. IS TRANSFER TO CONTROLLED HOLDING AREA REQUIRED? 15. INFORMATION ACTION COMPLETION DATE: 16. HEALTH AND SAFETY CONCERNS REQUIREMENTS: 16. b. SIGNATURE AND DATE/

SECTION III - ENVIRONMENTAL ENGINEERING

1. RECOMMENDED STORAGE CONTAINER MATERIAL: 2. APPLICABLE REACTIVITY GROUP CODES: 3. OTHER INFORMATION SOURCES USED: 4. PRIMARY CONTACT INDIVIDUAL: 5. EXTENSION: 6. DATE COMPLETED:

SECTION IV - TOXIC AND SOLID WASTE PROGRAMS

1. PROPER D.O.T. SHIPPING NAME: 2. D.O.T. HAZARD CLASS: 3. REQUIRED LABELS: 4. D.O.T. IDENTIFICATION NO.: 5. EPA WASTE NO.: 6. APPLICABLE REACTIVITY GROUP CODES: 7. FMPC SRC AND MTC: 8. IS A REVISION TO MEF REQUIRED? 9. DISTRIBUTION: 10. PRIMARY CONTACT INDIVIDUAL: 11. EXTENSION: 12. DATE COMPLETED:



ATTACHMENT C-3  
LAND DISPOSAL RESTRICTIONS  
DATA DOCUMENTATION FORM

**A. WASTE STREAM IDENTIFICATION**

1. MEF #:	2. MTC _____ SRC _____ (see MEF for 15 digit lot codes)
3. EVALUATOR:	4. DATE:

**B. EPA HAZARDOUS WASTE NUMBERS**

LIST ALL EPA HAZARDOUS WASTE NUMBERS FROM SECTION 2 OF THE MEF, OR "NONE":

**C. TREATABILITY GROUP DATA**

1a. TOTAL ORGANIC CARBON (TOC):	1b. TOC DETERMINATION BASIS:
<input type="checkbox"/> TOC < 1% <input type="checkbox"/> TOC ≥ 1%    (DOO1 only) <input type="checkbox"/> TOC ≥ 10%	<input type="checkbox"/> PK <input type="checkbox"/> ANL
2a. TOTAL SUSPENDED SOLIDS (TSS):	2b. TSS DETERMINATION BASIS:
<input type="checkbox"/> < 1% <input type="checkbox"/> ≥ 1%	<input type="checkbox"/> PK <input type="checkbox"/> ANL

**D. CALIFORNIA LIST RESTRICTIONS DATA**

1a. FREE LIQUIDS TEST (PFLT):	1b. FREE LIQUID DETERMINATION BASIS:
<input type="checkbox"/> free liquids <input type="checkbox"/> no free liquids	<input type="checkbox"/> PK <input type="checkbox"/> ANL
2a. FREE CYANIDES (mg/l):	2b. FREE CYANIDES DETERMINATION BASIS:
<input type="checkbox"/> ≥ 1,000 <input type="checkbox"/> < 1,000	<input type="checkbox"/> PK <input type="checkbox"/> ANL
3a. CALIFORNIA LIST METALS (mg/l):	3b. METALS DETERMINATION BASIS:
<input type="checkbox"/> As ≥ 500 <input type="checkbox"/> As < 500 <input type="checkbox"/> Cd ≥ 100 <input type="checkbox"/> Cd < 100 <input type="checkbox"/> Cr VI ≥ 500 <input type="checkbox"/> Cr VI < 500 <input type="checkbox"/> Pb ≥ 500 <input type="checkbox"/> Pb < 500 <input type="checkbox"/> Hg ≥ 20 <input type="checkbox"/> Hg < 20 <input type="checkbox"/> Ni ≥ 134 <input type="checkbox"/> Ni < 134 <input type="checkbox"/> Se ≥ 100 <input type="checkbox"/> Se < 100 <input type="checkbox"/> Tl ≥ 130 <input type="checkbox"/> Tl < 130	<input type="checkbox"/> PK <input type="checkbox"/> ANL
4a. pH:	4b. pH DETERMINATION BASIS:
<input type="checkbox"/> ≤ 2.0 <input type="checkbox"/> > 2.0	<input type="checkbox"/> PK <input type="checkbox"/> ANL
5a. PCBs (mg/l):	5b. PCBs DETERMINATION BASIS:
<input type="checkbox"/> 50 ≤ PCBs < 500 <input type="checkbox"/> ≥ 500 <input type="checkbox"/> < 50	<input type="checkbox"/> PK <input type="checkbox"/> ANL
6a. HALOGENATED ORGANIC COMPOUNDS (mg/kg):	6b. HOCs DETERMINATION BASIS:
1,000 ≤ HOCs < 10,000	PK

