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PERMA-FIX OF FLORIDA, INC.

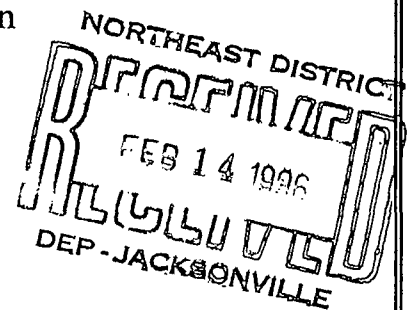
Part B Permit Renewal

Submitted To:

State of Florida
Department of Environmental Protection
7825 Baymeadows Way, Suite 200B
Jacksonville, Florida 32256

October 9, 1995

Revised: February 13, 1996



PERMA-FIX
ENVIRONMENTAL SERVICES

Submitted By:

Perma-Fix of Florida, Inc.
1940 NW 67th Place
Gainesville, Florida 32653
(352) 373-6066



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PERMA-FIX OF FLORIDA, INC.

Part B Permit Renewal

Part I

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PERMA-FIX OF FLORIDA, INC.
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PERMA-FIX OF FLORIDA, INC.
Part I/Section A
General Information

GENERAL INFORMATION

The following information is provided in our Application for a Hazardous Waste Facility Permit Renewal located in Appendix A:

- Type of Facility
- Type of Application
- Date Operation Began
- Facility Name
- EPA/FDEP ID Number
- Facility Location
- Facility Mailing Address
- Facility Contact
- Operator's Name
- Operator's Address
- Facility Owner's Name
- Facility Owner's Address
- Legal Structure
- County - State Registration
- State of Incorporation
- Partnership Owners
- Site Ownership Status
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SITE INFORMATION

B1 Facility Location

Perma-Fix of Florida, Inc. (PFF) is located on lots 1, 2 and 3 of the Northwest Industrial Park Unit #1 in Gainesville, Alachua County, Florida at Latitude 29°43'00" and Longitude 82°20'58". The UTM number for the PFF facility is 17/369500/3288000 according to the U.S.G.S. Gainesville East Florida 1988 map 29082-F3-TF-024.

B2 Area of Facility Site

The PFF area is identified in Figure 1 and is composed of three lots consisting of a total of 7.62 acres. The receiving, processing and storage areas including outside connecting areas, constitutes about 15% of the total site.

B3 Scale Drawing and Photographs

See Figure 6 for the drawing of the facility layout. Photographs are located in Appendix B.

B4 Topographic and Other Maps

- Site location map: Figure 1 (Scale 1 inch = 2,000 feet) U.S.G.S.
 - There are no drinking wells within ¼ miles of PFF as the entire area is serviced by City of Gainesville.
 - No injection wells are used by PFF and there are no injection wells within one mile of PFF.
- PFF does not discharge any process waste water. The facility does not have any intake structures located on-site; storm water discharge out-falls are shown on Figure 3. PFF is unaware of any other intake or discharge structures within a mile of the facility.
- 100 Year flood zone map: Figure 2
 - PFF property is located outside of the 100 year flood plain.
- Surface water and site drainage pattern: Figure 3 and Figure 19
- Surrounding land use: Figure 4
- Site boundaries map: Figure 5
- Facility layout and loading areas: Figure 6 and Figure 17
- Wind rose: Figure 7
- Site boundaries and site traffic flow: Figure 5

- Contour map: Figure 1 and Figure 19
- Drainage pattern: Figure 3
- Hazardous waste units: Figure 6, Figure 10 and Figure 11
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- Solid Waste Management Units: Figure 18

B5 Flood Plain

The PFF property is located outside of the 100 year flood plain. See Figure 2.



PERMA-FIX OF FLORIDA, INC.
Part I/Section C
Land Use Information

LAND USE INFORMATION

C1 Zoning

As identified in Figure 4, Perma-Fix of Florida, Inc. (PFF) is located within the Northwest Industrial Park Unit I and has the zoning designation of I-1.

C2 Zoning Changes

No zoning change is required for the continued operation of PFF.

C3 Present Land

PFF is in compliance with the current land use designation for the area.



PERMA-FIX OF FLORIDA, INC.

Part I/Section D Operating Information

OPERATING INFORMATION

D1 Waste Generated On Site

Perma-Fix of Florida (PFF) operates waste processing and waste liquid bulking operations. PFF may generate hazardous wastes from on-site processes; these wastes include spent solvent/water mixtures used to wash out traces of solvents from containers, used personal protective equipment (PPE), process residuals and incidental wastes. Other than described above, no new hazardous waste is generated at this facility as a result of the present operations.

The SIC code for PFF is 4953.

D2 Description of Operation

PFF operates a hazardous waste management facility subject to the treatment, storage and disposal (TSD) facility requirements under the Resource Conservation and Recovery Act (RCRA). The State of Florida Department of Environmental Protection (FDEP) promulgates Part III of Chapter 62-730, Florida Administrative Code (FAC), to establish standards to implement Part IV of Chapter 403, Florida Statutes. These rules establish standards applicable to generators and transporters of hazardous waste and to owners and operators of hazardous waste facilities. These rules are substantively identical to federal Environmental Protection Agency (EPA) regulation in 40 CFR Parts 262, 263, 264, and 270. Therefore, for purposes of this permit application, regulatory references will be to federal standards set forth in 40 CFR.

PFF is located in Gainesville, Florida and shares a portion of the main office facility with Perma-Fix Environmental Services, Inc. corporate offices; in addition, the facility is adjacent to Perma-Fix Analytical Services. The processing area and test lab for the Liquid Scintillation Fluid (LSF) occupies inside areas of approximately 24' x 50' and 12' x 24' or about 10% of the main building area. In addition to the storage building, trucking activity, processing and non-hazardous waste handling takes up most of the surfaced area outside on the existing developed and asphalt paved area of lot 2.

PFF operates a waste processing business which includes liquid and sludge bulking, scintillation vial and other small container crushing and shedding, repackaging of solid wastes contaminated by hazardous wastes, consolidation and storage of discarded mercury containing devices, as well as other non-hazardous waste management activities.

The generators which send waste to PFF include medical facilities, research institutions, paint-related industries and other solvent and industrial waste producing generators. PFF provides a unique disposal option for industries which generate liquid scintillation fluid. Also, PFF provides an environmentally sound waste management option for the increasing number of small quantity generators, as well as conditionally exempt small quantity generators. PFF conducts the following hazardous waste management activities.

- **Vial Crushing** - LSF's received at PFF comes from academic research institutions and medical facilities directly or through waste brokers. The LSF are used to detect minute amounts of radioactivity from samples of research materials that have been immersed in the LS fluid. The fluids are very sensitive to radiation and scintillate (give off light not visible to the naked eye) when exposed to radiation.

With very sensitive instrumentation a researcher is able to detect these light "photons" from the vials which is converted into "counts" of radioactivity. In other words, the more light emitted from the vial, the more radioactivity that was in the sample. Researchers use this counting technique to perform myriads of research testing with trace amounts of radioactive materials. Radioactive chemicals physiologically "behave" the same as stable isotopes in nature and stable substances can be "tagged" with a radioactive tracer. These materials can be used as a substitute and introduced to the body of a research rat, plant or research subject. This tracer material will go to a particular target organ. From the results of the "counts", the researcher is able to identify the efficacy of the experimental chemical in the purposed hypothesized. After the study, the scintillation fluid, contaminated with the trace amount of radioactivity in a vial or poured out into bulk form, becomes spent solvent which is no longer usable as a scintillation fluid and must be disposed of in an authorized manner, e.g., used as hazardous waste fuel.

PFF may assist the "generator" (research institute) by contracting with a broker who provides containers, packaging, labeling and the shipping of the containers. The containers are transported by a permitted transporter to PFF. At PFF, the vials are shredded and the fluids extracted. The solids (glass and plastic) are rinsed according to EPA specification to remove the adhering contaminants and discarded in an industrial landfill. The fluids are collected and tested for specific radioactivity levels in accordance with the FRM license issued to the facility by the State of Florida Department of Health and Rehabilitative Services - Office of Radiation Control.

The fluid is pumped through a filter system for large particle removal into a holding container. The fluid is subsequently transferred to a transport vehicle for shipment to a kiln(s). The kiln utilizes the fluids as a fuel to create heat for its large rotary kiln(s). The rotary kiln(s) is governed by local, state and federal regulatory agencies.

Figures 8 and 9 provide a visual display for the typical process flow for the vials and bulk LS fluids.

Upon arrival at PFF the containers are off-loaded. After an extensive paperwork review to assure compliance with the radioactive materials license and RCRA, a visual review is performed to assess the integrity of the containers. A PFF ID number is assigned to each container which is stored in the secure area pending processing.

Prior to processing, the shipment paperwork, now logged and inventoried in the computer, is again reviewed and the containers staged at the processing area. Due to radioactivity levels, some containers may remain in storage for further radioactive decay, to assure a proper activity level before the liquid waste is pumped to the 3,000 gallon tank prior to disposal. The "decay" storage duration is typically from one to six months.

The containers enter the process area and are staged for lid removal, contents inspection and inventory adjustment. By hydraulic lift, the containers are raised and the contents dumped into a hopper. Vials and absorbent packing material, generally vermiculite, are moved over a shake table screen, where separation occurs and vials continue to the crusher with the vermiculite dropping into catch containers. The crusher's rotating knives chop the vials to result in a mix of broken glass, plastic and free flowing liquid. This mixture drops onto an inclined vibrating table where glass and plastic moves upward and out into a catch basket and most of the liquid runs downhill into a catch container.

Fluids are collected in one of two 80 gallon test containers. Each test container is sampled and tested. Upon test and release, this liquid is pumped from test containers to the 3,000 gallon tank for subsequent transport. Should testing indicate an activity level too high or inappropriate for disposal, the liquid is put into temporary storage containers for additional decay. Unacceptable materials are returned to the generators.

The catch basket with wet glass and plastic is allowed to drain and then is processed through an alcohol and water cleaning process equivalent to a triple rinse. Some of the smaller "mini" vials may have gotten this far unbroken; however, they tend to float in the rinse solution and are easily removed for processing. The glass and plastic mixture is then manually raked down a draining table to remove most remaining alcohol/water and visually assure that any uncrushed vials have been removed for reprocessing. At this point the inside processing activities are complete. The resulting residues to be removed from the processing area are: clean glass and plastic, packing material, plastic bags/container liners, other trash, liquids, and empty containers. Each of these items is subject to Quality Control (QC) tests to assure that release is allowable or to determine if reprocessing or decay storage is required. The items are removed from the process area and disposed of as indicated on the flow chart (see Figure 8).

To absolutely assure that the glass and plastic is dry (a land fill requirement) the containers containing the glass and plastic are again drained of any trace residual alcohol/water, and are placed in bins awaiting shipment.

After visually checking and sampling for fluids, the dry mixture is dumped into trailers for disposal as non-hazardous waste at an industrial energy recovery facility because of the plastics BTU value.

Other small containers containing ignitable wastes, which can be shredded by this process are processed in the same manner. The main components of the existing process system consist of: shredder, 3,000 gallon storage tank, analytical equipment, forklift and a ventilation system. The area at PFF designated as container storage for unprocessed waste (zones 1, 2 & 3, see Figure 10) is capable of holding 2,500 - 30 gallon size or 1,311 - 55 gallon size unprocessed containers stacked two (2) high (see Figure 10). Other DOT specification containers maybe stored in this area; total volume of permitted waste stored will not exceed the capacity. Figure 11 shows placement for containers managed in the transfer facility area.

In addition to LSF, other compatible organic fluids are received at PFF. Table 1, Hazardous Waste Stored at PFF, provides a listing of EPA waste codes managed on-site.

- **Bulk Liquid Handling.** Bulk liquid wastes will be received, logged and inspected in essentially the same manner as those containers holding liquid scintillation vials. The bulk liquids, however, will be pumped into the 3,000 gallon bulk tank, consolidated into DOT tote containers, or pumped directly into a transport tanker. Those bulk liquids which contain sludge-type materials will be blended in a collection container in order to maximize its pumpability. The residual solids will be liquified and pumped into the bulk storage container or into a transport tanker. Any sludges or solids which cannot be pumped or poured will be packaged in appropriate containers for disposal off-site.
- **Solid Waste Bulking.** Solid wastes that have been contaminated with hazardous waste, such as rags, paper, cardboard, plastic or other compactable material will be received at PFF in DOT specification containers for compacting and shipping to a permitted TSD facility. This process of bulking solid waste will offer an environmentally sound option to generators and small quantity generators, for disposal of materials which too often are simply allowed to air dry or are disposed of through a solid waste disposal system.

The bulking process will be conducted manually by dumping or raking the materials into a container which will then be compacted or closed for disposal. The process will be repeated until the container is full, at which time it will be closed and placed into storage awaiting shipment to a permitted TSD facility.
- Occasionally containers of ignitable waste will be received at PFF with solids, sludges or other precipitates settled in the bottom of the container. This material will be removed from the container and will be blended with other compatible, waste in the holding container or packaged for disposal.
- Occasionally non-hazardous waste will be stored in the storage area. All non-hazardous wastes will be compatible with the permitted hazardous wastes.
- Liquid wastes which contain regulated amounts of Toxicity Characteristic Leaching Procedure (TCLP) constituents will be received at PFF and either bulked or simply trans-shipped to approved TSD facilities. Also, occasionally solid materials contaminated with TCLP constituents or other hazardous wastes will be received at PFF for trans-shipping or repackaging before being shipped to an EPA-approved TSD facility.

- PFF is registered with the FDEP to operate as a consolidation point for mercury containing lamps and devices for recycling.
- PFF occasionally receives 55-gallon drums or pallets that contain smaller containers of paint cans and solvents. At the time of processing of these smaller containers, a temporary area is set up in zone 2 of the storage building. The drums are opened and the waste is transferred to separate drum. The other containers are opened on the table and consolidated manually into 55 gallon drums. Filled drums are labelled and identified and sampled for testing. Drums are then stored pending test results based on tests, the drums are then fuel blended or disposed of in a proper manor. Empty containers (e.g., gallon paint cans, etc) are loaded into a bailer/compactor approximated 10-15 at a time and crushed. The crushed blocks of metal are consolidated in a waste gondola and ten bulked with other wastes for shipment to an energy recovery facility where the metals are isolated out for recycling. The above process is for household exempt wastes. After processing of hazardous waste, RCRA empty containers will be managed in accordance with applicable regulations. At the end on the operation the table(s) are removed and the can crusher is totally cleaned and covered to await the next usage.
- **Portable Hopper/Drainer Unit.** PFF operates a portable hopper/drainer unit. The portable hopper/drainer is a pneumatic barrel dumper with a catch basin on wheels. This unit is used as a final drain of the non-hazardous triple rinsed crushed glass and plastic from the LSV operation. The hopper/drainer is used and stored in Zone One as indicated on Figure 19.
- **Can Crusher.** PFF operates a can crusher, electric over hydraulic controlled press unit. The can crusher is used to crush non RCRA materials down to a cube form for shipment off site. The can crusher is located on the east side of the warehouse as indicated on Figure 19.



PERMA-FIX OF FLORIDA, INC.
Part I/Section D
Operating Information

D3 Process Code

The area at PFF designated as container storage for hazardous waste is capable of holding 1,311 - 55 gallon size unprocessed drums stacked two high, or the equivalent volume in other DOT specification containers, see Figure 10. Other DOT specification containers may be stored in this area; total volume of permitted waste stored will not exceed the capacity.

Processes at PFF are limited to container storage (S01) and tank storage (S02). EPA hazardous waste numbers for wastes managed or anticipated for management at PFF are included in Table 1.

PERMA-FIX OF FLORIDA, INC.

Part B Permit Renewal

Part II

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K CLOSURE PLAN

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- K2 Post Closure Plan
- K3 Previous Permit Application
- K4 Soil Evaluation Procedure
- K5 Closure Schedule

**P APPLICATION FOR A HAZARDOUS WASTE FACILITY PERMIT
CERTIFICATION**

Q RCRA FACILITY ASSESSMENT

R PROCESS VENTS

- R1 Subpart AA

S REQUIREMENTS FOR EQUIPMENT

- S1 Subpart BB Requirements
- S2 Subpart CC Requirements

SPECIFIC

A1 Site Information

A1a Topographic map: Figure 1

Map scale and date: 1" = 2000' and May 21, 1995

100 - Year flood zone map: Figure 2

Access control : Figure 5

Injection and withdrawal wells: No injection wells or withdrawal wells are used by PFF and there are no injection or withdrawal wells within one mile of the facility.

Building and other structures: Figure 6

Contours: Figure 1 and Figure 19

Loading and unloading areas: Figure 6

Drainage or flood control: Figure 3

Runoff control system: Figure 3

Location of TSD areas

Past, Present, Future: Figure 1

Location of Solid Waste Management Units: Figure 18

Location and scale of permitted units at the facility: Figure 1 and 17

LSF Processing and Warehouse Area: Figure 20

A1b Wind Rose

See Figure 7 for wind rose information.

A1c Traffic Patterns

Traffic pattern, traffic control and access patterns are identified in Figure 5. The average truck traffic of incoming and outgoing waste is anticipated to be a maximum of 5 trailers or tank truckers per day. The road system and parking area have adequate load-bearing capacity to withstand the projected loads. The access route to the plant is from US441 to SR121 to NW 67th Place and then to Perma-Fix of Florida, Inc. (PFF). US441 and SR121 roadways are capable of truck traffic carrying in excess of 80,000 pounds (gross-54,000 pounds net load). There are no weight restrictions on these roadways. The internal roadway (NW 67 Place) and PFF parking lot are asphalt paved and can carry trucks without difficulty. The nearest traffic light is at the intersection of SR121 and US441, approximately 0.6 miles South of PFF.

A2 Financial Responsibility Information

A2a Closure Cost Estimate

The closure cost estimate is based on the type of waste managed on site; i.e., the proportion of LS derived hazardous wastes to RCRA hazardous waste.

- The decontamination equipment to be used in closure will consist of the following:

- 35,000 PSI or greater pressure washer
- Industrial wet/dry shop vacuum
- Air driven diaphragm type pump
- Absorbent sock/booms
- Personnel protective equipment, i.e., tyvek coveralls, safety glasses and footwear, gloves, etc.
- DOT containers for shipment of waste
- Shovels and other miscellaneous hand tools.

Upon completion, the pressure cleaner will be used to decon all reusable equipment and/or all items will be handled as a RCRA waste.

■ Drum Disposal

The maximum volume of hazardous waste in containers stored and unprocessed at any one time is limited to 1,311 - 55 gallon drums or equivalent. Other odd sizes may be received but PFF will not exceed the volume equivalent of 1,311 - 55 gallons drums.

According to contracts with the brokers/generators, the liability for the disposal of unprocessed drums of waste material remains with generators. PFF does not take title to the waste, only possession, until processing.

If the container cannot be processed for any reason, PFF has the option to return the waste to the generator or to ship for further management at an alternate facility. This closure cost estimate is based on current, third party, disposal costs for the total permitted volume of hazardous waste stored in tank and container storage areas on-site. Closure costs also include decontamination of the tank and container storage system and associated equipment to meet clean closure criteria.



PERMA-FIX OF FLORIDA, INC.
Part II/Section A
General

Since some of the waste received is considered a mixed waste, the methods for disposal are limited. However, currently there are two other companies performing similar operations:

Nuclear Sources & Services, Inc. in Houston, TX; and DSSI in Kingston, TN.

If other TSD facilities are available at final facility closure, PFF may use an alternate properly permitted facility for disposition of mixed hazardous wastes generated by closure activities.

Typically the LSV business has been about 1/3 of the total containers. Therefore, with a storage area of 1,311 drums the breakdown is 435 LSV and 876 hazardous.

■ **Loading and Transportation Costs**

LSV Drums

435 drums @ 190 drums/truckload = 3 truckloads	
\$1.45/mile x 1200 miles x 3 truckloads	\$ 5,220
3 personnel x 4 hours each x \$35/hour x 3 truckloads	\$ 1,260

Hazardous Drums

876 drums @ 88 drums/truckload = 10 truckloads	
\$1.45/mile x 325 miles x 10 truckloads	\$ 4,713
3 personnel x 4 hours each x \$35/hour x 10 truckloads	<u>\$ 4,200</u>

* Subtotal Loading and Transportation Costs	\$ 15,393
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■ **Disposal**

LSV Drums

435 drums of which 15% will be at \$675/drum and 85% will be at 187.50

65 X \$675	\$ 43,875
370 X \$187.50	\$ 69,375

Hazardous

876 Hazardous drums distributed as follows:

Fuel blend basic (60%) 525 at \$32	\$ 16,800
Fuel blend with (15%) sludge 132 at \$80	\$ 10,560
Drums with solids (15%) 132 at \$200	\$ 26,400
Water drums (10%) 87 X 55 gallons = 4785 gallons at \$1.25	<u>\$ 5,981</u>

* **Subtotal Disposal** **\$172,991**

■ **Process Area Decontamination**

All equipment will be decontaminated and pressure cleaned and the wash water will be recovered for final disposal.

Pressure Cleaning	
Labor: 6 man days x \$400/day	\$ 2,400
Disposal Cost: 1800 gallons at \$1.25 gallon	<u>\$ 2,250</u>

* **Subtotal for Cleaning Process Area** **\$ 4,650**

■ **Storage Tank Cleaning**

Liquid Disposal

The maximum amount of liquid stored in the tank at any one time would be 3,000 gallons. We would expect that a third party contractor would ship the material to Oldover or a comparable disposer as is normal practice of PFF. The cost of disposal of 3,000 gallons of liquid is approximately \$2,500.

Storage Tank Liquid Disposal **\$ 2,500**

Tank & Piping Disassemblage and Disposition

4 personnel x 40 hours @ \$25/hour	\$ 4,000
Equipment rental @ \$300/day x 5/day (crane, etc.)	\$ 1,500

Tank Cleaning

The storage tank and the retainment berm would be pressure with (if required) surfactant or other cleaner. All rinse water would be collected and disposed of at an approved site. We expect that a total of 2,058 (3 rinse) gallon of wash water would be adequate to accomplish the clean up task.

Labor: 2 man day x \$400/day	\$ 800
Disposal: 2,058 gallons at 1.25 gallon	\$ 2,573
Supplies, tools:	<u>\$ 3,000</u>
Transportation included in Rinseate Transportation	
* Subtotal for Storage Tank Cleaning	\$14,373

■ **By-Product Disposal**

We expect the maximum by-product material at any one time to be limited to 2,000 ft³ of vermiculite and crushed glass.

Preparation: 5 man days x \$400	\$ 2,000
Transportation:	\$ 900
Disposal of glass/plastic and Vermiculite:	<u>\$ 5,000</u>
* Subtotal for By Product Disposal	\$ 7,900

■ **Remediation (TSD Storage Area)**

Team of 1 leader at \$45/hour X 8 hours/day = \$360
3 Technicians at \$35/hour X 8 hours/day = \$840
Team rate/day = \$1,200

Disassembly

Team requiring two weeks at 40/hours/week	\$ 12,000
Tools at \$200/day	\$ 2,000

Decontamination

Team requiring 2 weeks	\$ 12,000
Supplies at \$200/day	\$ 2,000
Tools at \$100/day	\$ 1,000
Pressure cleaning 7,769 gallons at \$1.25/gallon	\$ 9,711

Disposal

Articles and items during decon

Estimated at 150 Ft³ at 175/Ft³ \$ 26,250

Survey

Perform survey of facility at 3 days \$ 3,600

Instrumentation rental at \$250/day at 3 days \$ 750

Loading/Unloading Areas

Pressure Cleaning

Labor: 3 man days X \$400 \$ 1,200

Disposal: 6975 gallons water at \$1.25 gallon \$ 8,719

10 Day Transfer Area

Pressure Cleaning

Labor: 2 man days X \$400 \$ 800

Disposal: 5,475 gallons at \$1.25 gallon \$ 6,844

Can Crusher

Pressure Cleaning

Labor: 1 man day at \$400 \$ 400

Disposal: 150 gallons at \$1.25 gallon \$ 188

Rinseate Transportation

23,363 gallons at 5,000 gallons per load
3,200 per load (.64 per gallon) \$14,952

*** Subtotal Remediation \$102,414**

■ Miscellaneous Cost

Analytical: 38 samples at \$1,120/sample \$ 42,560

Certification: 6 man days at \$560/day \$ 3,360

*** Subtotal Miscellaneous Costs \$45,920**

Recap of Costs

Loading & Transportation	\$ 15,393
Disposal	\$172,991
Process Equipment Decon	\$ 4,650
Storage Tank Cleaning	\$ 14,373
By-Product Disposal	\$ 7,900
Remediation (Drum Storage)	\$102,414
Miscellaneous Costs	<u>\$ 45,920</u>
Sub-Total	\$363,641
10% Contingency	<u>36,364</u>
Total Closure Cost	\$400,005

Closure costs will be updated annually in accordance with the requirements of 40 CFR 264.142.

A2b Post Closure Care Estimate

Post-closure care is not applicable, see Section K2 of this part.

A2c Liability/Coverage

All financial assurance documents are filed with the FDEP.

A3 FLOOD MAP

The PFF property is located outside of the 100 year flood plain. See Figure 2.

A4 FACILITY SECURITY INFORMATION

A4a Description of Security

The entire PFF facility is secured and fenced with a high quality six (6) feet high chain linked fence and topped with three (3) strands of barb wire. The fence is in good repair and is periodically inspected. Entry and exit is controlled through an incoming and outgoing traffic gate.

The entrance gates are closed at all times and only authorized personnel are allowed to admit the truck after the driver has provided the proper shipping documents. The inside processing area is further protected by being behind locked doors during non-working hours.

All visitors to this control area must enter PFF through the reception area in front of the building; where, following registration, visitors are escorted by a PFF employee while in permitted areas.

Warning Signs: PFF loading, unloading, processing and storage areas are posted with appropriate signs signifying "Danger - Unauthorized Personnel Keep Out" and "No Smoking".

A4b Contingency Plan

Contingency Plan is a stand alone document and is located in Appendix C.

A4c Description of Procedures, Structures or Equipment

The unloading of containers at PFF is accomplished by means of forklift trucks in the area of the plant paved outside storage area. Due care is taken to prevent accidental dropping of containers and all forklift operators are instructed in proper and safe operation of the forklift. Many of the containers contain LS fluids in small vials within an absorbent media therefore, likelihood of spill from these containers is minimal.

