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ETICAM

December 20, 1990

SFUND RECORDS CTR
2390663

Mr. Tim Stott
Mail Code H-2-2
USEPA Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Notice of Deficiency,
Class 2 Modification Revisions Dated July 11, 1990
EPA ID No. NVD 980895338

Dear Mr. Stott,

Attached for inclusion in the above referenced modification request are corrected and revised pages submitted to the NDEP. These corrections and revisions were agreed upon with Dan Gross on November 30, 1990.

Please contact me if there are any questions concerning these pages.

Sincerely,

Byron B. Bradd

Byron B. Bradd, P.E.
General Manager

cc. Dan Gross, P.E., NDEP

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## 3.80 WASTE ANALYSIS FOR LAND DISPOSAL RESTRICTIONS

Waste generators are required to submit a certification of the constituents of each waste shipment which determines the applicable waste codes, and that the waste meets or does not meet treatment standards specified in federal Land Disposal Restrictions.

Any waste byproduct from the treatment or reclamation of wastes received will be evaluated to determine what treatment standards apply to the waste, and weather or not the waste meets the treatment standards. Some landfill operations are required to test each batch of waste received, and ETICAM may elect not to perform the Toxicity Characteristic Leaching Procedure (TCLP) in this case, since the landfill laboratory has the final word based on their analysis. (The waste will be certified as not meeting the LDR standards in these cases). Note that these landfill operations have stabilization systems designed to treat land restricted wastes prior to depositing the waste into the landfill.

ETICAM will perform and document the TCLP test when the waste is certified as meeting LDR standards when it is sent to a landfill.

Metal concentrates produced for shipment to smelters or other production or reclamation operations do not require this certification, since they are not destined for disposal.

LDR TREATMENT STANDARDS

The tables included in this plan, "Constituent Concentrations In Waste Extract, Table CCWE", published in the federal register, list the applicable waste codes and show the treatment standards required for disposal in a landfill.

STABILIZATION PROCESS

Waste materials which have been stabilized, or are expected to pass the LDR standards after treatment will be sampled and analyzed for TCLP constituents based on the waste codes shown in the tables.

The waste characterization procedures in this plan will be carried out to obtain detailed analysis of a representative sample of the prohibited waste to be treated, and contain all information necessary to treat the waste in accordance with the requirements of the Land Ban Restrictions.

Waste shipped off site for landfill disposal will include a RCRA Land Disposal Restriction Notification, included in this plan.

Bulk Sludge Drying

Product filter cakes will be dried to specified moisture levels and containerized for shipment to customers including smelters. Some product materials will be blended to generate larger quantities of uniform composition. Depending upon customer specifications and market conditions, anywhere from a minimum of 2 separate batches to as many as several dozen batches will make up a minimum customer shipment. Blending serves two primary purposes:

1. Produces larger quantities of uniform composition, subsequently reducing analytical costs as well as providing a more efficient customer feed stock.

2. Allows for a reduction of unwanted components such as chlorides or phosphates which can be reduced when blended into a larger product mass.

ETICAM product material which is an effective substitute for commercial products may be shipped as a product with out a manifest. The facility must manifest as hazardous waste any sludges for disposal which do not meet customer specifications for product.

Electrowinning - An electrowinning process area will be added as shown on sheet D. This will be used for removing the pure elemental metal directly from high strength solutions such as chromic acid, cyanide solutions, and nickel solutions. The resultant solution will then be transferred back to storage or treatment to fully reduce the residual metal content.

This process will handle recyclable materials and produce a elemental metal product for sale in the metals market. In accordance with Part 264.1 (g)(2) and 261.6(b)(1), Which stipulates that "(the recycling process itself is exempt from regulation.)"

Peroxide and Ozone - Peroxide is used for oxidation of cyanides, and organic chelating agents such as EDTA, formaldehyde, and other complexing agents used in plating solutions.

Carbon Columns - Two carbon columns will be used to remove trace organic constituents in emergency situations. An example is the presence of a solvent is discovered, and removal is necessary to protect plant equipment. The waste solution would be pumped through the carbon the remove the organic. Spent activated carbon would be managed as a hazardous waste using the waste code of the waste stream from which it is derived from. Additionally,

# ATTACHMENT 5

## STORAGE AREA SPECIFICATIONS

This Section includes

Revised (November 19, 1990)
pages 8-1 thru 8-12 of Section 8.00
of the original permit

(The remainder of Section 8.00 is included as
Attachment 10, "Tank Plans and Specifications")

See Attachment 7 and Drawings submitted with
the original application in
Section 14.00

New facility specifications are in Section 8.0
of the Class II Permit Modification Request Revisions
dated July 11, 1990

Revised November 19, 1990

outside of permitted areas. During unloading operations, spills are unlikely since all unloading takes place within a contained area; however, in the event of a release to the environment, standard industrial absorbents are located nearby.