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SECTION C:  
ATTACHMENT C-4

ATTACHMENT C-4  
LAND DISPOSAL RESTRICTIONS  
ADDENDUM TO THE  
MATERIAL EVALUATION FORM





**ATTACHMENT C-5**  
**LAND DISPOSAL RESTRICTIONS**  
**NOTIFICATION/CERTIFICATION FORMS**

**SAMPLE NOTICE FROM GENERATOR TO TREATMENT FACILITY THAT WASTES DO NOT MEET LAND PROHIBITION TREATMENT STANDARDS**

The wastes identified on manifest number \_\_\_\_\_ and bearing the EPA Hazardous Waste Number(s) \_\_\_\_\_ are subject to the land disposal restrictions of 40 CFR Part 268. The wastes do not meet the treatment standards specified in Part 268 Subpart D or do not meet the prohibitions specified in 268.32 or RCRA section 3004(d). The treatment standards or prohibition levels applicable to each waste are identified below:

(Check all boxes that apply.)

- This shipment includes F001-F005 spent solvents, as identified on the attached sheet.
- This shipment includes F039 multi-source leachate, as identified on the attached sheet(s).
- This shipment includes RCRA Section 3004(d) California list wastes, as identified on the attached sheet.
- This shipment includes additional wastes identified below:

Hazardous Waste No. <sup>1</sup>	Subcategory <sup>2</sup>	Treatability group <sup>3</sup>	CFR reference for treatment standard <sup>4</sup>	Five-letter code(s) <sup>5</sup>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

<sup>1</sup>Hazardous waste numbers can be determined from 40 CFR 261 Subparts C and D. e.g., D009  
<sup>2</sup>Subcategory (if any) can be determined from CCW & CCWE in 40 CFR 268. e.g., low mercury subcategory.  
<sup>3</sup>Treatability group is either "wastewater" or "nonwastewater."  
<sup>4</sup>To find the CFR reference for the treatment standard, refer the waste in 268.41(a)-Table CCWE: 268.42(a)(1), (a)(2), (c); and 268.43(a)-Table CCW. The reference must include both the section and paragraph where the treatment standard is found. e.g. 268.42(a).  
<sup>5</sup>Wherever the CFR reference is 268.42, a five-letter code (e.g. INCIN) must be included.

A waste analysis for these wastes is attached, where available.

**SAMPLE NOTICE FROM GENERATOR THAT  
RESTRICTED WASTES ARE EXEMPT FROM LAND DISPOSAL PROHIBITIONS**

The wastes identified on manifest number \_\_\_\_\_ and bearing Hazardous Waste Numbers \_\_\_\_\_ are restricted wastes that have been exempted from the land disposal prohibitions of 40 CFR Part 268 for the following reasons (check all that apply):

- A case-by-case extension for the wastes has been granted under Section 268.5.
- A "no-migration" petition has been granted for the wastes and disposal facility under Section 268.6.
- The wastes are subject to an nationwide extension of the effective dates. The treatment standards, prohibition levels, and effective dates for the wastes are given below.
- This shipment includes F001-F005 spent solvents, as identified on the attached sheet.
- This shipment includes F039 multi-source leachate, as identified on the attached sheet(s).
- This shipment includes RCRA Section 3004(d) California list wastes, as identified on the attached sheet.
- This shipment includes additional wastes identified below:

Hazardous Waste No. <sup>1</sup>	Subcategory <sup>2</sup>	Treatability group <sup>3</sup>	CFR reference for treatment standard <sup>4</sup>	Five-letter code(s) <sup>5</sup>	Effective date <sup>6</sup>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