Most runoff from PFF is directed to the on-site retention pond or drains off-site to a drainage ditch north of the facility. The processing area is inside a covered building to protect operations from precipitation. The bulk storage tank is contained within a bermed area capable of containing 150% the entire contents of the storage tank. The tank is located within the building and to minimize contact with precipitation.

Appropriate precautions are taken to eliminate sources of ignition including open flames, smoking, cutting and welding hot surfaces, frictional heat and sparks from in and around the container storage, tank storage and processing area. Required "Hot Work" is subject to the PFF "Hot Work" program, located in Appendix I. The facility is fenced for security and areas where ignitable materials are stored or processed are posted as "No Smoking" areas.

In addition, PFF has designed the LSV processing to include numerous automatic safety features, including:

- Special electrical grounding for all equipment including the processor, sampling tanks, bulk storage tank and transfer apparatus.
- Automatic fire suppression in the processor.
- Overflow interlocks and alarms for the sampling tanks and bulk storage tank.
- Circuit overload and lockout mechanisms.
- Ventilation systems for the process and work areas which maintain negative pressures in the work area and which filter the exhaust for particulate and vapors prior to exhaust.
- Totally enclosed (vault) enclosing the above ground bulk storage tank.
- Automatic shutdown button.

All persons entering the process area are required to have on protective clothing commensurate with their tasks. These requirements are posted and are adhered to due to the mixed waste (radioactive and/or hazardous) characteristics. Protective clothing requirements also pertain to those persons loading and unloading vehicles or when otherwise handling the materials. Procedures are in place to provide visitors with the necessary protective mechanisms.

No drains are located within the process area and no unauthorized materials are released to the sanitary sewer nor to surface water runoff. PFF accounts for all hazardous wastes delivered to its site and removed from site through a materials accounting system. This includes a generator specific numbering system to identify, at all times, the current status of each container of material received on-site. PFF can track each container of material from time of receipt through final disposal.

Non-hazardous waste operations are conducted with personnel present at all times. These personnel are thoroughly trained in PFF procedures and safety measures. A prolonged power outage or equipment failure could result in shut-down and suspension of processing operations. Shut-down or electric units or equipment failure will not directly result in release of hazardous waste to the environment.

PFF will not accept hazardous waste from off-site generators if permitted storage capacity and/or processing equipment is not available. Active waste management (i.e., processing) is not conducted when the facility is not staffed; storage of waste in tanks or containers will not be directly affected by power outages. Supplemental power supplies (i.e., generators) are available, if deemed necessary, for rent through local vendors.

A computer system is used for data management on-site. To minimize the potential for loss of information resulting from power outages or computer failure, waste management documentation is also maintained in hard copy form.

No smoking or open flames are permitted in the processing area and extensive fire fighting equipment is conspicuously located.

Appendix D is the Operating Quality Procedures 001R (LSV Processing Procedure) in detail.

In addition to those items indicated above, PFF has a telephone communication system capable of notifying all employees in the event of any emergency. Access to this communication system is readily available from several locations in and around the processing area. The process area does not operate unless multiple (2 or more) employees are present.

Fire protection consists of an automatic fire suppression system in the processor and numerous fire extinguishers. These are routinely inspected by an outside contractor. Additionally, PFF is accessible by the Fire Department within 3-7 minutes and has adequate water available for fire fighting.

All containers and the bulk tank containing the waste fluids are readily accessible and inspectable.

A4d Preparedness and Prevention Procedures

Arrangements with local authorities are documented in Appendix C, Contingency Plan.

■ **Spill Prevention**

This procedure is to provide basic steps in the prevention of spills and clean up in the event of spills.

Prevention

- Trucks containing wastes in transit are parked in the storage area and are inspected daily for containment integrity and serviceability.
- Tank and container storage areas are inspected for potential leaks and spills in accordance with PFF inspection procedures. In addition, containment systems are visually inspected as part of PFF inspections.
- To prevent potential spills, all pipes carrying waste fluids are visually checked daily to assure proper fitting and that valves are working properly.
- In the crushing area, an empty container is available to be used if the flow from the test tanks cannot be stopped. Then the container can be manually dumped into the test tank after repairing the problem.
- All fluid level indicators on storage vessels are inspected periodically.
- Any impervious floor covering showing signs of deterioration is repaired.

Response Measures

- In the event fluids are spilled or leaked into containment areas, absorbent materials are placed on the fluid, then manually collected and placed in a container for proper disposal.
- The 3000 gallon tank presents the largest potential for hazard if spilled or released. The concrete berm housing the tank is designed to provide full containment of all fluids in the event of leakage.

In the event of release of fluids in the berm with NO apparent associated environmental releases, the Regulatory Compliance Officer (RCO) will be immediately notified. The Process Coordinator (PC) will, in coordination with the RCO direct the collection and management of the fluids. The RCO will also direct any necessary repairs. Records will be maintained for review by the FDEP and HRS. In the event of release of fluids from the bermed area to the environment in excess of reportable quantity, the RCO, Fire Department, FDHRS and FDEP will be immediately notified of the situation. Recommendations by the Fire Department, FDEP, FDHRS, RCO and the PC will be evaluated to develop the most efficient and safe method in reclaiming the fluids.

- Spillage as a result of dropping a LSV container with the lid off may occur. The vials (broken and unbroken) will be placed into an empty container and processed as usual. The fluids should be cleaned up as stated in Appendix D, Operating Quality Procedure 012G (Spill Prevention).
- In the event that a spill occurs from a tanker parked in the storage area, there is sufficient containment within the storage area to prevent run-off outside of the storage area. The PC, will, in coordination with the Emergency Coordinator (EC) direct the removal, recontainment and storage of the spilled materials.
- In the event spills are identified while the LSV containers are in storage, the following procedures are to be enacted:

Move the damaged or opened container from the storage to the crushing area. All vials and broken vials are to be placed into an empty container and moved to the crushing area.

The contents of the damaged container are immediately collected and subsequently processed in the crushing system.

Any scintillation fluid remaining on the floor of the storage area is to be absorbed with absorbent material which is then packaged for shipment to a permitted disposal facility.

If hazardous waste reaches the drainage ditches and surrounding embankment areas these areas will be checked and surveyed to assure the material is no longer present.

- Spills from other containers will be collected and placed in a drum for suitable management or a leaking container may be placed in an "over pack" container.
- If a spill is in excess of 55 gallons, a vapor detector will be positioned in close proximity of the spill. No one is to enter the immediate area of the spill without respiratory protection until the vapor detector indicates a safe breathing zone.

Spill Prevention Plan

- All persons responsible for supervising the LSV activities are familiar with this procedure.
- Adequate spill prevention supplies are maintained on-site including:

- 55 gallon drums for transfer of leaking drum contents
- Absorbent material
- Gloves and other safety gear
- Shovels, brooms, bags, etc.
- Overpack containers

■ Facility Inspection Plan

See Operating Quality Procedure 003G (Facility Inspection Plan) Appendix D.

A4e Personnel Training

■ Scope

Provides the requirements for an overall training program applicable to all employees working within the waste processing area as described in Operating Quality Procedure 004G (Training) Appendix D.

■ **Instructor Qualification**

The program is directed by a personnel trained in hazardous waste management procedures and includes instruction which teaches PFF personnel hazardous waste management procedures relevant to the positions to which they are employed. Instructors are management and/or senior technician personnel who have significant training and experience in the area of instruction. See Appendix E.

■ **Job Descriptions - Perma-Fix of Florida**

● **Facility Manager**

Provides overall supervision and guidance of all activities performed at PFF. Responsible for assignment and delegation to responsible individuals for those tasks not directly performed. Maintains responsibility for overall training and compliance.

● **Hazardous/Non-Hazardous Coordinator**

Responsible for all levels of Waste Management Services which includes seeing that employees have the proper safety equipment. Scheduling drums for treatment, disposal or storage and lab packing. Inspection of the work area and labeling drums. Crushing of oil filter drums and disposal. Pulling samples for customers as needed. Schedule county collections with proper employees, equipment, setup, transportation and pre-evaluation of collection site. Packaging of materials from household collection events to be sent off-site.

● **Customer and Support Services Manager**

Directs daily functions related to in-house laboratory verification activities. Maintains overall responsibility for the documentation and reporting aspects for the operation, including development of appropriate forms, their completion and accuracy and retention. Provides interface with customers for waste approval activities and subsequent scheduling and shipping. Provides similar function with facilities to whom shipments are sent to and from PFF.

- **Radiation Safety Officer/Compliance Officer**

Provides in-house review of operations to assure compliance with all applicable regulations. Has authority to stop activities and require implementation of corrective action.

- **Customer Services Representative**

Provides daily interface with customers and sales to assure timely approval of profiles, quotations and subsequent scheduling of pickups. As required, prepares necessary shipping documentation and coordinates delivery to PFF.

- **Foreman/Process Coordinator**

Provides on the spot direction and supervision within the work area. Maintains and processes records of processing activities. Coordinates with administrative support to assure correct paperwork for receiving, processing, shipping and billing.

Other responsibilities include: checking in and out containers to be processed on process log; filling out vial control sheet; inspecting containers to be run; putting containers on lift; swiping and surveying empty containers coming off lift; handling uncrushable materials either whole containers or contributing containers; informing technicians of label requirements; making sure everyone is doing their job correctly, safely and with the proper protective clothing and equipment; pulling samples for analysis, inspecting equipment to insure proper operation (chain hoist oil levels, teeth condition, etc.); and keeping track of rinse fluid change out times.

- **Document Coordinator**

Responsible for the flow, control and correctness of operations documents (i.e., manifests, disposal letters, discrepancy notices, profile approvals, financial reports, etc.). Maintains records and files regarding operations and interfaces with clients/brokers to resolve any deficiencies in the paperwork.

- **Maintenance Technician**

Provides daily maintenance of various process equipment. Performs routing maintenance of facilities and non-process equipment.

- **Lab Technician**

Responsible for analysis of fluid samples; keep lab clean; make labels for containers when required; survey floor and equipment (randomly and monthly); survey laundry and laundry machine; file all survey reports and miscellaneous container paperwork according to Appendix D, Operating Quality Procedures 0014S, Laboratory Chemical Hygiene Plan, source check meters daily; perform unannounced Quality Assurance of processed material; and do bulk tank sampling.

- **Maintenance and/or Supplies Coordinator**

Responsible for planning and scheduling of all routine maintenance; this varies from daily activities to functions performed on an annual basis; take lead and provides direction during major scheduled maintenance shutdowns; also responsible for assuring an adequate inventory of supplies such as rinse alcohol, gloves, wipes, booties, etc.

Testing and maintaining proper operation of all EMERGENCY equipment such as communication, alarms, fire protection, spill control, decontamination and specific health and safety equipment.

- **Materials Handling Technician**

Responsible for staging containers for processing; keeping container storage area neat and organized; bulking contents into appropriate containers; moving and pelletizing all containers and materials to proper location (vermiculite, crushed material, empty containers and absorbed liquids); keeping daily record of all container numbers going in and coming out of the area to be verified by process logs; dumping vermiculite when possible; and unringing and ringing of containers.

- **Process Technician (LSV Area)**

Responsible for lift baskets to be rinsed; stir material; remove crushed vials; lift basket into trough; and keep drip pan clean.

Hoe down processed material and inspect for unbroken vials; survey full containers of processed glass, plastic and vermiculite for release from process line; survey trash for release to outside; and keep clutter down in inside staging area.

Operate controls to lift containers; meter flow of materials into hopper; remove trash from containers (plastic bags, paper, etc.); pull down full trash containers for survey by Hoe Man; and keep equipment clean.

Operate equipment switches; change out full baskets at outfeed and vermiculite; drain catch containers of excess fluid; change the filters on room exhaust when necessary; insure proper flow of materials through outfeed conveyor to insure no clogging of transition; and keep outfeed conveyor and general area clean and free of standing liquids.

Note: Technicians may be cross trained and may function in any technical area.

■ **Job Descriptions for Perma-Fix Analytical Services, Inc.**

Information and training is provided to Perma-Fix Analytical Services, Inc. employees to ensure that all individuals who are at risk in working around hazardous chemicals are adequately informed of the hazards of the chemicals in their work area, of the risks involved in working with these chemicals, and what to do if an accident occurs.

Such information shall be provided at the time of an employee's initial assignment to a work area where hazardous chemicals are present and prior to assignments involving new exposure situations. The frequency of refresher information and training shall be one year. Supervisors are responsible for ensuring that their employees are informed and trained.

Employees shall be informed and trained in the following areas:

- the location and availability of this Laboratory Chemical Hygiene Plan;
- the availability of permissible exposure limits for OSHA regulated substances or recommended exposure limits for other hazardous chemicals where there is no applicable OSHA standard;

- signs and symptoms associated with exposures to hazardous chemicals used in the laboratory;
- the location and availability of known reference material on the hazards, safe handling, storage, and disposal of hazardous chemicals found in the laboratory including, but not limited to, MSDSs received from the chemical supplier;
- the physical and health hazards of chemicals in the work area; and
- the measures employees can take to protect themselves from these hazards, including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used.

■ **Laboratory Manager**

Provides overall supervision and guidance of all activities performed at Perma-Fix Analytical Services. Responsible for assignment and delegation to responsible individuals for those tasks not directly performed. Maintains responsibility for overall training and compliance.

■ **Assistant Laboratory Manager**

Directs daily functions related to in-house laboratory verification activities. Maintains overall responsibility for the documentation and reporting aspects for the operation, including development of appropriate forms, their completion and accuracy and retention.

■ **Senior Technology Associate**

Conducts R & D experiments of new process ideas for various divisions of Perma-Fix. Responsible for documentation and organization of these experiments. Implements EPA methods, develops new methods and performs sample analysis for Perma-Fix Analytical Services.

■ **Senior Laboratory Technician**

Responsible for sample tracking, analysis of samples and summary of data for final reports; keeping lab clean; inventory of lab consumables; maintenance of lab instrumentation.

A5 CHEMICAL AND PHYSICAL ANALYSIS

The EPA hazardous wastes stored and processed at PFF are identified on Manifest forms in accordance with state and federal guidelines. The LSV materials accepted at PFF are fairly uniform in nature and specific to each customer. Waste is initially examined for its physical and chemical characteristics and thereafter periodically checked for compliance assurance.

Generators (waste shipper) will be required to submit a hazardous waste profile sheet describing the contents of the hazardous waste to be shipped. For active waste streams, this waste profile will be evaluated annually or with the first scheduled shipment after the profile anniversary date. PFF will retain the right to perform chemical analyses of any customer's material prior to processing should any questions about acceptability arise.

A6 WASTE ANALYSIS PLAN

A Waste Analysis Plan has been created to be a stand alone document, see Appendix F.

A7 MANIFEST SYSTEM, RECORD KEEPING AND REPORTING

A7a Required Notice

- Before receiving a hazardous waste from a foreign source, PFF will notify the EPA Regional Administrator in writing at least four weeks in advance of the date the waste is expected to arrive at PFF. Notice of subsequent shipment of the same waste from the same foreign source is not required.
- PFF, when entering into any agreement to receive any waste for processing from a generator, will inform the generator in writing of PFF's permit status and the ability to accept the waste the generator is shipping.

- Prior to transferring ownership or operation of PFF, PFF will provide appropriate notification in writing to the new owner or operator in writing of 40 CFR Parts 264 and 270.

7Ab Manifest System

- PFF requires the generator to provide a completed manifest for each shipment of hazardous waste as appropriate. Material from a generator will be identified prior to the first shipment as to its characteristics and hazardous constituents through a profile sheet. Thereafter each generator will be required to provide periodic recertification of waste constituents.

- PFF will periodically inspect each generator's waste and may require recertification at any time. Upon review and inspection of each shipment the generator may be required to provide back up data on specific wastes received. In addition to the manifest number, PFF will assign an internal tracking number to each container for ease of identification.

- Copies of manifests and operating records will be maintained on each generator and records will be retained for the life of the PFF facility unless relieved of the responsibility by Florida Statutes. A Biannual report of hazardous waste received and processed through the PFF site will be prepared providing the quantities of materials shipped to PFF. Copies of the biannual report will be submitted to FDEP. The following reports will be maintained at PFF:

- A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage or disposal at PFF as required.
- The location of each hazardous waste within PFF and the quantity at each location. This information must include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest.
- Records and results of waste analysis performed.
- Summary reports and details of all incidents that require implementation of the Contingency Plan as specified in 40 CFR.
- Records and results of inspections as required by 40 CFR (for past three years).

- All closure cost estimates in accordance with 40 CFR 264, Subpart G.

PFF will also maintain the following records and provide to the FDEP:

- Waste minimization certification.
- Reports of releases, fire and explosions (40 CFR 264).

Also, PFF will provide to the satisfaction of the FDEP a Closure Plan and Closure Cost Estimate.

■ Upon receipt of waste from a generator with an apparent discrepancy, the generator/broker will be contacted to resolve the discrepancy. If the discrepancy is a difference in number of containers of waste {batch waste is described in 40 CFR 265.72(a)}, the matter will be resolved by telephone (or other means) with the respective broker/generator.

If the manifest declares the waste different in type from the waste received, the generator/broker will be contacted. In the event the matter cannot be resolved or if the waste is in a class unpermitted by PFF, the waste will be returned to the generator or shipped to an approved facility for treatment or disposal.

If the matters described above cannot be resolved, the FDEP will be contacted within 15 days as to the nature of the discrepancy, attempts to reconcile, and a copy of the manifests and shipping papers.

- Upon receipt of the shipment, the transporter receives a signed copy of the manifest.
- Within 30 days of delivery of the waste a signed copy (the original) is sent to the generator.
- No waste is received directly by rail or water. All waste received at PFF is via ground vehicle.
- The action that will be taken to comply with the requirements of 40 CFR 265.76, if unmanifested waste is received/accepted by PFF:

- An unmanifested waste report will be submitted on EPA Form 8700-13B within 15 days of receipt of the waste.

(NOTE: If Conditionally Exempt Small Quantity Generator (CESQG) waste is received, it will be marked on the container. In the event the generator coordinated the shipment via a broker, the certification of CESQG status will remain with the broker.)

A8 FEDERAL ENVIRONMENTAL LEGISLATION

PFF is not subject to the Coastal Zone Management Act, Fish and Wildlife Coordination Act, and Wild and Scenic Rivers Act. In addition, the facility is located within an Industrial Park in an urban setting and to the best of our knowledge there are no endangered species or archeological or historical sites within the property.

CONTAINERS

B1 Containment System

Spill containment capacity is provided in Figure 12.

The structural integrity of the concrete slab meets the anticipated load-bearing requirements as certified in attached letter from Bodo and Associates, Inc., see Figure 13.

The container and tank storage area is constructed of concrete as approved by the FDEP prior to construction. This material is compatible with the wastes to be stored at PFF. This is in accordance with EPA-OSWER policy directive # 9483.00-1, pp. 190 - 202 and 13-20 to 13-31, see Figure 14.

Containers stored in the container area are very unlikely to leak large amounts of fluid. Therefore, most spills will simply be cleaned-up with absorbent material and placed in another container for disposal. In the event of catastrophic failure resulting in a pumpable amount present in the containment system, a small portable Sandpiper or hand pump will be utilized to pump the fluid into new containers or into the bulk tank. Liquids spilled in the container storage area will all be labeled with their contents on the container itself. If necessary, a sample will be analyzed in the PFF or off-site laboratory in accordance with the Waste Analysis Plan. Removal of spilled liquids will commence as soon as the spill is discovered (as soon as practical), but in no case later than 24 hours of discovery. Absorbent material from spill kits maintained on-site will be used to control and collect the spilled liquid. The storage area is covered, which precludes the accumulation of precipitation.

B2 Ignitable or Reactive Waste in Containers.

PFF processes and stores ignitable wastes in containers. The container storage areas are located at least 50 feet from PFF property line (see Figures 5 and 6).

B3 General Precautions for Handling Ignitables or Reactive Waste and Mixing of Incompatible Waste (40 CFR 264.177)

B3a General

The segregation of wastes as outlined 40 CFR 264.17(c) is appropriate for waste that is compatible unless the provisions 40 CFR 264.17(b) can also be met. Almost all of the bulk containers of waste received are mixtures of compounds.

Some of these compounds may be incompatible with each other during transport and upon receipt but are already mixed. And, due to the low concentration of the waste there is no reaction. In order to assure of no reactions of waste upon receipt, during storage or transfer from container to tank, the following additional measures will be taken:

- Currently all hazardous wastes are pre-approved by the generator submitting a profile sheet and, if applicable, a sample of the waste. Any container holding a hazardous waste that is incompatible with any waste or other materials will be separated from the other materials by means of a dike, berm, wall, or other equivalent device; portable containment units may be used for this purpose.

Container management areas may be used for storage of wastes incompatible with the waste previously stored. Prior to change in service to an incompatible waste type in the unit, containment structures will be visually evaluated for evidence of contamination or indications of release of hazardous waste or hazardous waste constituents into the containment system. In the event that visual contamination is observed, the containment structure will be decontaminated. Decontamination of containment structures will be accomplished by cleaning with high pressure water, steam, non-phosphate detergent, or other appropriate method. Rinsate and/or cleaning residuals will be managed in accordance with state and federal regulations.

- Before this waste is combined in the storage tank, bench top compatibility tests will be performed with the contents in the bulk tank to assure safety. The sample will be subject to the Fuel Compatibility protocol (see WAP, see Appendix F) to determine reactivity such as, extreme heat, pressure, fire, explosion or other violent reaction.
- If there is any such reactivity, as identified by the Fuel Compatibility Protocol, the waste will not be combined with those wastes in tank storage.
- Records of these tests will be maintained as part of the operating record of the TSDF.
- Before decommissioning of lab pack, the packing list will be reviewed to identify non-compatible wastes by the company chemist or other qualified personnel. During decommissioning (pouring from containers to bulk containers) those non-compatible wastes will not be combined until testing of reactivity is made. If the waste is determined to be non-compatible, it will be packaged for shipment to another TSDF for proper disposition.

PFF may handle ignitable wastes, as defined in 40 CFR 261.22(a)(1). Waste streams designated as ignitable may not exhibit the characteristic of ignitability in some shipments and (after testing) will be managed appropriately. PFF will manage ignitable and reactive waste in accordance with the following procedures. Incompatible wastes, or incompatible wastes and materials will not be placed in the same container or tank unless precautions are taken to prevent reactions which could:

- Generate extreme heat or pressure, fire or explosions, or violent reactions;
- Produce uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health or the environment;
- Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
- Damage the structural integrity of the device or PFF;
- Through other like means threaten human health or the environment.

Ignitable or reactive wastes are either stored in containers or tanks in order to prevent accidental ignition or reaction. Incompatible wastes are separated and ignitable/reactive wastes are protected from sources of ignition or reaction. Activities that would produce open flames, hot surfaces, frictional heat, sparks, spontaneous ignition or radiant heat will not occur in the vicinity of ignitable wastes.

As a safeguard for handling ignitable and reactive wastes, smoking is not allowed within the facility (except in designated areas). Signs are posted at the main entrance to the facility stating that "No Smoking Beyond This Point" is allowed.

Prior to co-mingling wastes in storage tanks or tankers, PFF operations personnel will use existing waste analysis information provided by the generator, and/or published literature to determine if there is a potential danger in mixing incompatible wastes.

Potentially incompatible wastes may be bench tested in the on-site laboratory. Since a portion of each waste sample is retained during the initial sampling from incoming trucks, proportional amounts of different wastes to be co-mingled may be mixed together and observed for incompatibility.

B3b PFF maintains literature on-site as a reference to identify compatibility of compounds.

B4 Description of Containers

B4a Condition of Containers (40 CFR 264.171)

If a container is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the waste will be transferred to a container that is in good condition or the container will be provided with an "overpack". PFF will receive and ship waste only in DOT specification containers. These containers include; but are not limited to

- 55 gallon steel drums
- 55 and 30 gallon poly drums
- 30 gallon steel drums
- 5 gallon steel drums
- DOT overpacked drums containing: glass vials, plastic vials, ½ to 1 gallon glass or plastic containers, and up to 30 gallon plastic carboy containers
- DOT specification roll-off containers
- DOT specification fiberboard containers
- DOT specification tote tanks
- DOT specification tanker/trailers
- Other DOT approved (performance oriented) containers

Upon removal of the fluids from scintillation vials, all inner containers are crushed, cleaned using an alcohol rinse, then disposed.

B4b Compatibility of Waste with Containers (40 CFR 264.172).

PFF will only receive containers made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored.

B4c Management of Containers (40 CFR 264.173)

Waste containers, from the time they are received at PFF, are kept closed during storage, except when samples are being taken. The wastes stored in drums are stacked no more than two drums high or for smaller containers, in stacks no more than 6 feet high.

The waste containers are adequately separated to allow inspection and with aisle space sufficient for forklift operation. (See Figure 10)

All fiberboard containers are stored on pallets to prevent contamination of these containers in the event of a spill. The storage area is sloped to prevent any containers from being subjected to standing hazardous waste in the event of a spill in the container storage area.

B4d Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Waste
40 CFR 264.177(b)

PFF will manage ignitable and reactive waste in accordance with the following procedures. Incompatible wastes, or incompatible wastes and materials will not be placed in the same container or in an unwashed container unless precautions are taken to prevent reactions which could:

- Generate extreme heat or pressure, fire or explosions or violent reactions;
- Produce uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health or the environment;
- Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
- Damage the structural integrity of the device or facility;
- Through other like means threaten human health or the environment.
- Any release of hazardous waste from containers to the environment, unless the quantity is less than or equal to five (5) gallons and the spill is immediately contained and cleaned up, will be reported to the FDEP within 24 hours of its detection. A report of a release in excess of the RQ as specified in 40 CFR Part 302 will satisfy this requirement.

Ignitable or reactive wastes are either stored in closed containers or closed top tanks in order to prevent accidental ignition or reaction. Incompatible wastes are separated and ignitable/reactive wastes are protected from sources of ignition or reaction. Activities that could produce open flames, hot surfaces, frictional heat, sparks, spontaneous ignition or radiant heat will not occur in the vicinity of ignitable wastes.

B5 Inspection Schedule (40 CFR 264.17 and 264.15)

A detailed inspection log is maintained for the container management area. Inspections are performed on a weekly basis and in most instances each operating day. Additional detailed inspection procedures are located in Appendix D, Operating Quality Procedure 003G (Facility Inspection Plan).