The unloading area is designed with a segregated area for cyanide discharge. This area is separately bermed and drained to prevent accidental mixing of reactive products in the event of a spill. (See Plans and Specifications, Section 14 of the original permit application)

In the event of a manifest discrepancy requiring the quarantine of a shipment as described in Section 3.31, the vehicle with the shipment will be quarantined on the entrance drive or in receiving bays. These bays are designed to address all requirements of 40 CFR Section 264.175 which specifies containment requirements for the management of containers.

Empty containers will be available to transfer hazardous waste in the event of structural defects or leaks in shipped containers. All containers used to transport waste to the facility will meet the appropriate DOT specifications. (Note that each container will have a specific DOT registration number which is different for each manufacturer)

provide a minimum secondary containment capacity equal to 110% of the volume of the largest tank contained therein. Each containment area will also be equipped with a collection sump to collect spilled or leaked materials. The collection sumps will be equipped with a level indicator which will indicate when the sump contains liquid. The liquid in the drainage pit will be analyzed, and then pumped to an appropriate storage tank.

Each storage tank is equipped with a liquid level indicator to signal when the tank is full and prevent overfilling.

### 8.32.2 STORAGE TANKS

The total capacity of the waste storage tanks will be 123,024 gallons in the liquid storage area, and 13,500 gallons in the solids receiving area. There will be a total of 28 tanks in the liquid storage area; ten with a capacity of 6600 gallons and 18 with capacity of 3168 gallons. The new solids receiving building addition will contain two solids receiving hoppers having a capacity of 5,000 gallons, and a dissolution tank with a capacity of 3,500 gallons. (see the floor planon Sheet D for tank locations). The containment volume of each containment area is indicated on Table 8.1 of this Section.

### 8.32.3 TREATMENT TANKS

The entire area containing the treatment tanks T-1 thru T-7 and the effluent tanks E-1 thru E-6 (Detox, Dewatering, Drying) has a containment of approximately 130,000 gallons, which is greater than the volume of the tanks in the area. An 8 inch curb separates the detox room from the dewatering room and will contain greater than 110% of any reactor (8,000 gallons). Detox has over 11,000 gallons of containment capacity.

### 8.33 CONTAINMENT AREA ACCUMULATION

Liquids which accumulate in any of the proposed secondary containment areas will be handled as follows:

a) If the exact source of the leaked or spilled material can readily be determined, the material will be identified accordingly. It will be transferred to an appropriate tank or container as applicable.

b) If the source or identity of the spill cannot be determined, a sample will be collected and analyzed to see if it exhibits any of the four characteristics of a hazardous waste (ignitability, corrosivity, reactivity or TCLP), or to see if it contains any of the hazardous constituents (40 CFR 261 Appendix VII) of any listed wastes stored in the particular containment area.

In either case (a) or (b) above, any accumulated liquid in secondary containment areas will be removed as soon as possible to preclude any possibility of overflow.

## 8.40 PRECAUTIONS RELATING TO FLAMMABLE WASTES

Only waste waters and sludges (as defined by EPA 40 CFR 260.10) are to be received at ETICAM's facility. These waste streams are non flammable and non combustible. Therefore, special precautions for flammable wastes are not needed. However, as a precaution, "No Smoking" signs are posted about all unloading areas and throughout the plant.

## 8.41 PRECAUTIONS RELATING TO REACTIVE WASTE

The primary reactive wastes handled at ETICAM are sulfide and cyanide bearing wastes which could generate toxic gases, if exposed to appropriate pH conditions. Storage tanks containing these materials are maintained in totally separately diked storage areas at ETICAM, completely separate from other types of incompatible (acid) wastes, so that there is no possibility of mixing during storage.

The only areas where sulfides or cyanides will be stored are Storage Areas 1 and 4 as shown on the Floor Plan (Site Plan C). Area 1 cyanide storage tanks are segregated from all other waste types by it's containment wall (berm). Area 4 includes both alkaline and cyanide special metal bearing wastes which are compatible and

## 2.40 STORAGE/TREATMENT PROCESS

This section will describe how materials are unloaded, stored and treated at ETICAM.