<sup>1</sup>Hazardous waste numbers can be determined from 40 CFR 261 Subparts C and D, e.g., D009  
<sup>2</sup>Subcategory (if any) can be determined from CCWE & CCW in 40 CFR 268, e.g., low mercury subcategory.  
<sup>3</sup>Treatability group is either "wastewater" or "nonwastewater."  
<sup>4</sup>To find the CFR reference for the treatment standard, refer the waste in 268.41(a)-Table CCWE; 268.42(a)(1), (a)(2), (c); and 268.43(a)-Table CCW. The reference must include both the section and paragraph where the treatment standard is found, e.g. 268.42(a).  
<sup>5</sup>Wherever the CFR reference is 268.42, a five-letter code (e.g. INCIN) must be included.  
<sup>6</sup>For effective dates that have passed, refer to Appendix VII or VIII of Part 268.

Analysis data for these wastes are attached, where available.

**NOTIFICATION AND CERTIFICATION TO BE SENT TO EPA OR STATE FOR WASTES NO LONGER EXHIBITING A CHARACTERISTIC THAT ARE SENT TO SUBTITLE D FACILITIES**

On \_\_\_\_\_ (date), a shipment of wastes that formerly exhibited one or more characteristics of a hazardous waste was made from the "Originating Facility" identified below to the "RCRA Subtitle D Facility" identified below. At the time of shipment the wastes no longer exhibited a characteristic of a hazardous waste.

Originating Facility	RCRA Subtitle D Facility
(Address)	(Name and address)
(EPA Identification Number)	

The characteristic waste as initially generated had the following EPA hazardous waste number(s), belonged in the following treatability group and subcategory, and was subject to the following treatment standards(s):<sup>1</sup>

Hazardous waste number(s) before treatment	Treatability group and subcategory	Treatment standard(s)
(e.g., D003)	(e.g., Reactive cyanides nonwastewater)	(e.g., 590 mg/kg cyanides (total) 30 mg/kg cyanides (amenable))

As required by 40 CFR 268.9(d)(2), the following certification is made for these wastes:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the performance levels specified in 40 CFR Part 268 Subpart D, and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA section 3004(d) without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

\_\_\_\_\_  
Authorized Signature

**NOTIFICATION AND CERTIFICATION APPLICABLE TO  
ORGANOMETALLIC OR ORGANIC LAB PACKS**

The wastes identified on manifest number \_\_\_\_\_ and bearing the EPA Hazardous Waste Number(s) \_\_\_\_\_ are part of an Appendix IV or V (circle one) lab pack and are subject to the land disposal restrictions of 40 CFR Part 268. The wastes do not meet the treatment standards specified in Part 268 Subpart D or do not meet the prohibitions specified in 268.32 or RCRA SECTION 3004(d). The treatment standards or prohibition levels applicable to each waste are identified below: (Check all that apply)

- This lab pack includes F001-F005 spent solvents, as identified on the attached sheet.
- This lab pack includes F039 multi-source leachate, as identified on the attached sheet(s).
- This lab pack includes RCRA Section 3004(d) California list wastes, as identified on the attached sheet.
- This lab pack includes additional wastes identified below:

Hazardous Waste No. <sup>1</sup>	Subcategory <sup>2</sup>	Treatability group <sup>3</sup>	CFR reference for treatment standard <sup>4</sup>	Five-letter code(s) <sup>5</sup>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

<sup>1</sup>Hazardous waste numbers can be determined from 40 CFR 261 Subparts C and D, e.g., D009  
<sup>2</sup>Subcategory (if any) can be determined from CCW & CCWE in 40 CFR 268, e.g., low mercury subcategory.  
<sup>3</sup>Treatability group is either "wastewater" or "nonwastewater."  
<sup>4</sup>To find the CFR reference for the treatment standard, refer the waste in 268.41(a)-Table CCWE; 268.42(a)(1), (a)(2), (c); and 268.43(a)-Table CCW. The reference must include both the section and paragraph where the treatment standard is found, e.g. 268.42(a).  
<sup>5</sup>Wherever the CFR reference is 268.42, a five-letter code (e.g. INCIN) must be included.

A waste analysis for these wastes is attached, where available.