B6 Container Closure Plan (40 CFR 264.178)

Most hazardous wastes stored at PFF are processed for final disposal at an off-site facility, selected waste may be recycled by distillation. In the event a decision is made to close PFF the following steps will be taken:

B6a PFF will stop receiving new waste.

B6b PFF will process all existing wastes stored in containers on-site.

B6c The processed wastes will be manifested and shipped off-site to a RCRA TSD facility.

B6d All empty containers will be disposed of through an authorized drum recycler/disposal facility. Process equipment will be triple rinsed and the rinse water tested for Appendix VIII constituents. The rinse water will be treated on-site or shipped to an off-site processor.

B6e Containment structures will be decontaminated using high pressure water containing (if deemed necessary) non-phosphate detergent solution or containment structures will be decontaminated using another suitable method. The wash water will be collected and managed in accordance with state and federal regulations. The structure will then be rinsed twice; rinsate will be collected and managed in accordance with state and federal regulations. The final rinsate from the containment structure will be analyzed, and when Appendix VIII constituent levels are below clean closure standards and no visible residues remain on the containment structure, the structure will be deemed to be decontaminated. The containment structure (asphalt and concrete) will be examined for evidence of cracks, gaps or release of hazardous constituents. The containment structure may be retained for service other than for hazardous waste management if the integrity of the structure is deemed acceptable. If staining is observed, PFF will collect concrete chip samples for analysis; the test method conducted will be selected based on the constituents managed in the unit. The number of samples will be determined by the extent of staining observed on the containment structure.

If the examination identifies areas of suspect integrity, soil evaluation will be conducted. Soil samples will be preferentially collected from those areas associated with suspect integrity of the containment system. Soil evaluation will be conducted in accordance with Section K-4, Soil Evaluation Procedures.

Clean Closure Standard

The clean closure criteria will be based on constituents of concern in soils not exceeding Method Detection Limits (MDL) for non-metal constituents, Florida Primary Drinking Water Standards (FPDWS) for metal constituents, or background (for all constituents), whichever is greater. Specific tests conducted will be appropriate to the constituents of concern which will include all 40 CFR 261 Appendix VIII constituents which have been stored at PFF. Background samples will be obtained from 3 locations on-site considered unaffected by facility operations. These samples will be taken at a depth of 0.5 to 1.0 feet using a US EPA sampling method¹ or equivalent method. Should ground water monitoring be deemed essential due to evidence of soil contamination, ground water cleanup criteria will be established based on MCLs or background concentrations.

Closure Notification and Schedule of Closure

PFF will notify the Regional Administrator in writing at least 45 days prior to the date on which final facility closure is expected to begin.

Certification of Closure will be submitted to EPA Regional Administrator when closure is completed. This Certification will be completed by both PFF and an independent registered professional engineer certifying that PFF has been closed in accordance with the specifications in the approved Closure Plan.

The closure schedule is presented in Section K5

PFF will complete final facility closure operations within 180 days of receiving the final volume of hazardous waste unless an extension of the closure period has been approved by the Regional Administrator

¹ January 1991. Compendium of ERT Soil Sampling and Surface Geophysics Procedures. EPA/540/P-91/006, United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, DC 20460 (Section 2.0, Soil Sampling SOP #2012).

TANKS

C1 Description of Tank

Perma-Fix of Florida, Inc. (PFF), operates one 3,000 gallon tank constructed of ¼" carbon steel. The tank is a horizontal above ground storage tank built in 1983 and suitable for storage of flammable liquids. The tank material, construction and operating pressure are such that it will not collapse or rupture under normally expected operating conditions. The tank foundation is 2000 psi concrete and capable of supporting the tank and its 3,000 gallons of liquid. The tank was constructed in the Spring of 1983 and installed (see Figure 15) September 1, 1983. The tank operates at ambient temperature and at atmospheric pressure. The tank will contain permitted wastes. The height of liquid in tank is at a maximum 4 feet.

C2 Dimensions and Capacity

PFF maintains a bulk storage tank of 3,000 gallon capacity as an integral part of PFF. This ¼" thick (21' long x 5' diameter) carbon steel tank is above ground and horizontal.

C3 Description of Safety Systems and Controls

The tank is outfitted with an inspection port, an overflow indicator and a temperature gauge.

C4 Diagram of Piping, Instrumentation and Process Flow

The bulk tank operation is outlined in Appendix D, Operating Quality Procedure 004R (Bulk Tank and Loading). A tank process flow diagram is presented in Figure 16.

C5 Tank Corrosion and Erosion

The 3,000 gallon tank is designed for the designated liquids and no significant corrosion is expected. The tank is well supported and in a concrete containment area within a building to minimize potential weathering (see Figure 12). The containment structure is capable of retaining 150% the entire tank content.

C6 New Tank Systems

Not Applicable

C7 Secondary Containment

This tank is housed in a covered concrete above-ground containment structure capable of holding 150% the entire contents of the 3,000 gallon bulk tank in the event of rupture. The containment structure is equipped with a sloped floor leading to a sump. This sump has a permanently mounted transfer system to enable the removal of liquids as necessary.

The containment area is compatible with the waste streams to be stored, and is checked each operating day for any leakage from the tank. Any tank leakage will be pumped into containers or returned to the tank immediately, to minimize the possibility of migration into the concrete by any hazardous waste.

C8 Variance from 264.193

Not Applicable

C9 Spills and Overflow Protection

The tank infeed lines are utilized only in a batch mode and not prone to fluid losses. Detailed inventory logs are maintained for each process batch with any potential losses occurring in the transfer of fluids being readily identified. The overflow protective device is interlocked to the fluid infeed system to prevent overfilling. Should overfilling be attempted, the tank has a high level alarm which shuts off the feed pump when the tank reaches 90% capacity. The infeed system will not function and an alarm will sound. The bulk tank is compatible with the flammable liquids and is permanently grounded via a specially installed grounding system.

Transfer of waste from the 3,000 gallon tank to tank trucks is monitored by personnel for potential leaks and spills. Waste is transferred from the tank to the transport tanker using a flexible hose and portable pump system; cam-lock systems attach the hose at both ends and are taped for security during transfer operations. Hoses are drained after each use to prevent spills from the transfer line.

C10 Ignitable, Reactive or Incompatible Wastes in Tanks

The 3,000 gallon storage tank is a dedicated tank and can only receive LS fluids or other compatible wastes. PFF operating procedures including waste characterization prior to acceptance and evaluation upon arrival at PFF are designed to prevent the addition of incompatible wastes which could cause failure of the tank system.

Specifically, PFF will not place incompatible wastes, or incompatible wastes and materials in the same tank unless the requirements of 40 CFR 264.17(b) are complied with; wastes designated as D002 will not be managed in the facility tank system. Waste is stored in such a way that it is protected from any material or condition that may cause the waste to react or ignite. The tank content is tested prior to each shipment for disposal. The fluids pumped into and out of the tank are of controlled through the manifold system. (see Appendix F, Waste Analysis Plan).

C11 Inspection Schedule

The storage tank, containment berm, pumps and associated pipings are included in the routine inspection schedule. See Appendix D for Operating Quality Procedure 003G (Facility Inspection Plan).

C12 Tank Closure Plan

Prior to complete facility closure or partial tank closure the following steps will be taken:

C12a PFF will cease pumping of additional waste into the tank.

C12b PFF will contact an EPA permitted TSD facility and ship tank contents with appropriate manifest for appropriate management.

C12c PFF will clean and decontaminate the pump piping and tank by washing with high pressure water and surfactant (if necessary). Continue cleaning until the rinse water shows Appendix VIII constituent below clean closure standards.

C12d PFF will drain tank and ship rinse liquids to appropriate TSD or industrial waste facility.

C12e Containment structures will be decontaminated using high pressure water containing (if deemed necessary) non-phosphate detergent solution or containment structures will be decontaminated using another suitable method. The wash water will be collected and managed in accordance with state and federal regulations. The structure will then be rinsed twice; rinsate will be collected and managed in accordance with state and federal regulations. The final rinsate from the containment structure will be analyzed, and when Appendix VIII constituents levels are below clean closure standards and no visible residues remain on the containment structure, the structure will be deemed to be decontaminated.

If staining is observed, PFF will collect concrete chip samples for analysis; the test method conducted will be selected based on the constituents managed in the unit. The number of samples will be determined by the extent of staining observed on the containment structure. The containment structure may be retained for service other than for hazardous waste management if the integrity of the structure is deemed acceptable. If the examination identifies areas of suspect integrity, soil evaluation will be conducted. Soil samples will be preferentially collected from those areas associated with suspect integrity of the containment system. Soil evaluation will be conducted in accordance with Section K4, Soil Evaluation Procedures.

Closure Notification and Schedule of Closure

PFF will notify the EPA Regional Administrator in writing at least 45 days prior to the date on which final facility closure is expected to begin. A closure schedule is provided in Section K5.

C13 Response to Leaks or Spills

Should there be a leak or spill from the storage tank and/or its secondary containment, the following will be performed:

C13a PFF will immediately stop flow to the tank.

C13b All released material will be removed at the earliest practicable time.

C13c PFF will prevent further migration of the leak or spill.

C13d In accordance with 40 CFR 264.196(d), any release of hazardous waste to the environment, unless the quantity is less than or equal to one (1) pound and the spill is immediately contained and cleaned up, will be reported to the FDEP within 24 hours of its detection. A report of a release in excess of the RQ as specified in 40 CFR Part 302 will satisfy this requirement.

C13e A written report in accordance with the requirements of 40 CFR 264, 196(d)(3) will be sent to the FDEP within 30 days of such occurrence.

C13f PFF will perform the repairs, or provide secondary containment, as required, prior to returning the tank system to service.

C13g If repairs are extensive, PFF will obtain a certification from an independent, qualified, registered professional engineer prior to returning the tank system to service. Within seven (7) days of the tank system returning to service, a copy of such certification will be sent to the FDEP.

CLOSURE PLAN

K1 The general facility information can be found in Part II Section A, B and C of this application.

PFF will maintain a copy of the approved closure plan and all revisions to the plan on-site until the certification of closure completeness has been submitted to and approved by the Department.

This written plan for closure of hazardous waste management units will be amended, and written notification of or request for a permit modification to authorize the change in the approved closure plan will be submitted to the department, whenever:

- Changes in operating plans or facility design affect the closure plan; or
- In conducting partial or final closure activities, unexpected events require a modification of the approved closure plan.

PFF will submit the notification or request for a permit modification including a copy of the amended closure plan, for approval by the Department, at least **sixty (60) days** prior to the proposed change in facility design or operation, or no later than **sixty (60) days** after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, PFF will request a permit modification no later than **thirty (30) days** after the unexpected event.

In accordance with FAC 62-730.260, PFF will submit a closure permit application to the Department at least 180 days before final facility closure is anticipated to begin. A closure schedule is provided in Section K5. PFF will close hazardous waste tank and container management units in accordance with this closure plan unless an alternate partial or final closure plan has been approved by the Department. In accordance with 40 CFR 264.112(e), this closure plan shall not preclude PFF from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

K1a A description of the closure of the container storage area is located in Section B6 of Part II, Containers. A description of the closure of the tank unit is located in Section C12 of Part II, Tanks.

K1b Closure of both the container and the tank units will be conducted such that no post-closure care should be necessary. See Section B6 and C12 of Part II for closure standards for containers units and tank systems.

In the event that complete decontamination cannot be achieved for either unit, a closure/post closure plan will be submitted to the FDEP. If excavation of contaminated soil (additional to that described in section E4) and/or groundwater monitoring is necessary, PFF will revise this closure plan accordingly.

K1c The maximum number of containers of hazardous waste on-site will be 1,311 - 55 gallon containers or the equivalent volume. During the closure of container storage units the containers of waste will be loaded on trucks and sent for incineration at an EPA approved disposal facility, sent to an approved facility to be reused as fuel or to an alternate TSD facility as appropriate. The bulk tank will be emptied into a tanker and sent to a cement kiln for reuse as fuel.

K1d The container storage area will be pressure cleaned and the rinsate collected for disposal. The soil sampling and criteria are presented in Section K4. The tank will be decontaminated using high pressure spray and sampled in accordance with the Closure Plan located in Section C12c of Part II, Tanks.

K1e All other activities are described in Section B6 of Section II, Containers for the container storage unit and all other activities are described in Section C12 of Section II, Tanks for the tank unit.

K1f The closure schedules can be found in Section K5.

K1g In accordance the requirements of 40 CFR 264.115, PFF will submit to the department, by registered mail, a certification that the hazardous waste facility, has been closed in accordance with the specifications in the approved closure plan. The certification, to be submitted within 60 days of the completion of final closure, will be signed by PFF and by an independent registered professional engineer.

K1h Ancillary structures such as the loading/unloading areas, transfer facility, can crusher, etc. will be closed using the same procedures utilized for the storage tank and drum storage area. The ancillary structures will be triple rinsed utilizing pressure cleaning. The rinsate will be collected for disposal. To demonstrate clean closure, the final rinsate from each structure will be analyzed for Appendix VIII constituents storage or processed in the respective areas. Each structure will be closed when the clean closure standards identified in Section B6e are achieved.

K2 Post Closure Plan

A Post Closure Plan is not required at this time. However, if "clean closure" in accordance with 40 CFR 264.197(b) cannot be achieved for closure of the tank system, then PFF will submit a closure/post closure plan in accordance with the requirements of for landfills (§264.310).

K3 Previous Permit Application

Revised Closure Plans are included in this application.

K4 Soil Evaluation Procedures

K4a Background Sample

Background samples will be obtained from 3 locations on-site considered unaffected by facility operations. These samples will be taken at a depth of 0.5 to 1.0 feet using a US EPA sampling methods' or equivalent method. Analyses will be chosen to measure levels of constituents of concern constituents of concern will include all 40 CFR 261 Appendix VIII constituents which have been stored at PFF.

K4b Soil Sampling

All visible contaminated soil will be removed (if any), evaluated for Appendix VIII constituents, and managed in accordance with state and federal regulations. After removal of visually contaminated soil (if any), soil samples will be taken at a depth of 0.5 to 1.0 feet using a USEPA sampling method' or equivalent method. In addition to sample locations selected in areas with visible contamination (where applicable), soil samples will be collected on a 25 foot grid around areas of visible contamination for analysis.

Analyses will be chosen to measure levels of constituents of concern; constituents of concern will include all 40 CFR 261 Appendix VIII constituents which have been stored at PFF.

K4c Clean Criteria

Clean closure criteria will be based on levels of constituents of concern in soils not exceeding MCLs Method Detection Limits (MDL) for non-metal constituents, Florida Primary Drinking Water Standards (FPDWS) for metal constituents, or background (for all constituents), whichever is greater. Specific tests conducted will be appropriate to the constituents of concern which will include all 40 CFR 261 Appendix VIII constituents which have been stored at PFF. If soil does not meet these conditions, an additional 0.5 feet of soil will be removed and evaluation will be repeated. PFF will repeat this sequence until the clean criteria are satisfied. Soil will be removed or otherwise managed in accordance with the requirements of 40 CFR 262.

¹ January 1991. Compendium of ERT Soil Sampling and Surface Geophysics Procedures. EPA/540/P-91/006, United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, DC 20460 (Section 2.0, Soil Sampling SOP #2012).

Section K5. Closure Schedule

Closure Activity	Days Elapsed
Submittal of Closure Permit Application in accordance with FAC 62-730.260 to the Department.	- 180
Notification in writing to the Department of intent to begin closure activities.	-45
Receipt of known final volume of hazardous waste into container or tank management unit or receipt of Department approval of closure plan, whichever is later ¹ .	0
Begin treatment and/or removal all hazardous wastes from container or tank management unit(s) ² .	30
Complete treatment and/or removal of all hazardous wastes from container or tank management unit(s).	90
Complete removal and (if necessary) decontamination of ancillary equipment, tanks, and empty containers.	120
Complete decontamination of secondary containment structures.	135
Conduct visual investigation for evidence of contamination of surrounding/underlying soil and (if necessary) begin soil sampling/remediation activities.	150
Complete final closure activities.	180
Submit certification to the Department (by PFF and independent registered professional engineer) that the hazardous waste management unit/facility has been closed in accordance with the specifications of the approved closure plan ³ .	240



PERMA-FIX OF FLORIDA, INC.
Part II/Specific
Closure

-
- ¹ If an unexpected event during closure of a hazardous waste management unit requires modification of the approved closure plan, PFF will request a permit modification within 30 days of the unexpected event.
 - ² In the event that there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, PFF will initiate closure activities no later than one year after the date on which the unit received the most recent volume of hazardous waste as specified under 40 CFR 264.112(d)(2).
 - ³ Requirements for inspection and certification by an independent engineer don not apply to partial closure activities.



PERMA-FIX OF FLORIDA, INC.
Part II/Specific
Certification

CERTIFICATION

P1 Application for a Hazardous Waste Facility Permit Certification

See Appendix G.



PERMA-FIX OF FLORIDA, INC.
Part II/Specific
RFA

Q RCRA FACILITY ASSESSMENT

See Appendix H.



PERMA-FIX OF FLORIDA, INC.
Part II/Specific
Process Vents

R PROCESS VENTS

R1 Subpart AA

Perma-Fix of Florida, Inc. (PFF) does not currently operate any units subject to the Air Emission Standards for Process Vents in accordance with 40 CFR Subpart AA.



PERMA-FIX OF FLORIDA, INC.
Part II/Specific
Requirements for Equipment

S REQUIREMENTS FOR EQUIPMENT

RCRA TSDF Air Rules:

The Environmental Protection Agency (EPA) has promulgated standards that limit organic air emissions from waste management units at hazardous wastes treatment, storage or disposal facilities which require a permit under Subtitle C of RCRA. In June of 1990¹, EPA promulgated standards for process vents and equipment leaks (40 CFR Subparts AA and BB respectively). Additional RCRA standards were promulgated in December of 1994² to control emissions from tanks, surface impoundments and containers (40 CFR Subpart CC). Perma-Fix of Florida, Inc. (PFF) operates some tank and container management units, as well as certain equipment, which will be subject to these requirements on June 6, 1996. See Section R for information regarding Process Vents.

S1 Subpart BB Requirements:

Some equipment ancillary to tank and container management practices (subject to the permitting requirements for containers under 40 CFR 270.15) is in service for hazardous waste with organic concentrations of at least ten (10) percent by weight. This equipment will be subject to the Air Emission Standards for Equipment Leaks in accordance with 40 CFR Subpart BB. PFF will develop and maintain the information required under 40 CFR 264.1064 in the facility operating record.

S2 Subpart CC Requirements:

The requirements of 40 CFR Subpart CC will apply to tank and container units which manage hazardous waste with average volatile organic (VOC) concentrations exceeding 100 ppmw; VOC concentrations are determined by knowledge of the waste by analysis of the waste using EPA Method 25D. PFF has determined that certain tank and container management units on-site will be subject to the Air Emission Standards for Tanks, Surface Impoundments, and Containers in accordance with 40 CFR Subpart CC.



PERMA-FIX OF FLORIDA, INC.
Part II/Specific
Requirements for Equipment

The effective date for implementation of the requirements of 40 CFR Subpart CC is December 6, 1995. As of that date, PFF will have developed an implementation schedule for installation of controls for tank and container units subject to this rule. The implementation schedule shall provide that the required controls will be installed as soon as possible but not later than December 8, 1997.

¹ 55 FR 25454, June 21, 1990 (as amended).

² 59 FR 62896, December 6, 1994 (as amended).

Revision Number	
Date	
Page	of

**APPLICATION FOR A HAZARDOUS WASTE FACILITY PERMIT
PART I - GENERAL
TO BE COMPLETED BY ALL APPLICANTS**

Please Type or Print

A. General Information

1. Type of facility:

Disposal	<input type="checkbox"/>			
landfill	<input type="checkbox"/>		land treatment	<input type="checkbox"/>
surface impoundment	<input type="checkbox"/>		miscellaneous units	<input type="checkbox"/>
Storage	<input checked="" type="checkbox"/>			
containers	<input checked="" type="checkbox"/>		tanks	<input checked="" type="checkbox"/>
piles	<input type="checkbox"/>		surface impoundment	<input type="checkbox"/>
miscellaneous units	<input type="checkbox"/>		containment building	<input type="checkbox"/>
Treatment	<input checked="" type="checkbox"/>			
tanks	<input type="checkbox"/>		piles	<input type="checkbox"/>
incineration	<input type="checkbox"/>		surface impoundment	<input type="checkbox"/>
miscellaneous units	<input checked="" type="checkbox"/>		boiler/industrial furnace	<input type="checkbox"/>
type of unit	<u>Drums</u>		type of unit	<u></u>
	<u>Totes</u>		containment building	<input type="checkbox"/>
	<u>Tankers</u>			

2. Type of application: ☐ TOP ☐ construction ☒ operation ☐ closure ☐ RD&D
☐ construction/operation

3. Revision Number: N/A

4. Date current operation began (or is expected to begin): October 1983

5. Facility name: Perma-Fix of Florida, Inc.

6. EPA/DEP I.D. No.: FLD-980-711-071

7. Facility location or street address: 1940 N.W. 67th Place

8. Facility mailing address: Gainesville FL 32653
Street or P.O. Box City State Zip

The attached inspection forms are maintained DAILY and retained for audit.

- The bulk tank and its associated containment are to be inspected daily. The overall functioning and protective measures should be noted. Additionally, the presence of spilled fluids must trigger a review of the cause and the fluid is recovered. Precipitation in the sump should be removed.

The attached Bulk Tank Inspection Form is maintained daily and retained for audit.

- Additional inspections as noted on the Operating Inspection Log will be performed at least every month and records maintained for audit.

5.2 Inspection Performed by the CO

The CO will perform inspections of those items and areas as found in the Quarterly Inspection Log. The CO may perform additional reviews and audits as deemed necessary.

5.3 Testing and Maintenance Procedures for Emergency Equipment

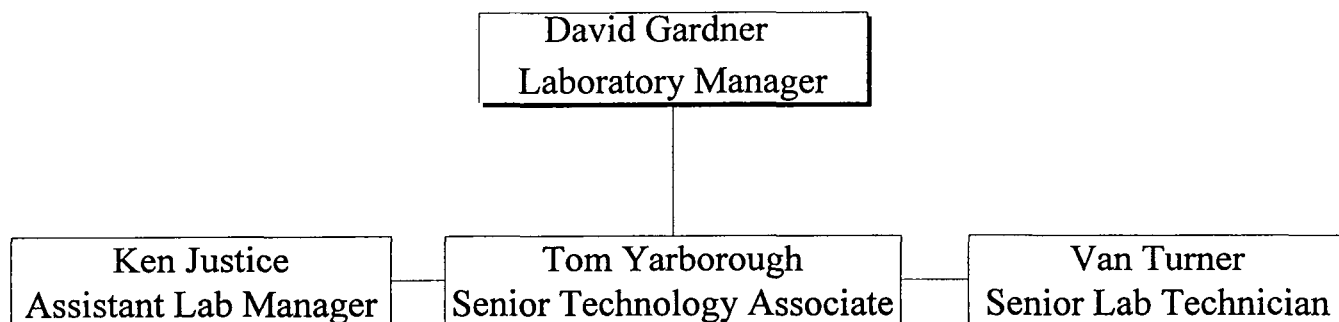
All emergency equipment listed in the Emergency Equipment list section of the Contingency Plan are inspected at least quarterly. The absorbent materials, first aid supplies, and tools will be inspected to ensure that there are sufficient quantities on hand and these materials are in condition for use. The fire extinguishers will be inspected to determine that there is an adequate supply of the extinguishing media. This is accomplished by checking the gauges on each extinguisher to ensure that the extinguishers are full.

6.0 ATTACHMENTS AND REFERENCES

- Daily Inspection Sheet (Zone 1-4)
- Bulk Tank Inspection Log
- Inspection Log (Monthly)
- Inspection Log (Quarterly)
- Loading/Unloading Area Daily Inspection Sheet



Perma-Fix Analytical Services



[PMT-Lab / 2-8-96]

1940 N.W. 67TH PLACE • GAINESVILLE, FL 32653 • TEL. (904) 373-6066 • FAX (904) 372-8963

EPA-PERMITTED TSD FACILITY • HAZARDOUS WASTE • NON-HAZARDOUS WASTE • MIXED WASTE





PERMA-FIX OF FLORIDA, INC.
1940 N.W. 67th Place
Gainesville, FL 32653-1692

WASTE ANALYSIS PLAN
FOR
PERMA-FIX OF FLORIDA, INC.

EPA Identification Number: FLD 980 711 071



PERMA-FIX OF FLORIDA, INC.
1940 N.W. 67th Place
Gainesville, FL 32653-1692

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PERMA-FIX OF FLORIDA, INC.
1940 NW 67th Place
Gainesville, FL 32653-1692

Perma-Fix of Florida, Inc. (PFF) is a commercial waste TSD facility which accepts non-hazardous waste, listed hazardous waste, and characteristic hazardous waste for on-site management. Hazardous waste management units on-site include one hazardous waste tank, container management units, and process units associated with tank and container management. The facility also manages non-hazardous industrial wastes and mixed wastes (in accordance with a license issued by the Florida Department of Health and Rehabilitative Services). The information in this Section provides physical and chemical descriptions of the wastes stored by PFF which provides the basis for this Waste Analysis Plan (WAP). Waste characterization procedures have been designed to comply with the requirements of 40 CFR 270.14(b)(3), 40 CFR 246.13(a), and Florida Administrative Code, Title 62, Chapter 62-730 administered by the State of Florida Department of Environmental Protection (FDEP).

I. WASTE CHARACTERISTICS - CHEMICAL AND PHYSICAL ANALYSIS:

Process codes and capacity for hazardous waste stored on-site are identified in Section WAP-1, page 14. Specific hazardous waste, hazardous waste codes and basis for listing are provided in Section WAP-3, page 16. Operations at PFF include fuel blending and other waste management, land disposal does not occur at the site. As they develop, the Land Disposal Restrictions (LDRs) are incorporated into the operating system.

Analytical methods have been selected and analytical protocols developed to provide sufficient information to facilitate successful management of hazardous wastes accepted for management on-site. Information gathered in accordance with the facility WAP is maintained in the operating record for a minimum of three (3) years.

I.A. CONTAINERIZED WASTE:

Compatibility of waste with containers, containment systems for container storage areas, and container sampling and analysis information is discussed in the following paragraphs.