Tank trucks transporting liquid hazardous wastes enter the unloading bays. The driveway leading to the building is bermed on each side with a six inch concrete curb. The entrance drive is sloped towards a rainwater drain which enters a double wall collection tank.

Quarantined tank trucks will be set on the entrance driveway, or the unloading bay. Quarantined containers will be set in the unloading bay, on the entrance drive, or on the drum storage area storage area, all which are controlled and contained areas. Note: The portable tanks and tank trucks are DOT approved containers for the transportation of hazardous wastes and have a low potential for leaks and spills, especially when not in transport or when used for fixed storage.

The unloading bay (see facility plan) has bermed sides and sloped floors so that any spillage drains through grates and flows directly into storage tanks S-11.0 for Cyanide or S-11.1 for Acid/Alkali. Tanks and containers will remain closed until they enter the unloading bay for sampling.

Except as noted in section 2.41, containers will remain on the vehicles until empty, thus minimizing the possibility of a rupture or leak resulting from handling.

Both tank trucks and portable tanks and containers on trucks are immediately rinsed and emptied upon acceptance of material so that no more than 0.3 percent by weight of the total capacity of the container remains in the container. These containers are therefore considered empty according to 40 CFR 261.7 and are not subject to regulation under Parts 261 through 265 or Part 270 or 124 of those regulations.

Metal bearing sludges are shipped in various types of trucks and/or, containers including but not limited to dump trucks, roll-off containers, boxes, metal drums, plastic drums, metal boxes, wooden boxes, plastic boxes, cloth or plastic bags. These containers are designed for safe handling and are unloaded from the trailer truck directly into the plant for storage and processing.

Since these materials can not be pumped into storage tanks and are solids rather than free flowing liquids, they will be introduced into the middle of the treatment process; loaded into a reactor for further treatment and filtration, or directly into the dryers for final blending and processing. Bulk solids will be directly dumped into receiving/storage bins, whereas containerized solids will be unloaded from the truck and fed into the appropriate step of the process.

## 2.41 METAL SOLUTIONS AND SLUDGES

Metal bearing solutions and sludges are accepted at ETICAM in tank trucks, or containers transported by truck. These materials originate from various operations such as jewelry manufacturing, circuit board manufacturing, metal finishing and others which generate metal containing solutions and sludges.

Storage of liquid waste at ETICAM will be in tanks as shown on Site Plan, Sheet D in Section 8.0 of the Class II Permit Modification Request Revised July 11, 1990. Incoming bulk shipments and containers will be off loaded into storage tanks S-1 through S-28, or directly to the reactors for treatment.

Portable tanks may be removed from the truck and unloaded on the East loading dock or unloading bay when special conditions prohibit mixing in the storage tanks; for instance, small volumes of precious metal bearing wastewater, where treatment requires segregation, or to comply with restrctions for blending wastes; see page 11-11 b & c of section 8.0 of the Class II Permit Modification Request Revisions dated July 11, 1990.

Treatment of metal solutions and sludges at ETICAM will follow the schematic shown in the process flow diagram in Section 8.0 of the Class II Permit Modification Request Revisions dated July 11, 1990. Certain of the

solutions and sludges accepted at ETICAM have sufficient precious and/or valuable metal content to make reclamation economically viable. Once on-site, laboratory testing will confirm whether or not metals can be reclaimed from the material.

If metals can be reclaimed, the material will be processed by either direct filtration or chemical and electrolytic processing. If the solution(s) or sludge does not contain sufficient amounts of precious or valuable metal to make recovery feasible, it will be processed through the treatment system for removal of heavy metal residues. The separated sludge will be shipped off-site to a permitted facility (if hazardous waste by definition or testing) or to a smelter or other manufacturing process as a product.

The separated water phase will be discharged to the public sewer only if all sewer ordinance parameters are met, or evaporated in the evaporator/crystallizer system.

## 2.42 CYANIDE BEARING WASTES

Cyanide bearing wastes will be stored in holding tanks S-1 thru S-2 and S-12 thru S-15. This waste will then be treated by conventional alkaline chlorination as shown in the process flow diagram in Section 8.0 of the Class II Permit Modification Request Revisions dated July 11, 1990. Cyanide solutions are processed by chemical and