As required by 40 CFR 268.7(a)(8), the following certification is made for these restricted wastes:

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste and that the lab pack contains only organic waste specified in Appendix \_\_\_\_\_ to Part 268 or solid waste not subject to regulation under 40 CFR Part 261. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment.

\_\_\_\_\_  
Authorized Signature

**SAMPLE NOTICE AND CERTIFICATION FROM GENERATOR TO  
DISPOSAL FACILITY FOR WASTES MEETING THE TREATMENT STANDARD**

The wastes identified on manifest number \_\_\_\_\_ and bearing the EPA Hazardous Waste Number(s) \_\_\_\_\_ are subject to the land disposal restrictions of 40 CFR Part 268. The wastes comply with the treatment standards specified in 268 Subpart D, the applicable prohibitions of Section 268.32, or RCRA section 3004(d). The treatment standards or prohibition levels applicable to each waste are identified below:

(Check all boxes that apply).

- This shipment includes F001-F005 spent solvents, as identified on the attached sheet.
- This shipment includes F039 multi-source leachate, as identified on the attached sheet(s).
- This shipment includes RCRA Section 3004(d) California list wastes, as identified on the attached sheet.
- This shipment includes additional wastes identified below:

Hazardous Waste No. <sup>1</sup>	Subcategory <sup>2</sup>	Treatability group <sup>3</sup>	CFR reference for treatment standard <sup>4</sup>	Five-letter code(s) <sup>5</sup>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

<sup>1</sup>Hazardous waste numbers can be determined from 40 CFR 261 Subparts C and D, e.g., D009  
<sup>2</sup>Subcategory (if any) can be determined from CCW & CCWE in 40 CFR 268, e.g., low mercury subcategory.  
<sup>3</sup>Treatability group is either "wastewater" or "nonwastewater."  
<sup>4</sup>To find the CFR reference for the treatment standard, refer the waste in 268.41(a)-Table CCWE; 268.42(a)(1), (a)(2), (c); and 268.43(a)-Table CCW. The reference must include both the section and paragraph where the treatment standard is found, e.g. 268.42(a).  
<sup>5</sup>Wherever the CFR reference is 268.42, a five-letter code (e.g. INCIN) must be included.

A waste analysis for these wastes is attached, where available.

As required by 40 CFR 268.7(a)(8), the following certification is made for these restricted wastes:

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA section 3004(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

\_\_\_\_\_  
Authorized Signature

## TREATMENT STANDARDS FOR F001-F005 SPENT SOLVENTS

[Instructions: Check the box beside each waste included in the offsite shipment:  
circle or otherwise identify the individual constituents likely to be present in each waste.]

Hazardous waste description	Constituents of concern	Nonwastewater		
		Total composition, mg/kg	TCLP, mg/L	Wastewater, total composition, mg/L
<input type="checkbox"/> F001 – Spent halogenated solvents used in degreasing	Carbon tetrachloride		0.96	0.05
	Methylene chloride		0.96	0.20
	Tetrachloroethylene		0.05	0.079
	1,1,1-Trichloroethane		0.41	1.05
	Trichloroethylene		0.091	0.062
	1,1,2-Trichloro-1,2,2-trifluoroethane		0.96	1.05
	Trichlorofluoromethane		0.96	0.05
	Chlorobenzene		0.05	0.15
<input type="checkbox"/> F002 – Spent halogenated solvents	1,2-Dichlorobenzene		0.125	0.65
	Methylene chloride		0.96	0.20
	Methylene chloride (from the pharmaceutical industry)		—	0.44
	Tetrachloroethylene		0.05	0.079
	1,1,1-Trichloroethane	6	0.41	1.05
	1,1,2-Trichloroethane		—	0.030
	Trichloroethylene		0.091	0.062
	1,1,2-Trichloro-1,2,2-trifluoroethane		0.96	1.05
<input type="checkbox"/> F003 – Spent non-halogenated solvents	Trichlorofluoromethane		0.96	0.05
	Acetone		0.59	0.05
	n-Butyl alcohol		5.0	5.0
	Cyclohexanone		0.75	0.125
	Ethyl acetate		0.75	0.05
	Ethyl benzene		0.053	0.05
	Ethyl ether		0.75	0.05
	Methanol		0.75	0.25
<input type="checkbox"/> F004 – Spent non-halogenated solvents	Methyl isobutyl ketone		0.33	0.05
	Xylene		0.15	0.05
<input type="checkbox"/> F004 – Spent non-halogenated solvents	Cresols (and cresylic acid)		0.75	2.32
	Nitrobenzene		0.125	0.66
<input type="checkbox"/> F005 – Spent non-halogenated solvents	Benzene	3.7		0.070
	Carbon disulfide		4.81	1.05
	2-Ethoxyethanol	Incineration <sup>1</sup>		Biological degradation or incineration <sup>2</sup>
	Isobutanol		5.0	5.0
	Methyl ethyl ketone		0.75	0.05
	2-Nitropropane	Incineration <sup>1</sup>		(Wet oxidation or chemical oxidation) followed by carbon adsorption or incineration <sup>3</sup>
	Pyridine		0.33	1.12
Toluene		0.33	1.12	