Incompatible wastes, or incompatible wastes and materials will not be placed in the same container unless the precautions outlined in Section II.F., page 12 are taken. Hazardous waste will not be placed in an unwashed container that previously held an incompatible waste or material unless the same precautions are taken. Care is taken to store only waste that is compatible with the container material.

Liquid hazardous wastes will be stored in container storage areas equipped with secondary containment. The locations of container storage areas are shown in WAP-6, page 37, Facility Layout and Loading Areas.

Standard facility waste sampling protocol (for waste acceptance) required that a minimum percentage of the containers in a shipment will be sampled, and if applicable, composited for analysis. For shipments of one hundred containers or more, the sampling percentage is ten percent (10%); twenty (20%) of containers will be sample for shipments of less than 100 containers. "Grab samples from a single waste stream may be consolidated as a "composite samples" for analysis. If analytical results of a composite do not meet pre-acceptance parameters, individual containers will be sampled for analysis to identify potential problem containers of the waste stream. Standard facility waste acceptance protocol is waived for lab pack wastes, transshipped wastes, discarded commercial products and site-generated wastes.

I.B WASTE IN TANK SYSTEM:

Compatibility of wastes with the tank system, sampling, and analysis information is discussed in the following paragraphs.

Ignitable or reactive waste will be stored or processed in such a way that it is protected from any material or conditions that may cause the waste to ignite or react. In addition, incompatible wastes, or incompatible wastes and materials will not be placed in the same tank system unless the precautions outlined in Section II.F., page 12, are taken.

Hazardous waste will not be placed in a tank system that previously held an incompatible waste or material and that has not been decontaminated unless the precautions outlined in Section II.F., page 12, are taken.

Bulk sampling methods are designed to provide a representative sample of the waste. Analytical methods, outlined in Sections II.A. and II.B., page 3, have been chosen or developed to provide the information required for appropriate waste management. Specific sampling methods are discussed in Section II.C., page 4.

II. WASTE ANALYSIS PLAN:

The PFF WAP incorporates procedures for three objectives:

- 1) Those analyses performed by or at the request of PFF to determine whether a waste will be accepted from off-site generators;
- 2) Those analyses used to confirm the identity of wastes when received; and
- 3) Possible additional analyses to determine ultimate reuse, recycling or final disposition.

PFF may accept any RCRA hazardous waste, as defined in 40 CFR 261 (and identified in Section WAP-3, page 16, of this document) for storage and/or processing. Additionally, non-hazardous industrial wastes (not subject to RCRA regulation) and mixed wastes (in accordance with a license issued by the Florida Department of Health and Rehabilitative Services) are managed on-site. Additional information regarding waste analysis parameters and rationale, test methods, sampling methods, and frequency of analysis as well as additional requirements for wastes generated off-site and for ignitable, reactive, or incompatible wastes are addressed in the sections below.

II.A. PARAMETERS AND RATIONALE: 264.13(b)(1)

PFF has selected physical and chemical waste analysis parameters to facilitate safe hazardous waste handling practices as well as sound tank and container management practices at the facility. The waste analysis parameters selected and their rationale for selection are shown in Section WAP-5, page 35, Waste Analysis Parameters, Rationale, and Applicability. The parameters identified in Section WAP-5 are those methods currently utilized or methods which may be utilized by PFF. Additional or equivalent methods may be used at the discretion of PFF; "methods of record" and associated analytical results (as applicable to hazardous waste management) will be maintained in the operating record for a minimum of three (3) years.

II.B. TEST METHODS:

Analytical methods used by PFF are standard laboratory methods or are methods developed specifically for waste management on-site. The physical and chemical waste analysis parameters for hazardous waste management in container management areas, and (where applicable) process equipment are shown in Section WAP-5, page 35, Waste Analysis Parameters, Rationale, and Applicability. The specific analytical testing method(s) which may be used for each parameter is also shown in Section WAP-5.

Before approving wastes for management at the facility, PFF conducts a preliminary evaluation to determine whether or not the material is suitable for management at the facility. Material Safety Data Sheets (MSDS), analytical results (if available), or the waste profile information for the prospective wastes stream will be evaluated. The generator (or the generator's representative) is usually required to submit a representative sample of the waste stream for analysis¹. However, the requirement for submittal of a waste sample may be waived if adequate information regarding the characteristics of the waste is provided; e.g., analytical data from a commercial laboratory, MSDS or profile information from a permitted TSDF, etc.

Specific information regarding pre-acceptance procedures is presented in Section II.E.1., page 5, PFF personnel will evaluate the data (profile) provided by the generator to determine if the waste is suitable for management at the facility.

II.C. SAMPLING METHODS:

Off-site generators are responsible for collecting representative samples of their waste streams; however, PFF staff or waste brokers may perform this service for the generator. PFF recognizes the importance of collecting a representative sample (as defined in 40 CFR 260) of each waste stream and (on request) recommends appropriate liquid sampling methods specified in 40 CFR 261, Appendix I or an equivalent sampling method. Sampling devices may be weighted bottles, dippers, coliwassas, triers or other equivalent devices and selection is dependent on the characteristics of waste to be sampled. Standard facility sampling protocol is described in Section II.E.3., page 9.

II.D. FREQUENCY OF ANALYSIS:

The initial waste profile (for currently managed waste streams) will be evaluated and recertified annually. If a generator can certify that the chemical and physical characteristics and the process generating the waste have not changed over the past year, the initial waste analysis requirements (if applicable) do not need to be repeated. A periodically shipped waste will be recertified with the first shipment after the annual recertification date.

¹ Laboratory analyses may be performed in the PFF laboratory, by an off-site commercial laboratory, or at the Perma-Fix Corporate Laboratory located in Gainesville, Florida.

Recertification may not be performed for inactive generators; the recertification will be required to re-activate the waste acceptance profile for wastes which have not been shipped to the facility during the preceding twelve month period. Recertification documentation will be maintained in the operating record for a minimum of three (3) years. If the generator cannot make this certification, a waste re-characterization (profile) must be provided for the waste analysis parameters.

A wastestream re-characterization will occur when a generator notifies PFF that a process or operation generating the waste has changed. In the event PFF has reason to believe that the process or operation generating the waste has changed without notice from the generator, a re-characterization request will be made. The results will be submitted to PFF before additional waste can be accepted from the generator.

In the event that the "fingerprint analysis"² of a waste (as outlined in Section II.E., below) indicates that the waste received at the facility does not agree with the waste acceptance profile described by the manifest, the generator may characterize the waste by providing a completed waste profile and/or appropriate analysis.

For certain emergency response situations and generator spills, some of the initial waste analysis parameters for on-site management (Section WAP-5, page 35, Waste Analysis Parameters, Rationale, and Applicability) may be waived. This will only occur if the generator can adequately make the hazardous waste determination of 40 CFR 262.11. All available analytical data and supporting MSDSs will be evaluated prior to receipt of the waste at the facility. Upon arrival of the waste on-site, additional testing may be performed at the discretion of PFF.

II.E. ADDITIONAL REQUIREMENTS FOR WASTES GENERATED OFF-SITE:

II.E.1 PRE-ACCEPTANCE PROTOCOL:

Before approving wastes for management at the facility, PFF conducts a preliminary evaluation to determine whether or not the material is suitable for management at the facility.

²

The "fingerprint" is the group of tests conducted for each waste stream type in the "acceptance" phase of waste management.

Material Safety Data Sheets (MSDS), analytical results (if available) or other information for the prospective wastes stream (the waste profile) will be evaluated. The generator (or the generator's representative) may be required to submit a representative sample of the waste stream for evaluation. However, the requirement for submittal of a waste sample may be waived if adequate information regarding the characteristics of the waste is provided; e.g., analytical data from a commercial laboratory, MSDS for off-specification/post-dated chemicals, profile information from an affiliated or permitted TSDF, etc.

Prior to accepting a waste at the facility, a form summarizing waste characteristics as shown in Section WAP-4, page 32, Waste Profile Document is required to be completed by the generator for each hazardous waste stream. In addition to the profile, the generator will attach any previously performed analytical data, all applicable MSDSs, etc. The generator may use knowledge of process or laboratory analysis to complete this form. The completed profile will allow PFF to make a preliminary evaluation regarding the acceptability of the waste and will provide preliminary basic information enabling PFF to successfully manage hazardous waste in accordance with the requirements of 40 CFR Part 264. The profile also identifies wastes subject to the LDRs as specified in 40 CFR Part 268.

II.E.2 ACCEPTANCE PROTOCOL:

Upon arrival of a hazardous waste at PFF, a visual inspection is conducted and compared to data contained on the profile sheet for consistency and color. Based on this visual inspection, the PFF personnel may reject the shipment or take samples for fingerprint analysis. After this visual inspection, a sample of the waste or a composited sample of the waste stream for "fingerprint" analysis on-site.

Containers will be managed as appropriate for the material manifested while sampling is conducted. Containerized wastes will be moved to appropriate storage areas or placed in portable containment units if fingerprint analysis identifies any compatibility problems. PFF acceptance procedures are designed to ensure that hazardous waste received at the facility matches the identity of the waste on the accompanying manifest.

Upon arrival of an incoming waste load to the facility, the truck driver delivers the manifest and accompanying shipping papers to "receiving" personnel. The specific generator waste analysis profile is then obtained and reviewed.

The manifest is then inspected for completeness and correctness in accordance with 62-730.160(4), FAC, all required items of the Uniform Hazardous Waste Manifest will be completed. All required information on the manifest will be checked including the following items:

- The manifest document number and page number
- The generator's name, address, and EPA ID number;
- Each transporter's name and EPA ID number;
- The primary TSDF, address, EPA ID# and an alternative TSDF, address, and EPA ID number (if applicable);
- DOT shipping name, hazard class and UN/NA number;
- The quantity/volume of waste;
- A signed and dated certification of the shipment's contents by the generator;
- A signed and dated transporter 1 and 2 block (if necessary);
- For hazardous wastes, a complete LDR notification/certification form.

The shipment of waste is then inspected, visually, for the following information:

- The number and type of containers anticipated from manifest information;
- Shipment labels in accordance with information on the manifest;
- Significant dents, leaks, container condition, visible contamination, correct and legible labels or other irregularities with the shipment.
- All information required by the State of Florida (as applicable).

PFF receives hazardous waste in accordance with the requirements of Subpart E of 40 CFR Part 264. When hazardous waste accompanied by a manifest is received on-site, PFF will:

- Sign and date each copy of the manifest to certify that the hazardous waste described by the manifest was received;
- Note any **significant** discrepancies in the manifest [as defined in Sec. 264.72(a)]³ on each copy of the manifest;
- Immediately give the transporter at least one copy of the signed manifest⁴;
- Within 30 days after the delivery, send a copy of the manifest to the generator; and
- Retain at the facility a copy of each manifest for at least three years from the date of delivery.

Upon discovering a **significant** discrepancy, PFF will attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations or in person). If the discrepancy is not resolved within 15 days after receiving the waste, PFF will immediately submit to the FDEP a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

Whenever a shipment of hazardous waste is initiated from the facility, PFF will comply with the requirements of 40 CFR Part 262.

³ Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are: 1) For bulk waste, discrepancy greater than 10 percent in weight; and 2) for batch waste, any discrepancy in piece count, such as a discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

⁴ The manifest may be signed and provided to the transporter prior to completion of fingerprint analysis as specified in this WAP. When fingerprint analysis identifies a manifest discrepancy, PFF will contact the generator to resolve the discrepancy.

II.E.3 SAMPLING/ANALYSIS OF WASTE MOVEMENTS:

A representative sample of each waste stream will be taken by PFF "receiving" personnel. The sampling procedures for each waste shipment will depend on the type of material and condition of the waste. Waste sampling methods are discussed in Section II.C., page 4.

Standard facility waste sampling protocol (for waste acceptance) required that a minimum percentage of the containers in a shipment will be sampled for analysis. For shipments of one hundred containers or more, the sampling percentage is ten percent (10%); twenty (20%) of containers will be sample for shipments of less than 100 containers. "Grab samples⁵ from each container sampled will be evaluated. Standard facility waste acceptance protocol is waived for lab pack wastes, transshipped wastes, discarded commercial products and site-generated wastes. Acceptance protocols for these wastes are discussed below.

-
- ^{5.} Grab Sample - A grab sample is a representative sample obtained from a single containers or tank.

- **Lab pack wastes** - The packing list arriving with lab packs will be compared to the pre-acceptance packing list. If a discrepancy is discovered PFF will contact the generator to resolve the issue in accordance with the requirements of 40 CFR 264.72(b).
- **Transshipped wastes** - Waste acceptance for transshipped wastes will consist of verification of manifest information, container count, and container labels. In some cases, PFF may sample transshipped wastes (e.g., prior to shipment to an affiliated facility or if PFF has concerns regarding the identity of the waste).
- **Discarded commercial products** - Generator "knowledge of process" including applicable MSDSs provide adequate characterization of waste commercial products.
- **Site generated wastes** - Site generated wastes include used personal protective equipment, process residuals and incidental wastes. Waste acceptance for site generated wastes is not required. "Knowledge of process" or profile information corresponding to processed waste streams will adequately characterize these wastes for proper management. Analysis of the waste may be conducted at the discretion of PFF.

Liquid in containers will be sampled with a Coliwasa (or other suitable method). Solids and sludges in containers will be grab sampled with a trier (or other suitable method). When appropriate, composite samples will be used for "finger print" analysis for acceptance.

If standard facility sampling techniques do not provide a representative sample for analysis, an alternate method will be used. Off-site laboratories may be used at the discretion of PFF.

Fingerprint parameters are selected to screen incoming wastes to determine that the wastes received at the facility are the anticipated wastes. These parameters are normally a subset of the initial waste information (profile) that generators have provided to PFF during pre-acceptance procedures. The analyses performed on a waste will be selected to provide adequate information, to provide confirmation of waste identity, facilitate sound waste management practices on-site, and determine applicability of LDR requirements for appropriate waste management.

The results of the on-site fingerprint analysis are recorded in the operating record. The results are compared to the initial waste profile data. If the fingerprint analysis results are within acceptance tolerances of QA/QC requirements of the method, the waste received at the facility will be identified as the hazardous waste specified on the accompanying manifest, and therefore, acceptable for management. Examples of anticipated waste discrepancy could be the result of one or several factors including: 1) differences due to temperature; 2) precipitation or absorption of constituents after sampling for waste analysis data due to varying length of storage before disposal; and 3) sedimentation of solids during prolonged storage times or during transportation to the PFF facility.

Analytical results of the sample taken at the PFF facility for fingerprinting may differ somewhat from the waste analysis data provided by the generator; i.e., some range is anticipated for analytical procedures.

In the event that PFF personnel suspect that a generator approved for multiple waste streams has mislabeled the waste prior to transport, PFF will investigate the possibility that the waste has been mislabeled. If fingerprint analysis indicates results conform to the profile of an alternate approved waste stream, the waste will be accepted and appropriate waste names and numbers will be changed on the manifest (with approval from the generator).

Waste acceptance is in accordance with waste profile sheets authorized by the generator. In the event that fingerprint analysis indicates a discrepancy from the waste profile sheet beyond the standard deviation of the respective analysis, the discrepancies shall be handled in accordance with 40 CFR 264.72 which requires notification of the administrative if the discrepancy is not resolved within 15 days. The time required to complete the paperwork evaluation, sampling, analysis (if applicable), and waste shipment approval is usually within 15 working days. From the time a shipment arrives on-site, the following general timeframe is observed.



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Activity	Bulk/Containers	Elapsed Working Days
Truck arrives on-site		0
Waste sampled		
	Bulk	1
	Containers	2
Laboratory analyses		5
Resolve discrepancy		14
Shipped back to generator		15

II.E.4 SITE MANAGEMENT:

Site generated wastes includes wastes generated during waste processing or by site management practices, contaminated personal protective equipment (PPE), and clean up residuals from incidental spills. Generated solids are accumulated in containers on-site. Knowledge of process or testing may be used to determine appropriate management practices for these wastes. If a site-generated waste is determined to be hazardous, the waste will be managed in accordance with state and federal regulations (i.e., to CFR Part 262).

II.F ADDITIONAL REQUIREMENTS FOR IGNITABLE, REACTIVE OR INCOMPATIBLE WASTES:

PFF may handle ignitable wastes, as defined by 261.22(a)(1). Waste streams designated as ignitable may not exhibit the characteristic of ignitability in some shipments and (after testing) will be managed appropriately. PFF will manage ignitable and reactive waste in accordance with the following procedures. Incompatible wastes, or incompatible wastes and materials will not be placed in the same container or tank unless precautions are taken to prevent reactions which could:

- Generate extreme heat or pressure, fire or explosions, or violent reactions;
- Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;
- Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;
- Damage the structural integrity of the device or facility;
- Through other like means threaten human health or the environment.

Ignitable or reactive wastes are either stored in containers or tanks in order to prevent accidental ignition or reaction. Incompatible wastes are separated and ignitable/reactive wastes are protected from sources of ignition or reaction. Activities that would produce open flames, hot surfaces, frictional heat, sparks, spontaneous ignition or radiant heat will not occur in the vicinity of ignitable wastes.

As a safeguard for handling ignitable and reactive wastes, smoking is not allowed within the facility (except in designated areas).

Prior to co-mingling wastes in storage tanks or tankers, PFF operations personnel will use existing waste analysis information provided by the generator, and/or published literature to determine if there is a potential danger in mixing incompatible wastes.

Potentially incompatible wastes may be bench tested in the on-site laboratory.

II.G WASTE ANALYSIS PLAN AMENDMENT FOR WASTES SUBJECT TO THE LAND DISPOSAL RESTRICTIONS: 40 CFR PART 268

Disposal of hazardous waste does not occur at the PFF facility. This permit application pertains to the storage of hazardous waste in containers and tank systems. Samples may be analyzed for "fingerprint" parameters and compared to the profile sheet data (see Section WAP-5, page 35, Waste Analysis Parameters, Rational and Applicability). Discrepancy with profile sheet may lead to rejection of all or part of the shipment or to immediate consultation with the generator. If a discrepancy exists for part of or all of the shipment, the shipment may be returned to the generator, if the discrepancy cannot be resolved.



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WAP-1

Process Codes for Hazardous Waste Stored at Perma-Fix of Florida, Inc.

Process Code	Process Design Capacity	Hazardous Waste Codes	Estimated Annual Quantity
S01	72,105 Gallons	See WAP-3	See WAP-3
S02	3,000 Gallons	See WAP-3	See WAP-3

WAP-2
Fuel Compatibility

Materials:

- 1 250 ml beaker
- 1 glass stirring rod
- 1 8 oz jar with lid
- 50 ml fuel from storage tank
- 50 ml waste fuel sample

Procedures:

- 1) Measure 50 ml of fuel into a 250 ml beaker.
- 2) Add 50 ml of waste fuel sample to the 250 ml beaker.
- 3) Mix fuel and waste sample with glass stirring rod; observe result.
- 4) Pour into an 8 oz jar; shake for 60 seconds; observe immediately for results then allow 5 minutes for mixture to settle for a second observation. The tester looks for resulting criteria (i.e., vapors, temperature and pressure changes) determine compatibility.



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WAP-3

Hazardous Waste Codes and Basis for Listing

The primary hazardous properties of these materials are indicated by the following Hazard Codes:
T (Toxic), R (Reactive), I (Ignitable), C (Corrosive), E (Toxicity Characteristic), H (Acutely Hazardous).

Hazardous Waste Identified by Characteristic:

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
D001	(I)	60,000	Ignitable Waste
D002	(C)	10,000	Corrosive Waste
D004	(E)	125	Arsenic
D005	(E)	125	Barium
D006	(E)	125	Cadmium
D007	(E)	125	Chromium
D008	(E)	125	Lead
D009	(E)	125	Mercury
D010	(E)	125	Selenium
D011	(E)	125	Silver
D012	(E)	125	Endrin
D013	(E)	125	Lindane
D014	(E)	125	Methoxychlor

WAP-3

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Hazardous Waste Identified by Characteristic:

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
D015	(E)	125	Toxaphene
D016	(E)	125	2,4-D
D017	(E)	125	2,4,5-TP (Silvex)
D018	(E)	125	Benzene
D019	(E)	125	Carbon Tetrachloride
D020	(E)	125	Chlordane
D021	(E)	125	Chlorobenzene
D022	(E)	125	Chloroform
D023	(E)	125	o-Cresol
D024	(E)	125	m-Cresol
D025	(E)	125	p-Cresol
D026	(E)	125	Cresol
D027	(E)	125	1,4-Dichlorobenzene
D028	(E)	125	1,2-Dichloroethane

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Hazardous Waste Identified by Characteristic:

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
D029	(E)	125	1,1-Dichloroethylene
D030	(E)	125	2,4-Dinitrotoluene
D031	(E)	125	Heptachlor (and its epoxide)
D032	(E)	125	Hexachlorobenzene
D033	(E)	125	Hexachlorobutadiene
D034	(E)	125	Hexachloroethane
D035	(E)	125	Methyl ethyl ketone
D036	(E)	125	Nitrobenzene
D037	(E)	125	Pentachlorophenol
D038	(E)	125	Pyridine
D039	(E)	125	Tetrachloroethylene
D040	(E)	125	Trichloroethylene
D041	(E)	125	2,4,5-Trichlorophenol
D042	(E)	125	2,4,6-Trichlorophenol
D043	(E)	125	Vinyl chloride

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Hazardous Waste Codes and Basis for Listing

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Hazardous Wastes from Non-specific Sources:

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
F001	(T)	15,000	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004 and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
F002	(T)	350	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004 or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

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Hazardous Waste Codes and Basis for Listing

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Hazardous Wastes from Non-Specific Sources:

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
F003	(I)	100,000	The following spent non-halogenated solvents: Xylene, acetone), ethyl acetate), ethyl benzene), ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
F004	(T)	15,000	The following spent non-halogenated solvents: Cresols and cresylic acid, nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.



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Hazardous Wastes from Non-Specific Sources:

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
F005	(I,T)	100,000	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, and pyridine; benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
F006	(T)	10,000	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.
F019	(T)	10,000	Wastewater treatment sludges from the chemical conversion coating of aluminum.



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Hazardous Wastes from Non-Specific Sources:

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
F037	(T)	10,000	Petroleum refinery primary oil/water/solids separation sludge. Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include but are not limited to, those generated in: oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in § 261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing.
F038	(T)	10,000	Petroleum refinery secondary (emulsified) oil/water/solids separation sludge. Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units.

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Hazardous Waste Codes and Basis for Listing

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Hazardous Wastes from Non-Specific Sources:

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
F038	Continued	Continued	Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in § 261.31(b)(2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing.
F039	(T)	10,000	Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under Subpart D of this Part (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other Hazardous Wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F026, F027, and/or F028).



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Hazardous Wastes from Specific Sources:

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
K035	(T)	3,000	Wastewater treatment sludges generated in the production of creosote.
K048	(T)	3,000	Dissolved air flotation (DAF) float from the petroleum refining industry.
K049	(T)	3,000	Slop oil emulsion solids from the petroleum refining industry.
K050	(T)	3,000	Heat exchanger bundle cleaning sludge from the petroleum refining industry.
K051	(T)	3,000	API separator sludge from the petroleum refining industry.
K052	(T)	3,000	Tank bottoms (leaded) from the petroleum refining industry.
K141	(T)	3,000	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations).
K142	(T)	3,000	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.

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Hazardous Waste Codes and Basis for Listing

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Hazardous Wastes from Specific Sources:

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
K143	(T)	3,000	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal.
K144	(T)	3,000	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.
K145	(T)	3,000	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.
K147	(T)	3,000	Tar storage tank residues from coal tar refining.
K148	(T)	3,000	Residues from coal tar distillation, including but not limited to, still bottoms.
K149	(T)	3,000	Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups, (This waste does not include still bottoms from the distillation of benzyl chloride.)



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Hazardous Wastes from Specific Sources:

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
K150	(T)	3,000	Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.
K151	(T)	3,000	Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.

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**Discarded Commercial Chemical Products, Off-Specification Species, Container Residues
and Spill Residues Thereof**

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
P003	(H) 350	Acrolein	
P022	(H) 350	Carbon disulfide	
P075	(H) 350	Nicotine, and salts	

WAP-3

Hazardous Waste Codes and Basis for Listing

The primary hazardous properties of these materials are indicated by the following Hazard Codes:
T (Toxic), R (Reactive), I (Ignitable), C (Corrosive), E (Toxicity Characteristic), H (Acutely Hazardous).

**Discarded Commercial Chemical Products, Off-Specification Species, Container Residues
and Spill Residues Thereof**

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
U001	(I)	350	Ethanal; Acetaldehyde
U002	(I)	350	Acetone; 2-Propanone
U003	(I,T)	350	Acetonitrile
U004	(T)	350	Acetophenone
U012	(I,T)	350	Aniline; Benzenamine
U019	(I,T)	10,000 Benzene	
U027	(T)	350	Dichloroisopropyl ether
U029	(T)	350	Methyl bromide
U031	(I)	350	n-Butyl alcohol; 1-Butanol
U037	(T)	10,000 Chlorobenzene	
U044	(T)	350	Chloroform; Methane, trichloro
U050	(T)	350	Chrysene
U051	(T)	350	Creosote
U052	(T)	350	Cresol (Cresylic Acid); Phenol, methyl

WAP-3

Hazardous Waste Codes and Basis for Listing

The primary hazardous properties of these materials are indicated by the following Hazard Codes:
T (Toxic), R (Reactive), I (Ignitable), C (Corrosive), E (Toxicity Characteristic), H (Acutely Hazardous).

**Discarded Commercial Chemical Products, Off-Specification Species, Container Residues
and Spill Residues Thereof¹**

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
U053	(T)	350	2-Butenal; Crotonaldehyde
U055	(I)	350	Cumene; Benzene, (1-methylethyl)
U056	(I)	350	Cyclohexane
U057	(I)	350	Cyclohexanone
U068	(T)	350	Methylene bromide
U070	(T)	350	Benzene, 1,2-dichloro-; o-Dichlorobenzene
U071	(T)	350	m-Dichlorobenzene; Benzene, 1,3-dichloro
U072	(T)	350	p-Dichlorobenzene; Benzene, 1,4-dichloro
U076	(T)	350	Ethylidene dichloride
U077	(T)	350	Ethylene dichloride
U080	(T)	350	Methylene chloride
U083	(T)	350	Propylene dichloride
U108	(T)	350	1,4-Dioxane
U110	(I)	350	Dipropylamine

WAP-3

Hazardous Waste Codes and Basis for Listing

The primary hazardous properties of these materials are indicated by the following Hazard Codes:
T (Toxic), R (Reactive), I (Ignitable), C (Corrosive), E (Toxicity Characteristic), H (Acutely Hazardous).