<sup>1</sup>Five-letter code is "INCIN".

<sup>2</sup>Five-letter codes are "BIODG" or "INCIN".

<sup>3</sup>Five-letter codes are "(WETOX or CHOXD) fb CARBN; or INCIN".

Source: McCoy and Associates, Inc.

## F039 TREATMENT STANDARDS

[Identify individual constituents likely to be present]

Multi-source leachate	Nonwaste-water total composition. (mg/kg)	Waste-water total composition. (mg/L)	Multi-source leachate	Nonwaste-water total composition. (mg/kg)	Waste-water total composition. (mg/L)
Acetone	160	0.28	Chlorodibromomethane	15	0.057
Acenaphthalene	3.4	0.059	Chloroethane	6.0	0.27
Acenaphthene	4.0	0.059	bis-(2-Chloroethoxy) methane	7.2	0.036
Acetonitrile	NA	0.17	bis-(2-Chloroethyl) ether	7.2	0.033
Acetophenone	9.7	0.010	Chloroform	5.6	0.046
2-Acetylaminofluorene	140	0.059	bis(2-Chloroisopropyl) ether	7.2	0.055
Acrolein	NA	0.29	p-Chloro-m-cresol	14	0.018
Acrylonitrile	34	0.24	Chloromethane (methyl chloride)	33	0.19
Aldrin	0.066	0.021	2-Chloronaphthalene	5.6	0.055
4-Aminobiphenyl	NA	0.13	2-Chlorophenol	5.7	0.044
Aniline	14	0.81	3-Chloropropylene	28	0.036
Anthracene	4.0	0.059	Chrysene	8.2	0.059
Aramite	NA	0.36	o-Cresol	5.6	0.11
Aroclor 1016	0.92	0.013	Cresol (m- and p-isomers)	3.2	0.77
Aroclor 1221	0.92	0.014	Cyclohexanone	NA	0.36
Aroclor 1232	0.92	0.013	1,2-Dibromo-3-chloropropane	15	0.11
Aroclor 1242	0.92	0.017	1,2-Dibromoethane (Ethylene dibromide)	15	0.028
Aroclor 1248	0.92	0.013	Dibromomethane	15	0.11
Aroclor 1254	1.8	0.014	2,4-Dichlorophenoxyacetic acid (2,4-D)	10	0.72
Aroclor 1260	1.8	0.014	o,p'-DDD	0.087	0.023
alpha-BHC	0.066	0.00014	p,p'-DDD	0.087	0.023
beta-BHC	0.066	0.00014	o,p'-DDE	0.087	0.031
delta-BHC	0.066	0.023	p,p'-DDE	0.087	0.031
gamma-BHC	0.066	0.0017	o,p'-DDT	0.087	0.0039
Benzene	36	0.14	p,p'-DDT	0.087	0.0039
Benzo(a)anthracene	3.2	0.059	Dibenz(a,h)anthracene	8.2	0.055
Benzo(b)fluoranthene	3.4	0.055	Dibenzo(a,e)pyrene	NA	0.061
Benzo(k)fluoranthene	3.4	0.059	m-Dichlorobenzene	6.2	0.036
Benzo(g,h,i)perylene	1.5	0.0055	o-Dichlorobenzene	6.2	0.088
Benzo(a)pyrene	8.2	0.061	p-Dichlorobenzene	6.2	0.090
Bromodichloromethane	15	0.35	Dichlorodifluoromethane	7.2	0.23
Bromoform	15	0.63	1,1-Dichloroethane	7.2	0.059
Bromomethane (methyl bromide)	15	0.11	1,2-Dichloroethane	7.2	0.21
4-Bromophenyl phenyl ether	15	0.055	1,1-Dichloroethylene	33	0.025
n-Butyl alcohol	2.6	5.6	trans-1,2-Dichloroethylene	33	0.054
Butyl benzyl phthalate	7.9	0.017	2,4-Dichlorophenol	14	0.044
2-sec-Butyl-4,6-dinitrophenol	2.5	0.066	2,6-Dichlorophenol	14	0.044
Carbon tetrachloride	5.6	0.057	1,2-Dichloropropane	18	0.85
Carbon disulfide	NA	0.014	cis-1,3-Dichloropropene	18	0.036
Chlordane	0.13	0.0033			
p-Chloroaniline	16	0.46			
Chlorobenzene	5.7	0.057			
Chlorobenzilate	NA	0.10			
2-chloro-1,3-butadiene	NA	0.057			