**Discarded Commercial Chemical Products, Off-Specification Species, Container Residues
and Spill Residues Thereof¹**

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
U112	(I)	10,000	Ethyl acetate
U117	(I)	350	Ethyl ether
U121	(T)	350	Methane, trichlorofluoro
U122	(T)	350	Formaldehyde
U124	(I)	300	Furfuran; Furan
U140	(I,T)	350	Isobutyl alcohol
U154	(I)	35,000	Methanol; Methyl alcohol
U159	(I,T)	350	Methyl ethyl ketone (MEK)
U161	(I)	350	Methyl isobutyl ketone
U165	(T)	350	Naphthalene
U169	(I,T)	350	Nitrobenzene
U171	(I,T)	350	2-Nitropropane
U196	(T)	350	Pyridine
U208	(T)	350	1,1,1,2-Tetrachloroethane

WAP-3

Hazardous Waste Codes and Basis for Listing

The primary hazardous properties of these materials are indicated by the following Hazard Codes: T (Toxic), R (Reactive), I (Ignitable), C (Corrosive), E (Toxicity Characteristic), H (Acutely Hazardous).

Discarded Commercial Chemical Products, Off-Specification Species, Container Residues and Spill Residues Thereof¹

Waste Code	Hazard Code	Estimated Annual Quantity*	Hazardous Waste
U209	(T)	350	1,1,2,2-Tetrachloroethane
U210	(T)	350	Tetrachloroethylene
U211	(T)	350	Carbon tetrachloride
U213	(I)	350	Tetrahydrofuran
U220	(T)	35,000	Toluene; Benzene, methyl
U226	(T)	350	Methyl chloroform
U227	(T)	350	1,1,2-Trichloroethane
U228	(T)	350	Ethene, trichloro-; Trichloroethylene
U239	(I,T)	35,500	Xylene, benzene, dimethyl
U328	(T)	350	o-Toluidine
U353	(T)	350	p-Toluidine
U359	(T)	350	Ethanol, 2-ethoxy; Ethylene glycol monoethyl ether

* Estimated annual quantity in tons per year

¹ Hazardous Waste Codes identified in the Facility Part A and listed in 40 CFR 261.33 may have more than one chemical name. Where only one chemical name is listed in this table, omission of other chemical names does not preclude acceptance of a waste stream identified with an approved waste code and alternate chemical name.



CUSTOMER SERVICE MANAGER
PERMA-FIX
1940 NW 67TH PLACE
GAINESVILLE, FL 32653

15708

WAP-4
Waste Profile Sheet
MATERIAL PROFILE FORM
INSTRUCTIONS

This Material Profile Form (MPF) has been specifically designed to provide Perma-Fix with information necessary to transport, store and recycle your waste stream in full compliance with state and federal regulations.

Except as noted below, a separate MPF is required for each waste stream. A revised MPF must be submitted (1) whenever there is a change in the characteristics of the waste stream or a change in the process which might result in a change in waste stream characteristics or (2) there is a change in state or federal regulations which changes the regulated status of the waste stream or any constituents thereof. The MPF must be submitted to Perma-Fix for entry into the internal review process, before a sales order can be initiated. No material can be received by Perma-Fix unless specifically authorized by a Perma-Fix approval.

A representative sample of the waste stream, collected in accordance with appropriate methods found in "Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods", EPA publication SW-846, must be submitted with each MPF that is submitted to the Perma-Fix Laboratory. If this sample requires TCLP analysis, sample volume must be at least 1 quart and sample container must be borosilicate glass. The sample must be packaged, labeled and shipped in accordance with provisions of 40 CFR 261.4 (d) (2) and applicable USDOT and USPS regulations. The "pull-off" label provided below must be completed, signed and attached to the sample container.

When instructions and form are completed, remove last page (yellow customer copy) and keep with instruction page for your records. Return remainder of the form (blue, pink and green copies) with the representative sample to Perma-Fix, Attention: Customer Service Manager at address on label.

MAKE SURE LABEL AND FORM ARE FILLED OUT CORRECTLY AND LABEL IS APPLIED TO SAMPLE CONTAINER.

SEE

NAME OF COMPANY

MAKE

REVERSE

SURE SAMPLE

SIDE

ADDRESS CITY STATE ZIP

CONTAINER

FOR

TELEPHONE NO. DATE SAMPLE COLLECTED DATE SAMPLE SHIPPED

IS CLEAN

IMPORTANT

SAMPLE COLLECTED BY TITLE

BEFORE

INSTRUCTIONS

DESCRIPTION OF SAMPLE

APPLYING LABEL

SHIP SAMPLE TO:
Customer Service Mgr.
Perma-Fix
1940 NW 67th Place
Gainesville, FL 32653
(904) 373-6066

I certify that the sample contained herein was collected in accordance with methods approved in SW 846 and is representative of the waste described in Perma-Fix.

Material Profile Form Number

15708

SIGNATURE

PRINT NAME & TITLE

Page 32 of PFF Waste Analysis Plan

CAUTION: LEAVE A MINIMUM OF 1" HEADSPACE WHEN

WAP-4 Waste Profile Sheet

ANSWERS MUST BE PROVIDED FOR ALL QUESTIONS/ITEMS ON THE ATTACHED FORM. Remove instructions (page 1) and print (pen only) or type (12 pitch) the answer or check the appropriate boxes so that all pages are clearly legible. If a particular question is not applicable to your waste stream, you may so signify with the response "NA". If additional information is submitted to complete answer (i.e. MSDS's, other laboratory analysis, etc.), indicate on the form that the additional information is attached as Attachment 1, Attachment 2, etc. When instructions and form are completed, remove last page (yellow customer copy) and keep with instructions page for your records. Return remainder of the form (blue, pink and green copies) to Perma-Fix's Customer Service Manager at address on label.

MAKE SURE LABEL AND FORM ARE FILLED OUT COMPLETELY AND LABEL IS APPLIED TO SAMPLE CONTAINER.

PART A - GENERAL INFORMATION

Billing Address - This section is to be completed by the party who has (may) contracted directly with Perma-Fix for desired services.

Pick-up Address - This section pertains specifically to the facility from which the waste will be shipped. Pick-up address must be a street address (not a post office box). Include the USEPA ID#, or explain if not included. Also, please include the Purchase Order Number for sample analysis.

PART B - WASTE DESCRIPTION

Waste Name - Give name for the waste that is commonly used at the facility and which describes the nature or composition of the waste.

Process Generating Waste - Describe the process or source generating the waste. If the amount or composition of waste varies, please specify in what way and at what frequency. Note: In accordance with RCRA regulations, Perma-Fix routinely analyzes incoming shipments. If such analyses indicate a significant difference from the information described in the MPF, Perma-Fix may be required to reject the shipment.

PART C - GENERAL CHARACTERISTICS

Odor - Describe as completely as possible (sweet, nauseating, onion-like, etc.). Indicate the strength/intensity of the odor by checking appropriate space.

% Free Liquid - Estimate percent volume of free liquids in waste as packaged for shipment. If the waste is 100% liquid, indicate "NA" in the space provided for % free liquid.

Phases - If the waste contains more than one phase or layer, check the appropriate box.

PART D - SPECIAL HANDLING INFORMATION

Indicate special handling techniques which should be employed during the transportation and storage of the waste. If the waste is incompatible with certain types of containers or will react when it comes into contact with other materials, please indicate. Attach additional information as necessary to fully describe hazards and appropriate safeguards. Absence of hazard information requested under Part D will imply that, to your knowledge and belief, there are no hazards or adverse effects associated with the waste.

PART E - RCRA INFORMATION

List all applicable waste codes, both listed and characteristic, if the waste meets the definition of a hazardous waste. Note: The concentration of each constituent imparting a TCLP Toxicity Characteristic (40 CFR 261.24) must be provided under Part H.

PART F - SHIPPING INFORMATION

Shipping Name - If the waste is a hazardous waste or hazardous material as defined in 40 CFR 172, enter the D.O.T. Shipping Name, Hazard Class, ID No. and R.Q. (Reportable Quantity). Note: This information must be consistent with information contained on any manifest covering the shipment of the waste.

PART G - PHYSICAL / CHEMICAL PROPERTIES

Items 1-6 and 8 - Use analytical methods described in SW-846 whenever applicable and ASTM methods in all other cases.

Items 1-5 - Check the block that most accurately describes the range of characteristics in question. Also give actual value determined from the sample analyses.

Item 3 - Applicable only to liquids or liquid portions of the waste. If pH is less than 2 or greater than 12.5 Perma-Fix may not accept the waste stream.

Item 4 - Check the box that is closest to the BTU value of the material on a per pound basis. Note: These numbers depict BTUs multiplied by 1000.

Item 6-8 - Check the appropriate box that accurately describes the waste stream. All values should be filled in as ppm levels. Be sure to check whether the metals results are on a totals or a TCLP basis.

PART H - ORGANIC ANALYSIS

Item-1 On the blank lines following the TCLP components, list the organic components in the waste stream and the appropriate percentages. (must total 100%)

Item-2 Check the appropriate box to indicate what analyses must be performed on the TCLP extract of your sample. If a lab other than Perma-Fix's is used for the TCLP analysis, attach those results. If the generator chooses to rely on his knowledge to classify his waste, the signature block must be completed.

Item-3 To be completed by Perma-Fix for material subject to ten day transfer.

Be sure to sign the bottom of the form. Samples cannot be reviewed without a signature.

Page 34 of PFF Waste Analysis Plan

WAP-5 Waste Analysis Parameters, Rational and Applicability

Parameter	Rational	Method (see Notes)	Applicability
Specific Gravity	Waste character, fingerprint	ASTM D-1298 or ASTM 287	All liquid waste streams ^{1, 2}
Color	Waste character, fingerprint	SM 202	All waste streams ^{1, 2}
pH	Waste character, fingerprint	SW-846 9040 or SW-846 9041 or SM 423	Aqueous waste streams ^{1, 2}
Percent water	Waste character, fingerprint	ASTM 1533	Waste fuel streams ^{1, 2}
Flash Point	Determine ignitability	SW-846 1010 ASTM D 93-85	Waste fuels ¹ and other wastes (optional)
Gas chromatographic (FID)	Qualitative and quantitative evaluation of organic hydrocarbons	PFF Protocol	Optional analysis
Paint Filter Test	Identification free liquids	SW-846 9095	Optional analysis
BTU	Waste character	ASTM D-2382-76	Optional analysis
Sulfide Screen	Identification of reactive wastes	SM 427 (3) (c) EPA 376.2	D002, F006, F019 Waste streams ^{1, 2}
Cyanide Screen	Identification of reactive wastes	EPA 335.3	D002, F006, F019 Waste streams ^{1, 2}
Fuel compatibility	Waste character, fingerprint	PFF Protocol	Waste fuels ^{1, 2}
Chlorides/Halogen	Screen for chloride content	ASTM D 808-87, SW-846 9077, ASTM D-5384, ASTM D-512, EPA 325.3	Hologenated Solvents Waste streams ^{1, 2}
PCB Screen	Screen for TSCA wastes	Chlor-N-Oil, Chlor-N-Soil, SW-846 8080, EPA 608	Optional analysis
Appendix VII	Waste character	SW-846, 1311	Optional analysis
Antimony	Waste character	SW-846, 6010	Optional analysis
Arsenic	Waste character	SW-846 7040, 7041, 6010	Optional analysis

WAP-5 Waste Analysis Parameters, Rational and Applicability

Parameter	Rational	Method (see Notes)	Applicability
Barium	Waste character	SW-846 7080, 7081, 6010	Optional analysis
Cadmium	Waste character	SW-846 7030, 7031 or 6010	Optional analysis
Chromium	Waste character	SW-846 7190, 7191 or 6010	Optional analysis
Lead	Waste character	SW-846 7420, 7421 or 6010	Optional analysis
Mercury	Waste character	SW-846 7470, 7471	Optional analysis
Selenium	Waste character	SW-846 7740, 7741, 6010	Optional analysis
Silver	Waste character	SW-846 7760, 7761, 6010	Optional analysis
Nickel	Waste Character	SW-845-6010	Optional analysis

¹ Preacceptance

² Acceptance (i.e., fingerprint analysis)

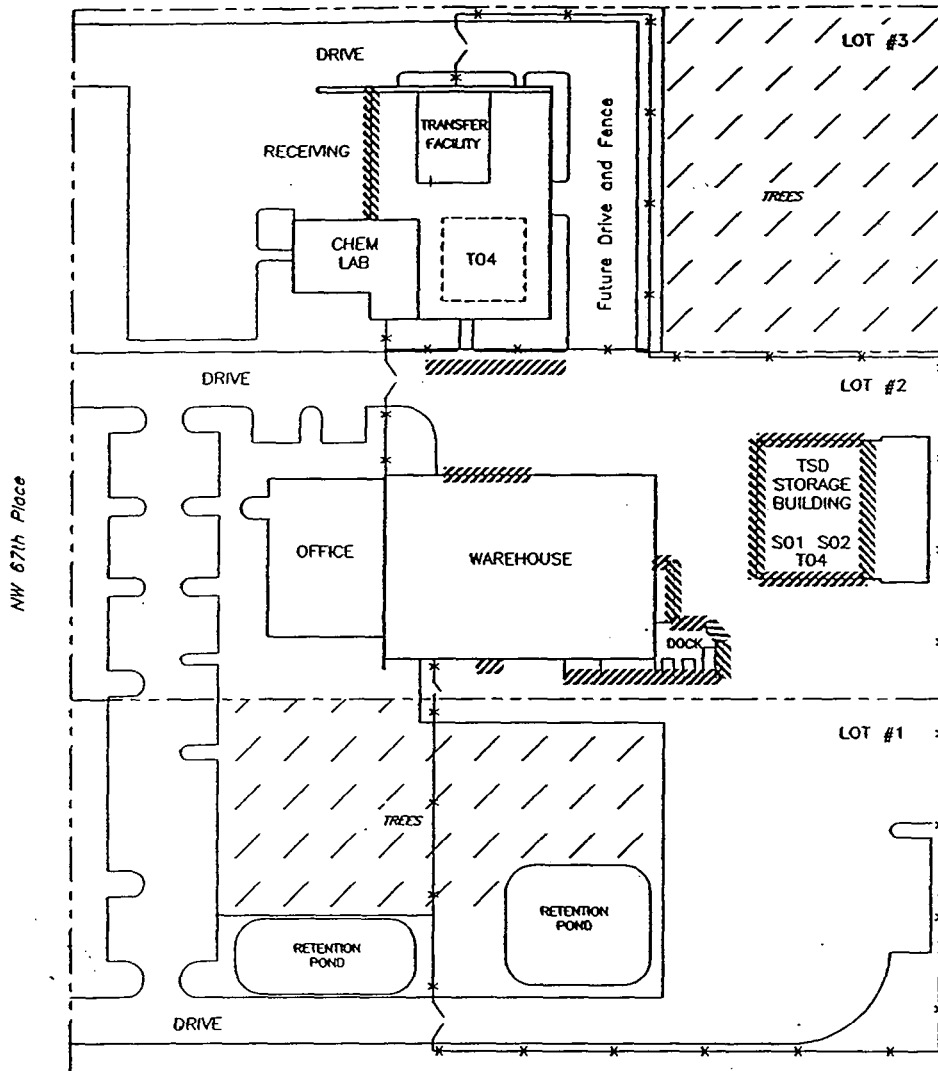
Note 1: Analytical methods may be substituted with approved or equivalent methods (e.g., accepted methods superseding listed methods). Optional analyses may be performed at the discretion of facility personnel.

Method References

SM	Standard Methods for the Examination of Water and Wastewater, 16th Edition, 1985
ASTM	American Society for Testing and Materials
SW-846	Test Methods for Evaluating Solid Wastes
PFF Protocol	The PFF protocol for fuel compatibility is presented as WAP-2; the PFF protocol for the GC/FID method is maintained on-site as a standard operating procedure.
Compatibility	Hatayama, H.K., "A Method for Determining the Compatibility of Hazardous Wastes," 1980

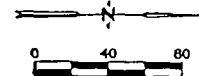
Note 2: These analytical requirements are designed to determine the acceptability of waste materials at PFF.

WAP-6
Facility Layout and Loading Areas



////// Loading Areas

S01 Hazardous Waste Container Storage
S02 Hazardous Waste Tank Storage
T04 Hazardous Waste Treatment Areas



Revision _____
Date 02/13/96
Page 1 of 3

P. Information Regarding Potential Releases From Solid Waste Management Units

Facility name: Perma-Fix of Florida, Inc
EPA I.D. Number: FLD-980-711-071
Location: City Gainesville
State Florida

1. Are there any of the following solid waste management units (existing or closed) at your facility? A Solid Waste Management Unit (SWMU) is a discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include all areas at a facility where solid wastes have been routinely and systematically released, as described in the July 27, 1990 Federal Register (55 FR 30798).

NOTE: DO NOT INCLUDE HAZARDOUS WASTES UNITS CURRENTLY SHOWN IN YOUR PART B APPLICATION

	YES	NO
■ Landfill	_____	<u>X</u>
■ Surface impoundment	_____	<u>X</u>
■ Land farm	_____	<u>X</u>
■ Waste pile	_____	<u>X</u>
■ Incinerator	_____	<u>X</u>
■ Storage tank	<u>X</u>	_____
■ Container storage area	<u>X</u>	_____
■ Injection wells	_____	<u>X</u>
■ Wastewater treatment units	_____	<u>X</u>
■ Transfer stations	_____	<u>X</u>
■ Waste recycling operations	<u>X</u>	_____
■ Land treatment facility	_____	<u>X</u>
■ Boiler/industrial furnace	_____	<u>X</u>
■ Other (any units not listed above)	<u>X</u>	_____

2. If there are "Yes" answers to any of the items in 1. above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volumes of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions, and location at facility. Provide a site plan if available.

Reference the Solid Waste Management Units summary

NOTE: HAZARDOUS WASTES ARE THOSE IDENTIFIED IN 40 CFR PART 261. HAZARDOUS CONSTITUENTS ARE THOSE LISTED IN APPENDIX VIII OF 40 CFR PART 261.

3. For the units noted in 1. above and also for those hazardous waste units in your Part B application, please describe for each unit all data available on all prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or still be occurring.

Please provide the following information:

- a. Date of release
- b. Type of waste released
- c. Quantity or volume of waste released
- d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

No none releases

Revision _____
Date 02/13/96
Page 3 of 3

4. In regard to the prior releases described in 3. above, please provide (for each unit) all analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or ground water.

N/A

Signature and Certification

The following certification must be included with the submittal of this information. The certification must be signed by a principal executive officer of at least the level of Vice President or by a duly authorized representative of that person.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments. Based on my inquiry of those individuals immediately responsible for obtaining the information, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature

Michael J. Haynes

Name and Title (typed)

Perma-Fix of Florida

Facility Name

Date: 2/13/96 Telephone: (352) 395-1356

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 1

PHOTO NUMBER: 1.1

NAME: North Unloading Area

TYPE OF UNIT: Asphalt pad

PERIOD OF OPERATION: 1982 to present

PHYSICAL DESCRIPTION AND CONDITION:

The unit is a section of the asphalt driveway located in the vicinity of the Container Storage Shed (SWMU 4) in the north section of the facility. A portion of this driveway, approximately 75 feet by 75 feet, is used for truck parking during truck unloading operations. Truck trailers containing drums of hazardous waste or mixed wastes are unloaded via forklifts and a portable ramp. The drums are transferred to the Temporary Holding Area (SWMU 3).

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives flammable liquids and mixed wastes. The wastes are received in vials or containers that are overpacked into 55-gallon drums. The mixed wastes are liquid scintillation fluids consisting of solvents (toluene and xylene) and trace amounts of radioactive materials. Occasionally, 55-gallon drums containing bulk flammable liquids are also off-loaded at this pad. These flammable liquids include acetone, benzene, methylene chloride and 1,1,1-trichloroethane.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the file review.

RECOMMENDATION: No Further Action (X)
RFA Phase II Sampling ()
RFI Necessary ()

REFERENCES: 5, 26, 43, 53

COMMENTS:

Page 1 of 1

PHOTO NUMBER: 2.1

PHYSICAL DESCRIPTION AND CONDITION:

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

No evidence of release was observed during the VSI or identified in the file review.

RECOMMENDATION: No Further Action (X)
RFA Phase II Sampling ()
RFI Necessary ()

COMMENTS:

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 3

PHOTO NUMBER: 3.1, 3.2

NAME: Temporary Holding Area

TYPE OF UNIT: Asphalt pad

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

The Temporary Holding Area (SWMU 3) is a section of the asphalt lot adjacent to the Container Storage Shed (SWMU 4). The unit consists of five parallel marked rows providing space for rows of pallets stacked two high. Each row is approximately 50 feet long and six feet wide. The rows are spaced approximately two feet apart. Drums containing hazardous and mixed wastes are held at this area until they are labeled. According to a facility representative, this holding period is approximately one day.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives drums filled with vials of liquid scintillation fluids containing solvents (toluene and xylene) and trace amounts of radioactive materials, from either the North or South Unloading Areas (SWMUs 1 and 2). After labeling, the drums are transferred to the Container Storage Shed (SWMU 4). Occasionally, drums containing bulk flammable liquids are held at this unit until they are processed at the Incoming Bulk Waste Transfer Station (SWMU 5) which is housed within the Container Storage Shed (SWMU 4).

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 5, 43, 53

COMMENTS:

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 4

PHOTO NUMBER: 3.1, 3.2, 4.1, 4.2, 4.3, 5.1
7.1, 12.3, 14.1, 16.1, 18.1,
20.1, 27.1

NAME: Container Storage Shed

TYPE OF UNIT: RCRA-regulated hazardous waste storage facility currently operated under a temporary operation permit issued by FDER.

PERIOD OF OPERATION: 1983 to present. The unit was expanded in 1987 to comply with RCRA Container Storage Standards.

PHYSICAL DESCRIPTION AND CONDITION:

The present unit is a 50,000-gallon-capacity drum storage shed with a six-inch thick concrete floor. A metal roof covers the unit. There are no walls except at the east and west ends of Zone 3. Secondary containment is provided by concrete curbs and metal-lined concrete sumps. The shed is divided into three zones. Each zone has its own secondary containment. The shed also houses the Incoming Bulk Waste Transfer Station (SWMU 5), 3,000-Gallon Waste Liquid Tank (SWMU 6) and the Tanker/Liquids Loading Station (SWMU 7).

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives approximately 90,000 gallons of flammable liquids per year. Included in that waste is approximately 70,000 gallons of liquid scintillation fluids. These fluids consists primarily of toluene or xylene contaminated with trace amounts of radioactive material. Eighty percent of radioactive material contains less than 0.05 microcuries per milliliter of carbon 14 and/or tritium. The remaining 20 percent consists of other isotopes which may require storage at this unit until decay. The scintillation fluids are stored in vials contained in 55-gallon overpack drums. The unit also receives bulk flammable solvents in 55-gallon drums for processing at the Incoming Bulk Waste Transfer Station (SWMU 5).

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
RFA Phase II Sampling ()
RFI Necessary ()

REFERENCES: 5, 23, 43, 53

COMMENTS: For a complete list of wastes managed by this unit, see Waste Management in Chapter II of this report.

Page 1 of 1

PHOTO NUMBER: 5.1, 5.2, 5.3

NAME: Incoming Bulk Waste Transfer Station

TYPE OF UNIT: Drum emptying tank

PERIOD OF OPERATION: 1983 to present

The unit is a 500-gallon, open-topped tank elevated above concrete by metal legs. The tank is located in the southeast section of the Container Storage Shed (SWMU 4) adjacent to the 3,000-Gallon Waste Liquids Tank (SWMU 6). Drums containing flammable liquids are emptied into the tank via an overhead hoist. The drums rest on an incline, sloped toward the opening of the tank. A screen covers the tank top to prevent bulk foreign objects from entering the unit. The contents of the tank are pumped into the 3,000-gallon Waste Liquids Tank (SWMU 6) via above-ground metal pipes.

The unit receives flammable liquids, contained in 55-gallon drums, from the Temporary Holding Area (SWMU 3). Accordingly to facility representatives, the tank does not receive radioactive materials. Flammable liquids include ethanol, hexane, methyl pyrrole, methylene chloride, acetone and 1,1,1-trichloroethane.

RELEASE PATHWAYS: Air (*) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

No evidence of release was observed during the VSI or identified in the available file material. Due to the nature of the operations, vapors and fumes are released to the atmosphere.

RECOMMENDATION:

No Further Action	(*)
RFA Phase II Sampling	()
RFI Necessary	()

REFERENCES: 53

* Evaluation of the regulatory status of the unit with respect to the air program is suggested.

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 6

PHOTO NUMBER: 6.1, 6.2

NAME: 3,000-Gallon Waste Liquids Tank

TYPE OF UNIT: RCRA-regulated waste storage tank currently operated under a temporary operation permit issued by FDER.

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

The unit is a closed-topped, above-ground, steel tank located in the central section of the Container Storage Shed (SWMU 4). The tank is supported above the concrete by steel feet. Secondary containment is provided by a concrete-block wall eight feet tall. This tank was previously located outdoors, prior to the construction of the Container Storage Shed (SWMU 4) roof. The contents of the tank are transferred to tanker trucks at the Tanker/Liquids Loading Station (SWMU 7) for off-site incineration.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives flammable liquids from the Indoor Staging and Process Area (SWMU 9) via the LSF Pipes (SWMU 12), the Incoming Bulk Waste Transfer Station (SWMU 5) and the Crushed Vials Final Drainage Station (SWMU 16). Flammable liquids include decayed scintillation fluids containing xylene or toluene; crushed-vial drainage fluids consisting mainly of alcohol and trace amounts of solvents; and bulk flammable liquids such as ethanol, hexane, methyl pyrrole, methylene chloride, acetone and 1,1,1-trichloroethane.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 5, 23, 43, 53

COMMENTS:

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 7

PHOTO NUMBER: 7.1

NAME: Tanker/Liquids Loading Station

TYPE OF UNIT: Tank truck loading pad

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

The pad is situated in the east-central section of the Container Storage Shed (SWMU 4). The dimensions of the pad are approximately 50 feet long and 18 feet wide. Secondary containment is provided by two steel trenches at each end of the pad, as well as the secondary containment provided by the Container Storage Shed (SWMU 4). Tank trucks parked at this unit receive flammable liquids, via overhead pipes, from the 3,000-gallon Waste Liquids Tank (SWMU 6) for off-site incineration at a cement kiln.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

Trucks parked at the unit receive flammable liquids contained by the 3,000-gallon Waste Liquids Tank (SWMU 6).

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI. Some minor spillage (5-10 gallons) of LSF was reported by the facility to FDER on September 28, 1989 (Reference 54); however, no further information was available.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 23, 43, 53, 54

COMMENTS: The unit appeared in good condition.

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 8

PHOTO NUMBER: 8.1, 8.2

NAME: Outdoor Staging Area

TYPE OF UNIT: Undiked asphalt pad

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

The unit is a section of the asphalt-covered yard located at the entry of the Indoor Staging and Process Area (SWMU 9) in the west section of the facility. The unit receives overpacked drums containing vials of liquid scintillation fluids from the Container Storage Shed (SWMU 4) prior to processing at the Indoor Staging and Process Area (SWMU 9). The entrance to the Indoor Staging and Process Area (SWMU 9) is a concrete pad. Drums are held at this unit for less than eight hours.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

Prior to processing, the unit receives vials containing liquid scintillation fluids. The vials are contained in 55-gallon overpack drums. Vermiculite is used as packing material. Scintillation fluids usually contain xylene or toluene and trace amounts of radioactive material. After processing, the unit receives drums containing crushed vials that had been rinsed with alcohol, and drums containing vermiculite. The vermiculite is transferred to the Packing Material Waste Drum Holding Area (SWMU 13). The crushed vials are transferred to the Crushed Glass/Plastic Vials Drum Holding Area (SWMU 15).

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

The VSI team observed dark staining on the concrete pad leading to the Indoor Staging and Process Area (SWMU 9). It appeared that runoff from the unit may drain onto grass-covered areas situated on either side of the unit.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 43, 53

COMMENTS: Evidence of staining is shown in Photographs 8.1 and 8.2., however, the staining appears to be insignificant and does not justify a high release potential.

SWMU DATA SHEET

Page 1 of 3

SWMU NUMBER: 9

PHOTO NUMBER: 9.1 thru 9.13

NAME: Indoor Staging and Process Area

TYPE OF UNIT: Waste process conveyors, tanks and hoppers

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

The area is located inside the Manufacturing Building in the west section of the facility. This unit consists of several component units designed to separate the vials from the packaging materials, separate the liquid from the vials and manage liquids and solids waste streams. These units are the Roller Conveyors (SWMU 9a), the Lift (SWMU 9b), the In-Feed Hopper (SWMU 9c), the Shaker Table (SWMU 9d), the Crusher/Shredder (SWMU 9e), the Rinse Bucket Trough (SWMU 9f), the Three-Chamber Rinse Tank (SWMU 9g), the Drain Table (SWMU 9h) and the LSF Holding Tanks (SWMU 9i). The semi-automated system is manned by five individuals outfitted with respirators and other protective clothing. Jobs include moving drums, inspecting the equipment, moving metal baskets, and vial inspection.

Roller Conveyors (SWMU 9a), Photograph 9.1, 9.2, 9.12

Drums containing vials or carboys of liquid scintillation fluids are transferred between the Outdoor Staging Area (SWMU 8) and the process units via Roller Conveyors (SWMU 9a). The conveyors are also used to transfer drums, containing crushed vials, back to the Outdoor Staging Area (SWMU 8). The metal conveyors are approximately 15 feet long.

Lift (SWMU 9b), Photograph 9.3, 9.5, 9.12

The Lift (SWMU 9b) is a hydraulically-operated conveyor that lifts the drums approximately 10 feet above the ground-floor and dumps the contents of the drums into the In-Feed Hopper (SWMU 9c). The unit is approximately 12 feet tall and 3 feet wide.

In-Feed Hopper (SWMU 9c), Photograph 9.3, 9.4

The contents of the drums are dumped into the In-Feed Hopper (SWMU 9c) by the Lift (SWMU 9b). From the hopper, the vials and packing material discharge into the Shaker Table (SWMU 9d). The metal In-Feed Hopper (SWMU 9c) has a capacity of approximately 50 gallons.

SWMU DATA SHEET

Page 2 of 3

SWMU NUMBER: 9

PHOTO NUMBER: 9.1 thru 9.13

NAME: Indoor Staging Area and Process Area

Shaker Table (SWMU 9d), Photograph 9.5, 9.6, 9.7, 9.8

The Shaker Table (SWMU 9d) is a vibrating metal table used for separating the vials from the packaging material. The unit is elevated above the concrete floor by a metal platform. Vermiculite sifts through the screens into cloth socks and discharges into 55-gallon drums. The vials remain above the screens and empty into the Crusher/Shredder (SWMU 9e).

Crusher/Shredder (SWMU 9e), Photograph 9.5, 9.7, 9.9

The Crusher/Shredder (SWMU 9e) is housed by a metal frame approximately four feet long, three feet high and two feet wide. Within the unit are 33 cutting discs which crush/shred the vials and liberate the fluids. The vials are again trapped above screens and discharged into metal baskets at the Rinse Basket Trough (SWMU 9f). The liquid drains to the bottom of the unit and is collected by the LSF Holding Tanks (SWMU 9i).

Rinse Basket Trough (SWMU 9f), Photograph 9.9

The Rinse Basket Trough (SWMU 9f) is located at ground-level and holds metal baskets containing the crushed vials. The unit consists of a metal trough approximately six feet long, 1.5 feet wide, and two feet deep. Two metal lips, situated along the top length of the trough, hold the baskets above the bottom of the trough. At this unit, liquids drain from the vials prior to vial rinsing. The contents of the trough are pumped to the LSF Holding Tanks (SWMU 9i) via a small pump.

Three-Chamber Rinse Tank (SWMU 9g), Photograph 9.10, 9.11

After the scintillation fluids have drained from the vials, the baskets are carried to the Three-Chamber Rinse Tank (SWMU 9g). The rinse tank consists of three metal chambers approximately two feet square and three feet deep. The vials are triple-rinsed in alcohol and transferred to the Drain Table (SWMU 9h) immediately adjacent to the unit.

Drain Table (SWMU 9h), Photograph 9.12

The Drain Table (SWMU 9h) is a metal sink and inspection table approximately six feet long, three feet wide and six inches deep. The contents of the baskets are inspected to ensure that all vials are broken. The crushed vials are pushed along the table and into a 55-gallon drum equipped with a plastic pipe. The pipe is inserted through the vials to touch the bottom of the drum. This pipe provides access to the bottom of the drum for alcohol-draining at the Crushed Vials Final Drainage Station (SWMU 16).

SWMU DATA SHEET

Page 3 of 3

SWMU NUMBER: 9

PHOTO NUMBER: 9.1 thru 9.13

NAME: Indoor Staging Area and Process Area

LSF Holding Tanks (SWMU 9i), Photograph 9.13

The LSF Holding Tanks (SWMU 9i) receive liquids from the Crusher/Shredder (SWMU 9e) via pipes; from carboys via hand-pumps; from the Drain Table (SWMU 9h); and from the Three-Chamber Rinse Tank (SWMU 9g). The two closed-top stainless steel tanks have a combined capacity of 80 gallons. Liquids are held at this unit and tested for radioactivity levels prior to discharge to the 3,000-Gallon Waste Liquids Tank (SWMU 6) via the LSF Pipe (SWMU 12).

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

Approximately 6,000 gallons of liquid scintillation fluids are processed by this unit per month. Fumes and vapors are vented, via the Process Area Ventilation System (SWMU 10), to the Carbon Adsorption System (SWMU 11).

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (*)
Groundwater (*) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material. However, operations conducted at this unit generated alcohol and solvent fumes.

RECOMMENDATION: No Further Action (*)
RFA Phase II Sampling ()
RFI Necessary ()

REFERENCES: 53

COMMENTS: The Crusher/Shredder (SWMU 9e) replaced the Former Glass/Plastic Shredder (SWMU 25) unit during 1988.

* Routine inspection of the integrity of the walls and floor of this unit is suggested.

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 10

PHOTO NUMBER: 10.1

NAME: Processing Area Ventilation System

TYPE OF UNIT: Air purifying system

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

The system consists of flexible plastic hoses and various-shaped metal ducts and hoods designed to collect fumes and vapors generated in the Indoor Staging and Process Area (SWMU 9). The hoses are used to trap vapors and fumes from the individual processing components. Air from the room is drawn through filter-covered ducts by a fan. The air is discharged to the atmosphere via the Carbon Adsorption System (SWMU 11). The system is active; however, it was not observed in operation because it was shut down at the time of the VSI.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The system receives air contaminated with solvent and alcohol fumes, generated at the Indoor Staging and Process Area (SWMU 9). The vapors and fumes may contain alcohol, toluene and xylene.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

The unit was inactive during the VSI. No evidence of release was identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS:

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PHOTO NUMBER: 11.1, 11.2

TYPE OF UNIT: Air purifying system

PERIOD OF OPERATION: 1983 to present

The unit consists of two metal tanks filled with activated charcoal. The tanks are closed-topped, and are approximately four feet tall and two feet in diameter. The unit is connected to the Process Area Ventilation System (SWMU 10) via metal pipes which are connected to the bottom of the tank. The air rises through the charcoal and is released to the atmosphere. The two tanks are housed in a separate room outside the Process Area.

The unit receives air containing organic vapors from the Process Area Ventilation System (SWMU 10). The unit is designed to release to the atmosphere.

RELEASE PATHWAYS: Air (*) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

The unit is designed to release to the atmosphere.

RECOMMENDATION: No Further Action (*)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS: * This unit does not have an air permit, although the unit is inspected by the Department of Environmental Safety, Alachua County. Evaluation of the regulatory status of the unit with respect to the air program is suggested.

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 12

PHOTO NUMBER: 12.1, 12.2, 12.3

NAME: LSF Pipe

TYPE OF UNIT: Waste solvent transfer pipe

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

The LSF Pipe (SWMU 12) transfers waste solvent from the Indoor Staging and Process Area (SWMU 9) to the 3,000-Gallon Waste Liquids Tank (SWMU 6) located at the Container Storage Shed (SWMU 4). The above-ground pipe is made of 1.5-inch diameter steel pipe encased in a three-inch-diameter Polyvinylchloride (PVC) pipe. The pipes are encased in a concrete trough. The pipe originates in the west-central section and discharges at the tank in the northwest section of the facility via pumps. The unit is approximately 300 linear feet.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit transfers flammable liquids consisting primarily of xylene, toluene and alcohol.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (*)
Groundwater (*) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS: * White stains along the pipe connections were noted in the vicinity of the Indoor Staging and Process Area (SWMU 9) in the west section of the facility. See Photograph 12.1. Routine inspection of the integrity of the pipes and trough is suggested.

SWMU DATA SHEET

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SWMU NUMBER: 13

PHOTO NUMBER: 13.1

NAME: Packing Material Wastes Drum Holding Area

TYPE OF UNIT: Staging area

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

This staging area is located on asphalt between the main facility building and the Container Storage Shed (SWMU 4) in the north section of the facility. The asphalt area is approximately 30 feet long and 15 feet wide. Runoff from the unit appears to drain toward a grass strip between the asphalt pad and the facility building.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives drums containing packing material (vermiculite) used to cushion the vials containing liquid scintillation fluid. The contents of the drums are poured into the Dumping Trailers (SWMU 19), transferred off-site to a cement manufacturer and processed into a cement aggregate. Approximately 250 drums, stacked on pallets two high, were observed at this unit during the VSI. The process generates approximately 250 drums per month. It takes approximately 250 drums to fill a Dumping Trailer (SWMU 19).

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS:

SWMU DATA SHEET

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SWMU NUMBER: 14

PHOTO NUMBER: 14.1

NAME: Empty Drums Holding Area

TYPE OF UNIT: Staging area

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

The unit is located on the west side of the Packing Material Wastes Drum Holding Area (SWMU 13) in the north section of the facility. The asphalt area is approximately 25 feet by 25 feet. The drums are stored directly on the asphalt.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives empty drums that may contain small amounts of residual liquid from the Packing Material Wastes Drum Holding Area (SWMU 13), the Drained Crushed Vials Drum Holding Area (SWMU 17) and the Indoor Staging and Process Area (SWMU 9). The drums are loaded onto a van-type trailer and transferred off-site to the Drum Service of Florida for reconditioning.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS:

SWMU DATA SHEET

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SWMU NUMBER: 15

PHOTO NUMBER: 15.1

NAME: Crushed Glass/Plastic Vials Drum Holding Area

TYPE OF UNIT: Staging area

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

This unit is a section of the asphalt located in the northwest corner of the facility in the vicinity of the Container Storage Shed (SWMU 4) and the North Drainage Ditch (SWMU 23). The asphalt area is approximately 40 feet long and 20 feet wide. A drop inlet situated in the vicinity of the unit discharges runoff from the unit to the North Drainage Ditch (SWMU 23). The drop inlet is approximately four feet long by two feet wide, and is made of metal.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives 55-gallon drums containing crushed glass or plastic vials from the Indoor Staging and Process Area (SWMU 9) via forklift. The vials had been rinsed with alcohol and are held at this unit to drain the fluids to the bottom of the drum. According to facility representatives, very small volumes of alcohol are contained by the drum. Approximately 170 drums, stacked on pallets two high, were observed at this unit during the VSI.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

Runoff and pad washings in the vicinity of the units discharge to the North Drainage Ditch (SWMU 23) via a drop inlet. However, since the unit receives drums containing small volumes of alcohol, the likelihood of a release to surface water from this unit is judged to be low.

RECOMMENDATION: No Further Action (X)
RFA Phase II Sampling ()
RFI Necessary ()

REFERENCES: 53

COMMENTS:

SWMU DATA SHEET

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SWMU NUMBER: 16

PHOTO NUMBER: 16.1, 16.2

NAME: Crushed Vials Final Drainage Station

TYPE OF UNIT: Staging area

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

This unit is an asphalt area situated on the south side of the Container Storage Shed (SWMU 4) in the vicinity of the 3,000-Gallon Waste Liquids Tank (SWMU 6). The asphalt pad is approximately 25 feet long and four feet wide. Alcohol that has drained to the bottom of the drum is transferred to the 3,000-Gallon Waste Liquids Tanks (SWMU 6) via a small pump and hose. Each drum has a vertically-placed pipe providing access to the drum bottom. The pump hose is inserted into the pipe for removal of any alcohol that may remain on the bottom of the drum. The drums are stored on pallets at this unit.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives drums containing plastic vials which have been rinsed in alcohol and allowed to drain. Any drained liquids are removed from the bottom of the drum via a small portable pump and hose. The contents of the drum are pumped to the 3,000-Gallon Waste Liquid Tank (SWMU 6).

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS: The unit is underlain by asphalt that appeared to be in good condition.

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 17

PHOTO NUMBER: 17.1

NAME: Drained Crushed Vials Drum Holding Area

TYPE OF UNIT: Staging area

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

This unit is located south of the Crushed Glass/Plastic Vials Drum Holding Area (SWMU 15) in the northwest section of the facility. The asphalt area is approximately 40 feet long and 15 feet wide. The VSI team observed approximately 100 drums stacked on pallets at this unit. The drums are held at this unit until they are loaded into the Dumping Trailers (SWMU 19) via the Gondolas (SWMU 18).

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives drums containing crushed vials after the remaining alcohol has been pumped out at the Crushed Vials Final Drainage Station (SWMU 16).

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS:

SWMU DATA SHEET

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SWMU NUMBER: 18

PHOTO NUMBER: 18.1, 19.2

NAME: Gondolas

TYPE OF UNIT: Dumpster

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

Ten gondolas are situated along the west side of the Container Storage Shed (SWMU 4) located in the northwest section of the facility. These units are used to transfer the crushed vials from the drums to the Dumping Trailers (SWMU 19). Each unit has an approximate capacity of one cubic yard. The units are made of steel and are elevated above the asphalt by four wheels. Each Gondola (SWMU 18) has a metal cover.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The units receive crushed vials from the drums stored at the Drained Crushed Vials Drum Holding Area (SWMU 17). When the gondolas are full, they are transferred to the Dumping Trailers (SWMU 19) via forklift.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was identified during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS:

SWMU DATA SHEET

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SWMU NUMBER: 19

PHOTO NUMBER: 19.1, 19.2, 20.1

NAME: Dumping Trailers

TYPE OF UNIT: Leased trailers for off-site material transfer

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

The units are commercial truck trailers. The trailers are approximately 20 feet long, six feet wide and five feet deep. The aluminum-bodied, open-topped trailers are parked in the west section of the facility. The trailer tops are covered with a rubber tarp.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The units receive crushed plastic, glass vials, or packing materials. Approximately four to five trailers of glass and one trailer of vermiculite are transferred off-site per month. The vials are disposed of off-site at the Clifton Landfill, Garden City, GA. The packing material is transferred off-site to a cement manufacturer.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS:

SWMU DATA SHEET

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SWMU NUMBER: 20

PHOTO NUMBER: 18.1, 19.1, 19.2, 20.1

NAME: Waste Handling Routes

TYPE OF UNIT: Asphalt lot and driveways

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

This unit represents the various paths traveled by forklifts transferring drums of hazardous wastes, crushed vials and packing materials throughout the facility. These operations are limited to areas west and north of the facility building.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit may receive drippage or spillage containing hazardous constituents. Runoff from these routes may drain onto grass areas surrounding the operations yard. Additionally, runoff and asphalt washings are discharged to the North Drainage Ditch (SWMU 23) via the drop inlet at the Crushed Glass/Plastic Vials Drum Holding Area (SWMU 15).

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

As observed during the VSI, water accumulating on this unit is routinely pushed by broom into a drop inlet that discharges to the North Drainage Ditch (SWMU 23). However, since the unit potentially receives only small volumes of volatile constituents, the release potential to surface water is low.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS:

SWMU DATA SHEET

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SWMU NUMBER: 21

PHOTO NUMBER: 21.1

NAME: North Retention Pond

TYPE OF UNIT: Percolation/evaporation impoundment

PERIOD OF OPERATION: 1982 to present

PHYSICAL DESCRIPTION AND CONDITION:

The pond is located in the northeast section of the facility in the vicinity of the South Unloading Area (SWMU 2) and the Field Trailers Service Area (SWMU 26). The pond is made of soil and is approximately 70 feet long, 25 feet wide and three feet deep. The unit is maintained in grass and was empty during the VSI.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives runoff via direct surface flow from the northeast parking lot, the South Unloading Area (SWMU 2), the Field Trailers Service Area (SWMU 26) and the Spray Paint Booth Area (AOC A). The runoff may contain trace amounts of hazardous constituents.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material. However, the unit is unlined and designed to percolate runoff into the soil.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS:

SWMU DATA SHEET

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SWMU NUMBER: 22

PHOTO NUMBER: 22.1

NAME: East Retention Pond

TYPE OF UNIT: Percolation/evaporation impoundment

PERIOD OF OPERATION: 1982 to present

PHYSICAL DESCRIPTION AND CONDITION:

The pond is located in the southeast section of the facility. The pond is made of soil and is approximately 20 feet long and 10 feet wide. A concrete swale discharges runoff from the south parking lot into the pond. This pond is partially-overgrown with cattails. During the VSI, the unit was filled with water approximately four inches deep. Overflow from this unit discharges to the East Drainage Ditch (SWMU 24) via an underground PVC pipe.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives runoff via direct surface flow from the south parking lot.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
 Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material. However, the unit is unlined and designed to percolate runoff into the soil.

RECOMMENDATION: No Further Action (*)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS: `*No further action is suggested at this time because no evidence that gasoline, oil, or other foreign contaminants were entering the unit was noted.

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PHOTO NUMBER: 23.1, 24.1

TYPE OF UNIT: Surface drainage

PERIOD OF OPERATION: 1982 to present

The ditch bounds the facility to the north and discharges to the East Drainage Ditch (SWMU 24) bounding the facility to the east. The ditch is approximately eight feet wide and three to four feet deep. The ditch is unlined except in the area where the two ditches meet. This portion of the ditch is lined with concrete. The ditch banks are overgrown with shrubs and small trees.

The unit receives runoff from the drop inlet at the Crushed Glass/Plastic Vials Drum Holding Area (SWMU 15), the Waste Handling Routes (SWMU 20), the northeast parking lot and the North Unloading Area (SWMU 1), and the PCB Drummed Waste Storage Area (SWMU 27). The runoff may contain hazardous constituents.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
RFA Phase II Sampling ()
RFI Necessary. ()

REFERENCES: 53

COMMENTS:

SWMU DATA SHEET

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SWMU NUMBER: 24

PHOTO NUMBER: 24.1

NAME: East Drainage Ditch

TYPE OF UNIT: Surface drainage

PERIOD OF OPERATION: 1982 to present

PHYSICAL DESCRIPTION AND CONDITION:

The ditch bounds the facility to the east and flows north. The ditch is approximately eight feet wide and three feet deep. The ditch is unlined except in the area where it meets the North Drainage Ditch (SWMU 23). This portion of the ditch is lined with concrete. The ditch banks are overgrown with shrubs and small trees.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives runoff from the driveway along the east side of the facility.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS:

SWMU DATA SHEET

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SWMU NUMBER: 25

PHOTO NUMBER: 25.1

NAME: Former Glass/Plastic Shredder Unit

TYPE OF UNIT: Former waste process unit

PERIOD OF OPERATION: 1983 to 1988

PHYSICAL DESCRIPTION AND CONDITION:

The former unit was a wood shredder utilized to shred plastic and glass vials during its period of operation. While active, it was situated in the Indoor Staging and Process Area (SWMU 9). During the VSI, the former unit was located in the north section of the facility. The unit consists of an approximately 40-gallon hopper connected to the shredder. The unit is supported by a metal platform four feet tall.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit received plastic and glass vials containing decayed liquid scintillation fluids. The fluids consisted of xylene or toluene and low-level radioactive wastes.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
 Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI. The facility had difficulty ensuring all vials were crushed with this unit.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS:

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 26

PHOTO NUMBER: 26.1, 26.2

NAME: Field Trailers Service Area

TYPE OF UNIT: Asphalt lot

PERIOD OF OPERATION: 1982 to present

PHYSICAL DESCRIPTION AND CONDITION:

The unit is an asphalt lot approximately 200 feet long and 50 feet wide situated on the east side of the facility building. Field trailers are parked at this unit after completion of off-site hazardous waste remediation activities. Service includes outfitting the trailers for upcoming jobs. According to facility representatives, the trailers are decontaminated at the remediation sites prior to returning to the facility.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

If trailers undergo incomplete decontamination procedures, then runoff in the area may become contaminated with hazardous constituents. Remediation sites where these trailers may have been used include radioactive and PCB-contaminated sites. However, no evidence of incomplete decontamination procedures was observed or reported.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
RFA Phase II Sampling ()
RFI Necessary ()

REFERENCES: 53

COMMENTS: It is suggested that the facility provide documentation to demonstrate the effectiveness of the decontamination procedures.

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 27

PHOTO NUMBER: 27.1, 27.2, 27.3

NAME: PCB Drummed Waste Storage Area

TYPE OF UNIT: Self-contained cargo container

PERIOD OF OPERATION: 1985 to present

PHYSICAL DESCRIPTION AND CONDITION:

The self-contained metal cargo container is 20 feet long, 10 feet wide and seven feet high. The container is located at the northeast parking lot in the northeast section of the facility. The unit has the capacity to hold 24 55-gallon drums. Within the metal container is a metal secondary containment system with metal curbs approximately four inches high. Most of the drums are elevated above the metal floor by small drum dollies.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit stores oils and other wastes containing PCBs from the PCB Decontamination Test Site (SWMU 32) located at the Annex. Approximately 15 drums were observed at this unit during the VSI.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS: The self-contained unit appeared to be in good condition.

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 28

PHOTO NUMBER: 28.1

NAME: Freon Distillation Waste Collection Unit

TYPE OF UNIT: Still bottoms collection unit

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

The unit consists of a one-gallon plastic container utilized to collect still bottoms from the protective clothing washing machine. This unit is located in the vicinity of the Indoor Staging and Process Area (SWMU 9). The bucket is underlain by a plastic-lined wooden tray.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives still bottoms from the freon clothes washer. The still bottoms may contain xylene and toluene from protective clothing worn by employees in the Indoor Staging and Process Area (SWMU 9).

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS: The unit is located indoors and is underlain by concrete that appeared to be in good condition.

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 29

PHOTO NUMBER: 29.1

NAME: Sand and Grit Drum Storage Area

TYPE OF UNIT: Drummed waste and product storage area

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

An asphalt area measuring approximately 200 square feet is utilized to store drums containing sand and grit. The unit is located outside the northeast corner of the Container Storage Shed (SWMU 4).

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

This unit is a one-time temporary storage area for drums containing sand and grit. According to facility representatives, this material does not contain any hazardous constituents. During September 1989, one of the facility's clients shipped LSF vials in overpack drums utilizing sand and grit as packing material. The facility accepted the shipment, processed the vials, and has stored the drums containing sand and grit at this area since that time. This area is normally used for storing drums of alcohol.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
RFA Phase II Sampling ()
RFI Necessary ()

REFERENCES: 53, 59

COMMENTS: It is suggested that the facility provide documentation indicating the non-hazardous nature of the sand and grit.

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 30

PHOTO NUMBER: 30.1, 30.2

NAME: Laboratory Wastes Accumulation Area

TYPE OF UNIT: Satellite accumulation area

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

The unit consists of a small surface area at a lab table for storage of small lab-specimen wastes and a drum for collecting other lab wastes. The unit is located indoors in the Annex.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives waste specimens containing solvents, mixed wastes and PCBs. The specimen bottles are hand-carried to the Laboratory Specimens Storage Building (SWMU 31) located outdoors and west of the Annex. PCB wastes are transferred to the PCB Drummed Waste Storage Area (SWMU 27).

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS:

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 31

PHOTO NUMBER: 31.1, 31.2

NAME: Laboratory Specimens Storage Building

TYPE OF UNIT: Less-than-90-day storage

PERIOD OF OPERATION: 1983 to present

PHYSICAL DESCRIPTION AND CONDITION:

The unit is a corrugated-metal building approximately ten feet long, ten feet wide and eight feet tall. The floor is constructed of wood and the shed is elevated above a concrete slab by metal skids. The shed is located outdoors approximately 200 feet west of the Annex. Small bottles of waste specimens are stored on metal shelves. Within 90 days, the wastes are hand-carried to the Container Storage Shed (SWMU 4) for disposal.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit receives laboratory specimens containing solvents, mixed wastes and PCBs. There were over 200 specimen bottles at this unit during the VSI. Facility representatives did not provide detailed information pertaining to the operation of the unit.