## F039 TREATMENT STANDARDS

(Identify individual constituents likely to be present)

Multi-source leachate	Nonwaste-water total composition. (mg/kg)	Waste-water total composition. (mg/L)	Multi-source leachate	Nonwaste-water total composition. (mg/kg)	Waste-water total composition. (mg/L)
trans-1,3-Dichloro-propene	18	0.036	Indeno(1,2,3-c,d)pyrene	8.2	0.0055
Dieldrin	0.13	0.017	Iodomethane	65	0.19
Diethyl phthalate	28	0.20	Isobutanol	170	5.6
2,4-Dimethyl phenol	14	0.036	Isosafrole	0.066	0.021
Dimethyl phthalate	28	0.047	Kepone	0.13	0.0011
Di-n-butyl phthalate	28	0.057	Methacrylonitrile	84	0.24
1,4-Dinitrobenzene	23	0.32	Methanol	NA	5.6
4,6-Dinitro-o-cresol	160	0.28	Methapyriene	1.5	0.081
2,4-Dinitrophenol	160	0.12	Methoxychlor	0.18	0.25
2,4-Dinitrotoluene	140	0.32	3-Methylcholanthrene	15	0.0055
2,6-Dinitrotoluene	28	0.55	4,4-Methylene-bis-(2-chloroaniline)	35	0.50
Di-n-octyl phthalate	28	0.017	Methylene chloride	33	0.089
Di-n-propylnitrosoamine	14	0.40	Methyl ethyl ketone	36	0.28
Diphenylamine	NA	0.52	Methyl isobutyl ketone	33	0.14
1,2-Diphenyl hydrazine	NA	0.087	Methyl methacrylate	160	0.14
Diphenylnitrosamine	NA	0.40	Methyl methansulfonate	NA	0.018
1,4-Dioxane	170	0.12	Methyl parathion	4.6	0.014
Disulfoton	6.2	0.017	Naphthalene	3.1	0.059
Endosulfan I	0.066	0.023	2-Naphthylamine	NA	0.52
Endosulfan II	0.13	0.029	p-Nitroaniline	28	0.028
Endosulfan sulfate	0.13	0.029	Nitrobenzene	14	0.068
Endrin	0.13	0.0028	5-Nitro-o-toluidine	28	0.32
Endrin aldehyde	0.13	0.025	4-Nitrophenol	29	0.12
Ethyl acetate	33	0.34	N-Nitrosodiethylamine	28	0.40
Ethyl cyanide	360	0.24	N-Nitrosodimethylamine	NA	0.40
Ethyl benzene	6.0	0.057	N-Nitroso-di-n-butyl-amine	17	0.40
Ethyl ether	160	0.12	N-Nitrosomethylethyl-amine	23	0.40
bis(2-Ethylhexyl) phthalate	28	0.28	N-Nitrosomorpholine	23	0.40
Ethyl methacrylate	160	0.14	N-Nitrosopiperidine	35	0.013
Ethylene oxide	NA	0.12	N-Nitrosopyrrolidine	35	0.013
Fampaur	15	0.017	Parathion	4.6	0.014
Fluoranthene	8.2	0.068	Pentachlorobenzene	37	0.055
Fluorene	4.0	0.059	Pentachlorodibenzo-furans	0.001	0.000063
Fluorotrichloromethane	33	0.020	Pentachlorodibenzo-p-dioxins	0.001	0.000063
Heptachlor	0.066	0.0012	Pentachloronitrobenzene	4.8	0.055
Heptachlor epoxide	0.066	0.016	Pentachlorophenol	7.4	0.089
Hexachlorobenzene	37	0.055	Phenacetin	16	0.081
Hexachlorobutadiene	28	0.055	Phenanthrene	3.1	0.059
Hexachlorocyclopentadiene	3.6	0.057	Phenol	6.2	0.039
Hexachlorodibenzo-furans	0.001	0.000063	Phorate	4.6	0.021
Hexachlorodibenzo-p-dioxins	0.001	0.000063	Phthalic anhydride	NA	0.069
Hexachloroethane	28	0.055			
Hexachloropropene	28	0.035			