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material. The lab is expected to be moved to the main facility building during December 1989.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 53

COMMENTS: It is suggested that the facility provide details pertaining to wastes and waste management at this unit.

SWMU DATA SHEET

Page 1 of 1

SWMU NUMBER: 32

PHOTO NUMBER: None

NAME: PCB Decontamination Test Site

TYPE OF UNIT: Demonstration room

PERIOD OF OPERATION: 1985 to present

PHYSICAL DESCRIPTION AND CONDITION:

A room adjoining the laboratory measuring approximately 200 square feet, located at the Annex, was periodically used to demonstrate a PCB treatment system under a permit issued by EPA. The last period of use was indicated to have been May-July 1988 (Reference 9). At the time of the VSI, the room was used for office furniture storage.

WASTES AND/OR HAZARDOUS CONSTITUENTS MANAGED:

The unit received PCB wastes. The demonstration was viewed by EPA representatives. Facility representatives did not provide detailed information pertaining to the activities at this unit. However, the wastes generated at the unit were transferred to the PCB Drummed Waste Storage Area (SWMU 27).

RELEASE PATHWAYS: Air (L) Surface Water (L) Soil (L)
Groundwater (L) Subsurface Gas (L)

HISTORY AND/OR EVIDENCE OF RELEASE(s):

No evidence of release was observed during the VSI or identified in the available file material.

RECOMMENDATION: No Further Action (X)
 RFA Phase II Sampling ()
 RFI Necessary ()

REFERENCES: 9, 18, 19, 48, 53

COMMENTS: It is suggested that the facility provide documentation pertaining to the activities and disposal of wastes.

AOC DATA SHEET

Page 1 of 1

AOC NUMBER: A

PHOTO NUMBER: A.1, A.2

NAME: Spray Paint Booth Area

PHYSICAL DESCRIPTION AND CONDITION:

A Paint Booth 12 feet long, 12 feet wide and 16 feet high, and a metal tray ten feet long, ten feet wide and six inches deep, were identified in the central section of the facility during the VSI. The tray is used for paint stripping and the booth is active. According to facility representatives, a water-based sulfuric or phosphoric acid is used for stripping and an epoxy paint is utilized at the spray booth. Paint wastes are transferred to the Container Storage Shed (SWMU 4). It is suggested that the facility and FDER determine if an air permit is required for the booth.



PERMA-FIX OF FLORIDA, INC.

Appendix J

Solid Waste Management Units

Number:	SWMU-33		
Name:	Laboratory		
Type of Unit:	Laboratory Satellite Accumulation		
Period of Operation	1991 to present		
Physical Description and Condition	This unit consists of an area within the laboratory where 3 five gallon pails are located for the accumulation of glass, hazardous solids (plastic/glass), and crimp-top vials. These wastes are accumulated as a result of laboratory operations. The unit is provided with a base composed of interior service tile and is approximately 5 feet by 2 feet in size.		
Wastes and Hazardous Constituents Managed	The unit receives glass, hazardous solids (plastic/glass), and crimp-top vials which are accumulated in 3, five gallon pails prior to management (as appropriate) in the non-hazardous, or RCRA areas on-site.		
Release Pathways	Air (L)	Surface Water (L)	Soil (L)
	Subsurface Gas (L)	Groundwater (L)	
Release History:	The unit has been operational for laboratory activities which are monitored by facility personnel. No reportable release of hazardous constituents has occurred from the unit.		
Recommendation:	No further Action (X) RFA Phase II Sampling () RFI Necessary ()		
Comments:	The unit is part of laboratory operations and is maintained in good condition.		

Number:	SWMU-34
Name:	West Warehouse
Type of Unit:	90-Day generator storage area, satellite accumulation area and 10 day transfer area
Period of Operation	1991 to present; 10 day transfer area operational since 1995
Physical Description and Condition	This unit consists of three general areas utilized as identified above for the temporary storage or transfer of drummed waste.
Wastes and Hazardous Constituents Managed	The unit receives site generated hazardous wastes including hazardous solids (plastic/debris); organic solvents/flammable materials, crimp-top vials, and metal/corrosive wastes.
Release Pathways	Air (L) Surface Water (L) Soil (L) Subsurface Gas (L) Groundwater (L)
Release History:	The unit has been operational for site activities which are monitored by facility personnel. No reportable release of hazardous constituents has occurred from the unit.
Recommendation:	No further Action (X) RFA Phase II Sampling () RFI Necessary ()
Comments:	The unit provides temporary storage and transfer of segregated hazardous waste storage for site generated incompatible wastes. The transfer facility has operated since 1995 and is maintained in good condition.



PERMA-FIX OF FLORIDA, INC.
Appendix J
Solid Waste Management Units

Number:	SWMU-35
Name:	East Warehouse
Type of Unit:	Non hazardous tank and container storage area
Period of Operation	1991 to present
Physical Description and Condition	This unit consists of an area within the warehouse where containerized non-hazardous wastes are stored on a concrete base. The area also contains one 8,000 gallon storage tank, with secondary containment for oily water
Wastes and Hazardous Constituents Managed	Non hazardous wastes including (but not limited to) waste oils, waste waters, oily waste and types and forms or non-hazardous waste.
Release Pathways	Air (L) Surface Water (L) Soil (L) Subsurface Gas (L) Groundwater (L)
Release History:	The unit has been operational for facility activities which are monitored by facility personnel. No reportable release has occurred from the unit.
Recommendation:	No further Action (X) RFA Phase II Sampling () RFI Necessary ()
Comments:	The unit will be maintained be in good condition.

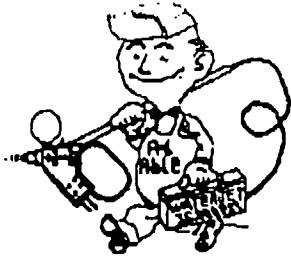


PERMA-FIX OF FLORIDA, INC.

Appendix J

Solid Waste Management Units

Number:	SWMU-36		
Name:	East Loading Area		
Type of Unit:	Loading Dock		
Period of Operation	1991 to present		
Physical Description and Condition	The unit is a concrete loading dock approximately 35 X 25 feet in size. The dock is approximately 3½ feet above the parking area elevation.		
Wastes and Hazardous Constituents Managed	The unit is utilized for the loading and off-loading of drums from transport vehicles. The unit receives non-hazardous or hazardous waste in accordance with the PFF RCRA permit.		
Release Pathways	Air (L)	Surface Water (L)	Soil (L)
	Subsurface Gas (L)	Groundwater (L)	
Release History:	To date, the unit has not been used for waste management activities. No reportable release of hazardous constituents has occurred from the unit.		
Recommendation:	No further Action (X) RFA Phase II Sampling () RFI Necessary ()		
Comments:	The unit will be maintained in good condition.		



A-1 Able Services Inc.

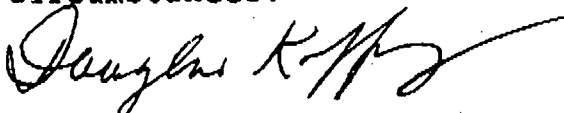
Douglas L. Koppang
2915 S.W. 2nd Ave.
Fort Lauderdale, FL 33315
(305) 761-8893
Fax: 761-9693

*Where
Quality
Counts*

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Mike Haynes
Perma-Fix Environmental Services
3701 SW 47th Av
Suite 109
Davie, FL 33314

In cleaning an area of 1 foot sq. depending on the condition of the surface, it will take from 1-2 qts of water depending upon the adjustments we make for these set of circumstances.


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The ADMAC Edge

At the heart of ADMAC's series of advanced technology products is the rugged Jetpac™ ultrahigh-pressure water pump. Capable of continuous operating pressures in excess of 35,000 psi (2,400 bar), the Jetpac™ delivers flow rates from 1.0 gpm (3.8 lpm) to 5.6 gpm (21.2 lpm).

With years of successful industrial operation and development of quality flexible hoses and hand tools, ADMAC's products have evolved into highly reliable cutting, cleaning, drilling, and scouring systems.

The Jetpac™ pump can be either skid, truck or trailer mounted. Top lift points and removable side panels are provided for convenient maintenance. A heavy-duty steel mainframe assures durability even in the toughest field applications.

Ultrahigh-pressure water is generated by an oil-over-water intensifier pump. The intensifier is a positive displacement, double-acting piston pump driven by a variable volume pressure

compensated hydraulic system. Replacement parts are available 24-hours-per-day from a field service group in six regional service centers in the United States and representatives worldwide.

Offered with either diesel or electric prime movers, the following 35,000 psi (2,400 bar) pumping systems are available (see chart).

For the more demanding applications such as rock drilling and slotting where abrasive additives cannot be used,

ADMAC's 55,000 psi (3790 bar) systems are available.

In addition to the Jetpac™ pump system and tools, high-strength patented hose capable of reliable operation at working pressures well over 35,000 psi represents a significant technological breakthrough. ADMAC flexible hose is cycle tested at 55,000 psi with a burst point well over 100,000 psi. Safety, durability, and low operating costs are major benefits offered contractors and plant maintenance personnel.

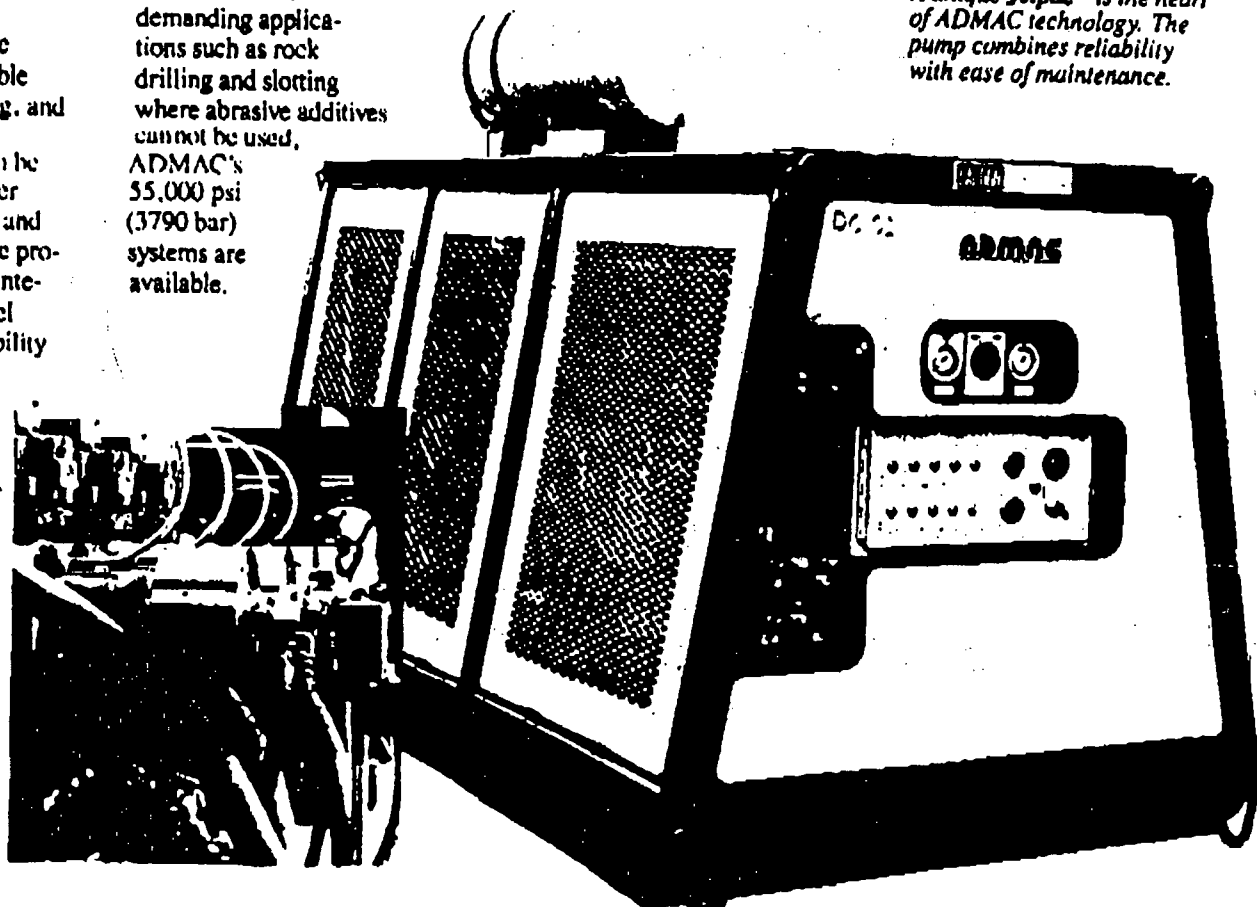
Innovative technology, reliable ultrahigh-pressure pumps, rugged and efficient peripheral tools, and a corporate commitment to product quality—these are the elements of The ADMAC Edge.

Model	HP Electric	HP Diesel	Flow Rate
1031	25	NA	1.0 gpm (3.8 lpm)
1032	75	NA	2.8 gpm (10.6 lpm)
1003	NA	138	4.2 gpm (15.9 lpm)
1004	200	225	5.6 gpm (21.2 lpm)
1013*	NA	500	22.0 gpm (83.3 lpm)

*25K psi Hydrodemolition only

A unique Jetpac™ is the heart of ADMAC technology. The pump combines reliability with ease of maintenance.

Low-weight Intensifiers boost 3,500 psi hydraulic pressure to 35,000 psi (2,400 bar) ultrahigh-pressure water.



WEEKLY EQUIPMENT INSPECTION LOG AIR EMISSIONS STANDARDS , SUBPART BB

INSPECTION DATE: _____

PERFORMED BY: _____
PLEASE PRINT

LSV PROCESS AREA – DIAGRAM A

1	2	3	4	5	6	7	8
TAG NO.	EQUIPMENT TYPE / LOCATION	EQUIPMENT DEFICIENCIES	EXPECTED DATE OF REPAIR	ACTUAL REPAIR DATE	REPAIR SUCCESSFUL	METHOD OF REPAIR	REASON FOR DELAY
VA -1	DRAIN VALVE RIGHT TANK						
VA -2	DRAIN VALVE LEFT TANK						
VA -3	INLET VALVE LEFT TANK						
VA -4	INLET VALVE RIGHT TANK						
VA -5	ALTERNATE DISCHARGE LINE VALVE 1"						
VA -6	BULK TANK FILL LINE SHUTOFF 1"						
VA -7	TEST TANK AUX. FILL VALVE						
E -1	90 DEG. EL. FROM RIGHT TEST TNK.						
E -2	45 DEG. EL. FROM LEFT TEST TNK. lower						
E -3	45 DEG. EL. FROM LEFT TEST TNK. upper						
E -4	90 DEG. 1" EL. PUMP DISCHARGE						
E -5	2 - 45 DEG. 1" EL. PUMP DISCHARGE						
E -30	1" 90 DEG. AT VA - 7						
E -31	1" 45 DEG. AT VA - 7						
U -1	2" RIGHT TANK SUCTION LINE						
U -2	2" PU - 1 TANK SUCTION LINE						
U -3	PU - 1 TANK SUCTION LINE						
U -4	2" LEFT TANK SUCTION LINE						
U -5	2" TANK FEED LINE (UPPER)						
U -6	2" TANK FEED LINE (UPPER)						
U -7	PU - 1 DISCHARGE LINE						
U -8	BACK WALL 1" LINE TO BULK TNK.						
U -28	PU - 1 DISCHARGE NEXT TO E - 4						
T - 1	SUCTION LINE LEFT TEST TNK.						
T - 2	FEED LINE RIGHT TEST TNK.						
T - 3	MAIN FEED BOTH TEST TNKS.						
T - 4	FEED LINE LEFT TEST TNK.						
T - 5	TEST TNK. DISCHARGE 1" ALTERNATE						
CA - 1	TEST TNK. DISCHARGE CONNECT						
CA - 2	TEST TANK BYPASS CONNECT						
PU - 1	QAS 1 - 1/4 BURKS TRANSFER PUMP						

INSTRUCTIONS:
FOLLOW HEADING LISTED ABOVE EACH COLUMN ENTER INFORMATION IN EVERY COLUMN, EVEN IF NO DISCREPENCY EXISTS.

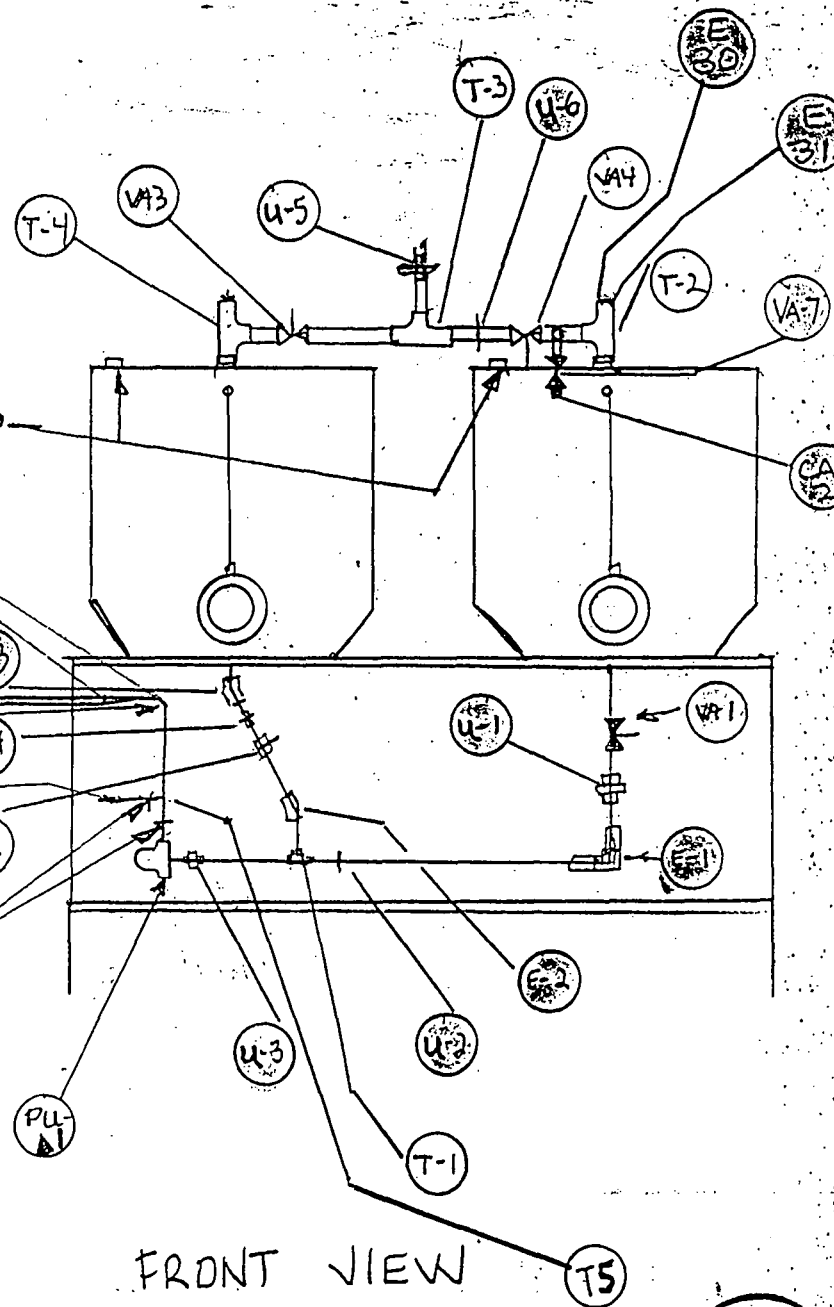
USE THIS SPACE FOR ADDITIONAL COMMENTS:

LEGEND
VA - VALVES
T - TEES
CA - CAMLOCKS
U - UNIONS
E - ELBOWS

DIA.
A

SEE DIAGRAM B

- VA VALVES
- E ELBOWS
- T TEES
- U UNIONS
- CA CAMLOCKS
- P PUMPS



DIA.
A

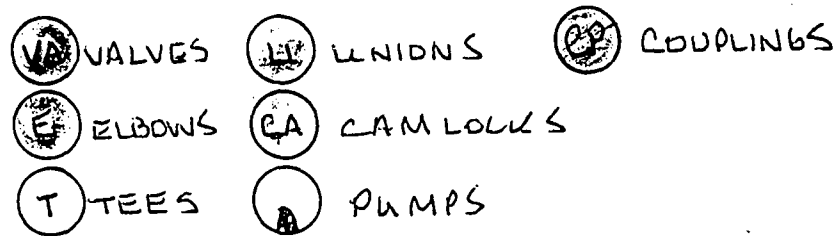
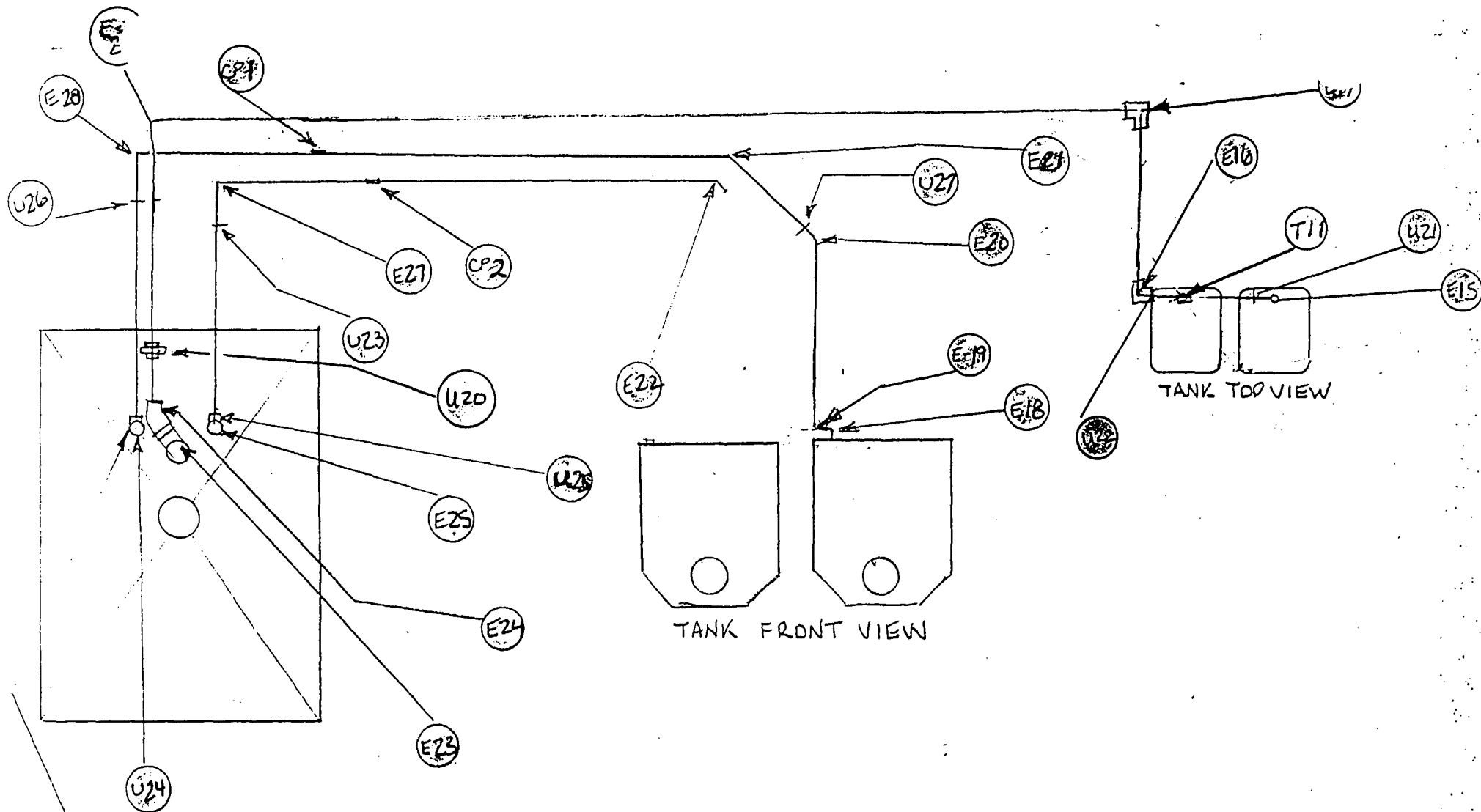
INSPECTION DATE: _____

LSV PROCESS AREA – DIAGRAM B

1	2	3	4	5	6	7	8
TAG NO.	EQUIPMENT TYPE / LOCATION	EQUIPMENT DEFICIENCIES	EXPECTED DATE OF REPAIR	ACTUAL REPAIR DATE	REPAIR SUCCESSFUL	METHOD OF REPAIR	REASON FOR DELAY
E - 6	90 ABOVE TEST TNK MAIN FEED (DIA.C)						
E - 15	90 RIGHT TEST TNK MAIN VENT CON.						
E - 16	90 LEFT TEST TNK MAIN VENT LINE						
E - 17	90 LEFT TST VNT. WALL						
E - 18	90 DEG. 1" RT.TST. TNK.						
E - 19	90 DEG. 1" RT.TST. TNK.						
E - 20	1" RT. TST.TNK. VENT LINE						
E - 21	45 DEG. 1" RT. TST. TNK. VENT LINE						
E - 22	90 DEG. CAPPED 1" LEFT TNK. VENT LINE						
E - 23	90 DEG. 2" FROM CRUSHER HOOD						
E - 24	45 DEG. 2" FROM CRUSHER HOOD						
E - 25	90 DEG. 1" CRUSHER HOOD VENT RT.						
E - 26	90 DEG. 1" CRUSHER HOOD VENT LEFT						
E - 27	90 DEG. 1" CRUSHER HOOD AT WALL						
E - 28	90 DEG. 1" CRUSHER HOOD AT WALL						
E - 29	2" MAIN VENT LINE FROM HOOD						
U - 21	2"TEST TNK. MAIN VENT RT. TNK.						
U - 22	2"TEST TNK. MAIN VENT LEFT TNK.						
U - 23	1" OVR. FLO TO LEFT TST. TNK. CAPPED						
U - 24	1" OVER FLO RT. TST. TNK						
U - 25	1" OVR. FLO TO LEFT TST. TNK. CAPPED						
U - 26	1" OVER FLO RT. TST. TNK						
U - 27	NEAR E - 20, 1" RT. TNK. OVR. FLO						
T - 11	2" MAIN VENT LEFT TST. TNK.						
CP - 1	1" OVER FLO RT. TST. TNK						
CP - 2	1" OVR. FLO TO LEFT TST. TNK. CAPPED						