## F039 TREATMENT STANDARDS

(Identify individual constituents likely to be present)

Multi-source leachate	Nonwaste-water total composition, (mg/kg)	Waste-water total composition, (mg/L)	Multi-source leachate	Nonwaste-water total composition, (mg/kg)	Waste-water total composition, (mg/L)
Pronamide	1.5	0.093	1,1,2-Trichloro-1,2,2-tri-fluoroethane	28	0.057
Pyrene	8.2	0.067	Tris(2,3-dibromopropyl) phosphate	NA	0.11
Pyridine	16	0.014	Vinyl chloride	33	0.27
Safrole	22	0.081	Xylenes)	28	0.32
Silvex (2,4,5-TP)	7.9	0.72	Cyanides (Total)	1.8	1.2
2,4,5-T	7.9	0.72	Fluoride	NA	35
1,2,4,5-Tetrachloro-benzene	19	0.055	Sulfide	NA	14
Tetrachlorodibenzo-furans	0.001	0.000063	Antimony	0.23 <sup>i</sup>	1.9
Tetrachlorodibenzo-p-dioxins	0.001	0.000063	Arsenic	5.0 <sup>i</sup>	1.4
1,1,1,2-Tetrachloroethane	42	0.057	Barium	52 <sup>i</sup>	1.2
1,1,2,2-Tetrachloroethane	42	0.057	Beryllium	NA	0.82
Tetrachloroethylene	5.6	0.056	Cadmium	0.066 <sup>i</sup>	0.20
2,3,4,6-Tetrachlorophenol	37	0.030	Chromium (Total)	5.2 <sup>i</sup>	0.37
Toluene	28	0.080	Copper	NA	1.3
Toxaphene	1.3	0.0095	Lead	0.51 <sup>i</sup>	0.28
1,2,4-Trichlorobenzene	19	0.055	Mercury	0.025 <sup>i</sup>	0.15
1,1,1-Trichloroethane	5.6	0.054	Nickel	0.32 <sup>i</sup>	0.55
1,1,2-Trichloroethane	5.6	0.054	Selenium	5.7 <sup>i</sup>	0.82
Trichloroethylene	5.6	0.054	Silver	0.072 <sup>i</sup>	0.29
2,4,5-Trichlorophenol	37	0.18	Thallium	NA	1.4
2,4,6-Trichlorophenol	37	0.035	Vanadium	NA	0.042
1,2,3-Trichloropropane	28	0.85	Zinc	NA	1.0

<sup>i</sup> Treatment standards for heavy metals nonwastewaters are based on concentrations in the TCLP extract, mg/L

Source: 56 FR 3892-3911.

**CALIFORNIA LIST CONSTITUENTS  
AND THEIR PROHIBITION LEVELS**

(Identify constituents likely to be present)

Constituent	Concentration (mg/L)
Cyanides	1,000
Arsenic	500
Cadmium	100
Chromium VI	500
Lead	500
Mercury	20
Nickel	134
Selenium	100
Thallium	130
Liquids with pH $\leq$ 2.0	—
Liquids with PCBs	50 ppm
Wastes containing HOCs <sup>1</sup>	1,000 mg/kg

<sup>1</sup>Halogenated organic compounds.