USE THIS SPACE FOR ADDITIONAL COMMENTS:

LEGEND
VA - VALVES
T - TEES
CA - CAMLOCKS
U - UNIONS
E - ELBOWS



TEST TANK VENT/FLUID OVERFLOW PIPING

B

WEEKLY EQUIPMENT INSPECTION LOG AIR EMISSIONS STANDARDS, SUBPART BB

INSPECTION DATE: _____

PERFORMED BY: _____
PLEASE PRINT

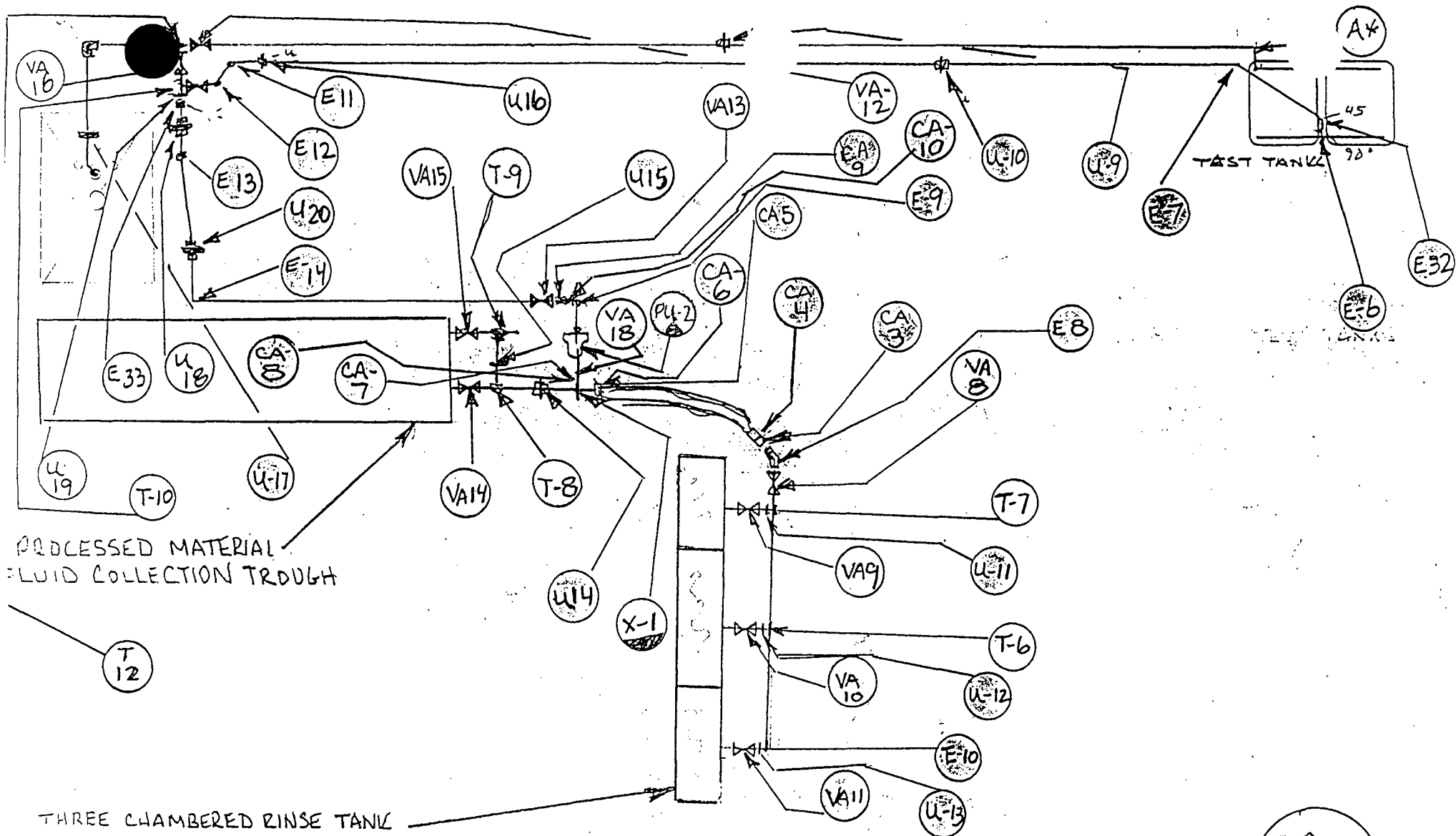
LSV PROCESS AREA -- DIAGRAM C

1 TAG NO.	2 EQUIPMENT TYPE / LOCATION	3 EQUIPMENT DEFICIENCIES	4 EXPECTED DATE OF REPAIR	5 ACTUAL REPAIR DATE	6 REPAIR SUCCESSFUL	7 METHOD OF REPAIR	8 REASON FOR DELAY
1	VA-8 2" FLUID SHUTOFF FROM RINSE TNK						
2	VA-9 2" FLUID SHUTOFF FROM RINSE TNK						
3	VA-10 2" FLUID SHUTOFF FROM RINSE TNK						
4	VA-11 2" FLUID SHUTOFF FROM RINSE TNK						
5	VA-12 2" RECIRC TO CRUSHER						
6	VA-13 2" PU-2 DISCHARGE LINE						
7	VA-14 2" DRAIN SHUTOFF CATCH TROUGH						
8	VA-15 2" DRAIN SHUTOFF CATCH TROUGH						
9	VA-16 2" RECIRC TO CRUSHER						
10	VA-17 FLUID SHUTOFF NXT TO E - 33						
11	VA-18 PU - 2 SUCTION AT PUMP						
12	E - 8 90 DEG. ABOVE TEST TNK MAIN FEED						
13	E - 7 45 DEG. ABOVE TEST TNK WALL						
14	E - 8 45 DEG. FROM RINSE DRAIN LINE						
15	E - 9 90 DEG. PU-2 DISCHARGE LINE						
16	E - 10 90 DEG. CHAMBER 3 RINSE TANK						
17	E - 11 45 DEG. REAR WALL TEST TNK FEED						
18	E - 12 45 DEG. REAR WALL TEST TNK FEED						
19	E - 13 45 DEG. PU-2 DIS. LINE BETWEEN FRMS.						
20	E - 14 90 DEG. PU-2 DIS. LINE NEAR PUMP						
21	E - 32 45 DEG. ABOVE TEST TNK MAIN FEED						
22	E - 33 45 DG BETWEEN INFE/CRSH FRAME TOP						
23	U - 9 TEST TNK FEED LINE ON WALL						
24	U - 10 TEST TNK FEED LINE ON WALL						
25	U - 11 RINSE TANK #1						
26	U - 12 RINSE TANK #2						
27	U - 13 RINSE TANK #3 hose table drain						
28	U - 14 PU-2 SUCTION LINE						
29	U - 15 PU-2 SUCTION HI-LO LEVEL CONNECT						
30	U - 16 TEST TK FEED WALL BEHIND CRSH.						
31	U - 17 2" MAIN CONNECT TO CRUSHER						
32	U - 18 2" CONNECT TO TEST TNK WALL FEED						
33	U - 18 2" CONNECT TO TEST TNK WALL FEED						
34	U - 20 PU - 2 DIS. NEAR OUTFEED CONVEYOR						
35	T - 6 RINSE TNK # 2						
36	T - 7 RINSE TNK # 1						
37	T - 8 PU-2 SUCTION HI-LO LEVEL CONNECT						
38	T - 9 PU-2 SUCTION HI-LO LEVEL CONNECT						
39	T - 10 TEST TK FEED WALL BEHIND CRSH.						
40	T - 12 2" PU - 2 DIS. LINE ON BACK WALL						
41	CA - 3 RINSE TANK CONNECT TANK SIDE						
42	CA - 4 RINSE TANK CONNECT TANK SIDE						
43	CA - 5 RINSE TANK CONNECT PU - 2 SIDE						
44	CA - 6 RINSE TANK CONNECT PU - 2 SIDE						
45	CA - 7 PU - 2 SUCTION MAIN CONNECT						
46	CA - 8 PU - 2 SUCTION MAIN CONNECT						
47	CA - 9 PU - 2 DISCHARGE MAIN CONNECT						
48	CA - 10 PU - 2 DISCHARGE MAIN CONNECT						
49	PU - 2 1-1/2" SANDPIPER PUMP						
50	X - 1 2" FPT CROSS PU - 2 SUCTION						

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FOLLOW HEADING LISTED ABOVE EACH COLUMN ENTER INFORMATION IN EVERY COLUMN, EVEN IF
NO DISCREPENCY EXISTS.

USE THIS SPACE FOR ADDITIONAL COMMENTS:

LEGEND
VA - VALVES
T - TEES
CA - CAMLOCK
U - UNIONS
E - ELBOWS
X - CROSS



VA VALVES

E ELBOWS

T TEES

CROSS

U UNIONS

CA CAMLOCKS

TOP VIEW

PUMP

DIA.

C

A4 SEE VENT PIPING DETAIL

PROCESSED MATERIAL - FLUID RECOVERED / DRAIN

WEEKLY EQUIPMENT INSPECTION LOG AIR EMISSIONS STANDARDS, SUBPART BB

INSPECTION DATE: _____

PERFORMED BY: _____

PLEASE PRINT

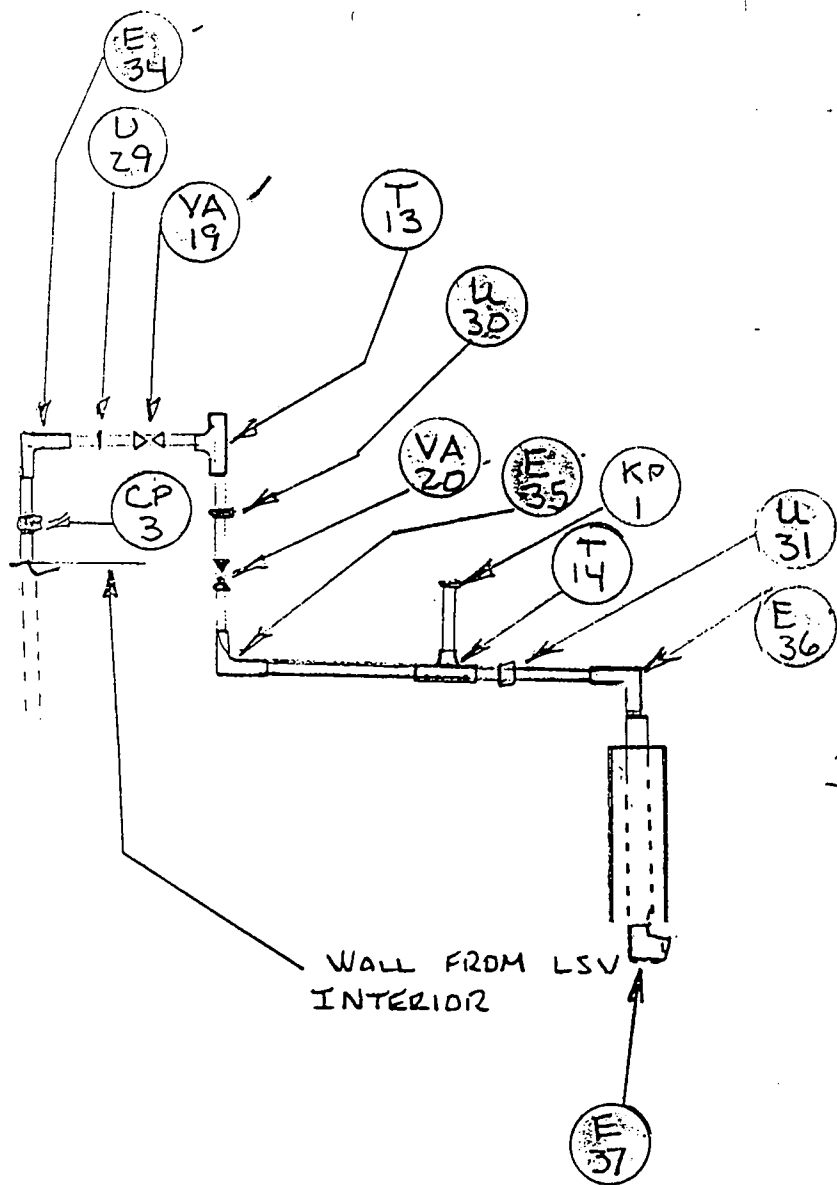
LSV PROCESS AREA - DIAGRAM D

1	2	3	4	5	6	7	8
TAG NO.	EQUIPMENT TYPE / LOCATION	EQUIPMENT DEFICIENCIES	EXPECTED DATE OF REPAIR	ACTUAL REPAIR DATE	REPAIR SUCCESSFUL	METHOD OF REPAIR	REASON FOR DELAY
1	VA-18 1" DISCHARGE LINE OUTSIDE LSV						
2	VA-20 1" DISCHARGE LINE OUTSIDE LSV						
3	VA-21 FLUID SHUTOFF AT BULK TANK						
4	E-34 1" 90 DEG. NEXT TO VA-18						
5	E-35 1" 90 DEG. NEXT TO VA-20						
6	E-36 1" 90 DEG. AT DOWNTURN INTO GROUND						
7	E-37 1" 90 DEG. BELOW E-37						
8	E-38 1" 90 DEG. TURN AT BUILDING CORNER						
9	E-39 1" 90 DEG. TURN AT PIPE TRENCH						
10	E-40 1" 90 DEG. INSIDE BULK TANK BUMP						
11	E-41 1" 90 DEG. ADJACENT TO E-40						
12	E-42 1" 90 DEG. TOP OF RUN FRONT OF TANK						
13	E-43 1" 45 DEG TURN TOWARDS TANK						
14	E-44 1" 45 DEG TURN TOWARDS TANK						
15	T-13 AIR BLOWBACK JUNCTION						
16	T-14 1" NEAR E-35						
17	T-15 1" AT MANWAY ON BULK TANK						
18	U-29 1" AFTER E-34						
19	U-30 1" AFTER T-13						
20	U-31 1" AFTER T-14						
21	U-32 1" ON PIPE RUN BETWEEN E-41/E-42						
22	U-33 1" BELOW T-15						
23	XP-1 1" ON TOP OF T-14						
24	CP-3 1" BEFORE E-34 AT START OF RUN						
25	CP-4 1" ON PIPE RUN BETWEEN E-40/E-41						
26							
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INSTRUCTIONS:
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NO DISCREPENCY EXISTS.

USE THIS SPACE FOR ADDITIONAL COMMENTS:

LEGEND
VA - VALVES
T - TEES
CA - CAMLOCK
U - UNIONS
E - ELBOWS
X - CROSS



- (VA) VALVES
- (E) ELBOWS
- (T) TEES
- (U) UNIONS
- (CA) CAM LOCKS
- (PU) DUMPS
- (KP) CAP

PIPE TRENCH

E40

BULK TANK

E39

CP4

E41

E42

E43

E44

U32

T15

E38

U33

VA20

VENT BUILDING

E37

DIAGRAM
D

Bay Door
Step

BACK WALL OF BUILDING

BULK
TANK

WEEKLY EQUIPMENT INSPECTION LOG AIR EMISSIONS STANDARDS , SUBPART BB

INSPECTION DATE: _____

PERFORMED BY: _____

PLEASE PRINT

LSV DRUM DRAIN - DIAGRAM E

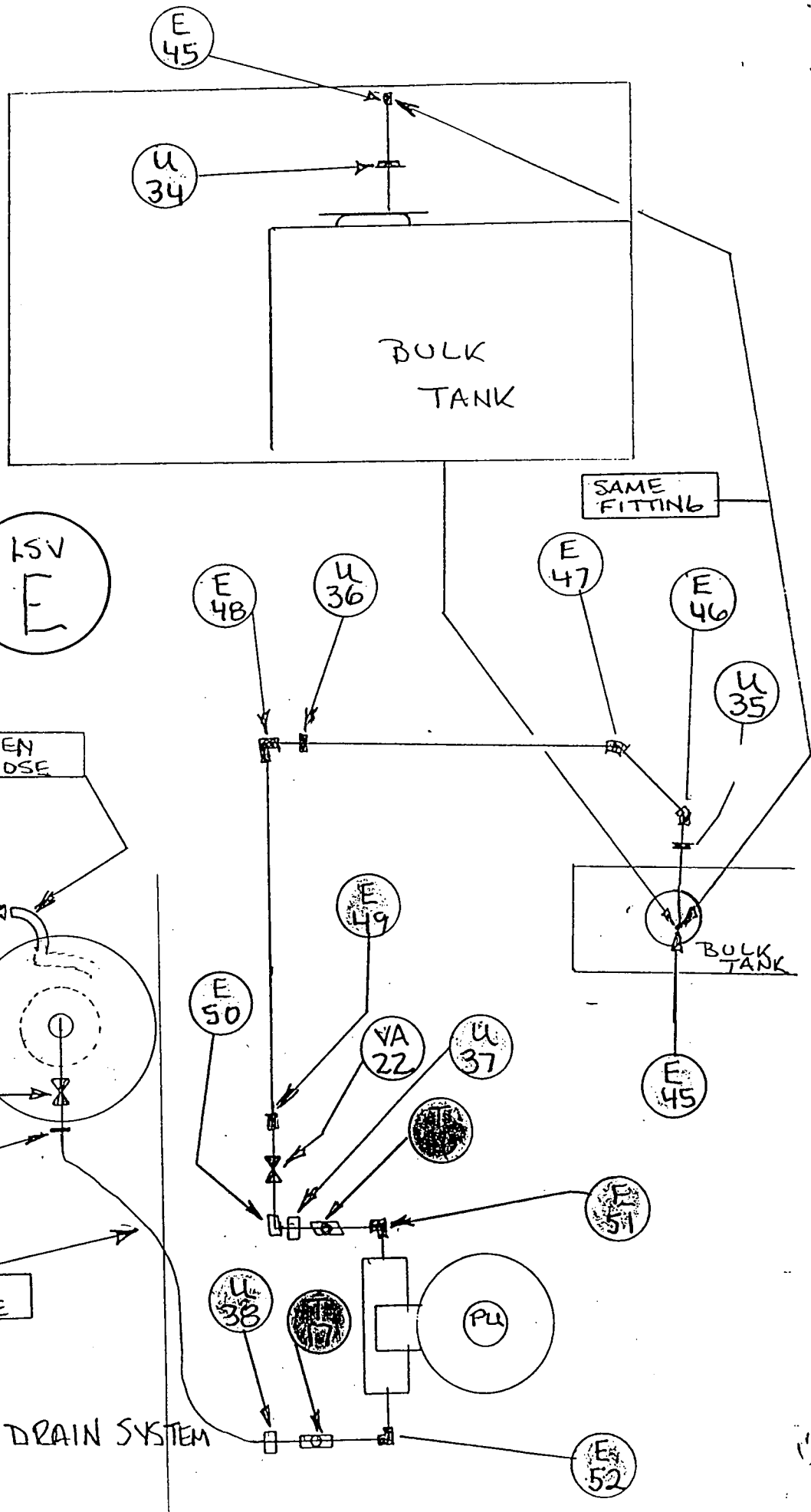
1	2	3	4	5	6	7	8
TAG NO.	EQUIPMENT TYPE / LOCATION	EQUIPMENT DEFICIENCIES	EXPECTED DATE OF REPAIR	ACTUAL REPAIR DATE	REPAIR SUCCESSFUL	METHOD OF REPAIR	REASON FOR DELAY
1	VA-22 1.5" DISCHARGE SHUTOFF AT PUMP						
2	VA-23 1" SUCTION SHUTOFF AT HOSE REEL						
3	E-45 1.5" 90 DEG. AT TOP OF BULK TANK						
4	E-48 1.5" 45 DEG. NEXT TO E-45						
5	E-47 1.5" 45 DEG. NEXT TO E-48						
6	E-48 1.5" 90 DEG. AT TOP WALL ABOVE PUMP						
7	E-49 1.5" 45 DEG. ABOVE VA-22						
8	E-50 1.5" 90 DEG. AT PU - 3 DISCHARGE						
9	E-51 1" 90 DEG. AT BALL CHAM. PU - 3 DISC.						
10	E-52 1" 90 DEG. AT BALL CHAM. PU - 3 SUCT.						
11	U-34 BELOW E-45 AT TOP OF BULK TANK						
12	U-35 BETWEEN E-48/E-48 TOP OF TNK.						
13	U-36 BETWEEN E-47/E-48 TOP OF TNK.						
14	U-37 AT PU-3 DISCHARGE						
15	U-38 AT PU-3 SUCTION						
16	U-39 BELOW VA-23 AT HOSE REEL						
17	T-16 BLOWBACK PU-3 DISCHARGE						
18	T-17 BLOWBACK PU-3 SUCTION						
19	CA-11 HOSE REEL END CONNECTOR						
20							
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LEGEND
VA - VALVES
T - TEES
CA - CAMLOCK
U - UNIONS
E - ELBOWS
X - CROSS

- VA VALVES
- E ELBOWS
- T TEES
- U UNIONS
- CA CAMLOCK
- PU PUMP



WEEKLY EQUIPMENT INSPECTION LOG AIR EMISSIONS STANDARDS, SUBPART BB

INSPECTION DATE: _____

PERFORMED BY: _____
PLEASE PRINT

LSV PROCESS AREA - DIAGRAM F

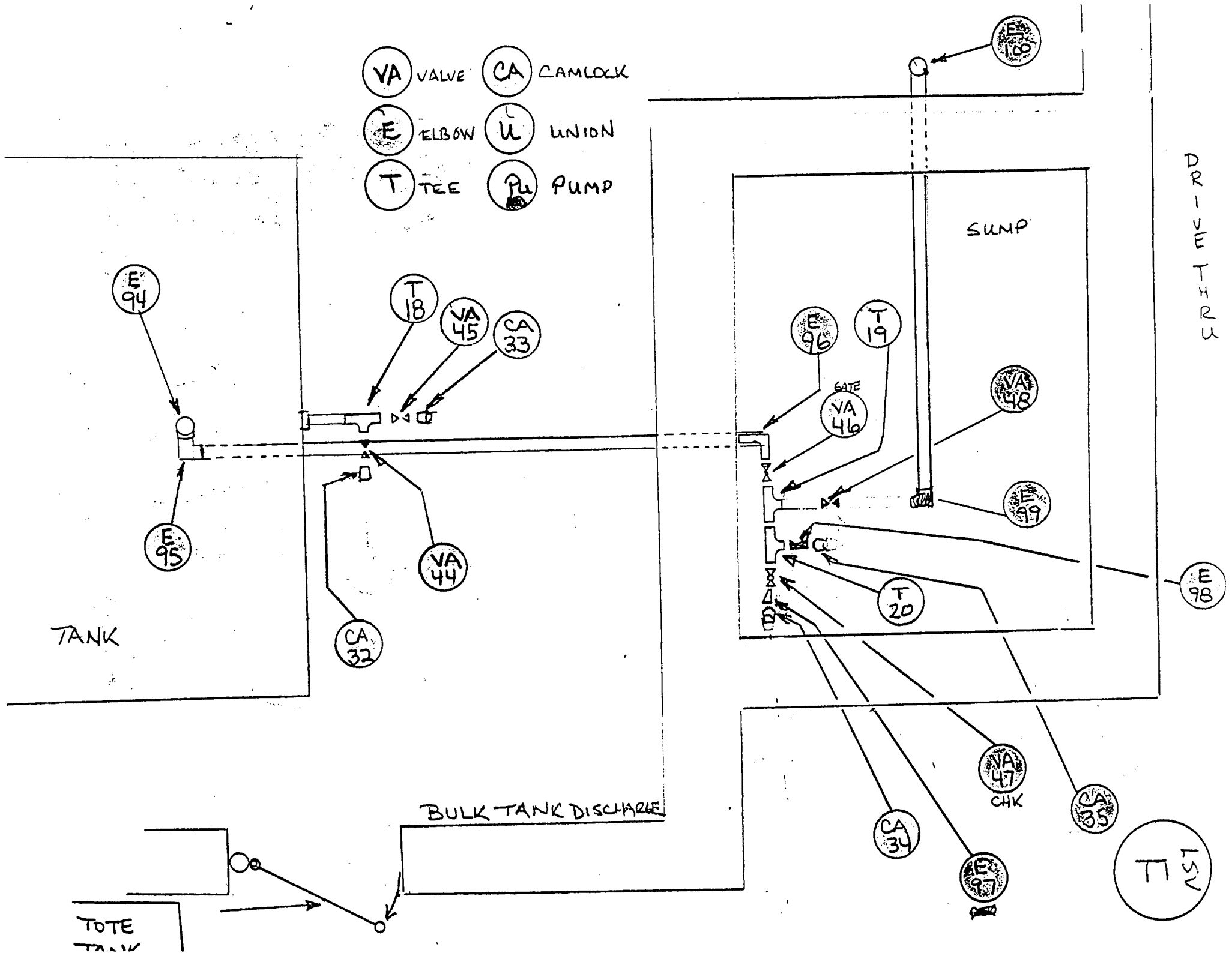
1	2	3	4	5	6	7	8
TAG NO.	EQUIPMENT TYPE / LOCATION	EQUIPMENT DEFICIENCIES	EXPECTED DATE OF REPAIR	ACTUAL REPAIR DATE	REPAIR SUCCESSFUL	METHOD OF REPAIR	REASON FOR DELAY
1	VA-44 2" SHUTOFF REAR TNK.						
2	VA-45 2" SHUTOFF REAR TNK.						
3	VA-46 2" GATE IN BUMP						
4	VA-47 2" CHECK VA IN BUMP NXT. TO T-20						
5	VA-48 2" BETWEEN T-19 AND E-99						
6	E-94 LOWER REAR DRAIN LEVEL SWITCH END						
7	E-95 LOWER REAR DRAIN LEVEL SWITCH END						
8	E-96 IN BUMP NXT TO VA-46						
9	E-97 IN BUMP NXT TO VA-47						
10	E-98 BETWEEN T-20 AND CA-35						
11	E-99 2" 90 DEG. NXT. TO VA-48						
12	E-100 OPPOSITE END OF LINE W/E-99						
13	T-18 ATTACHED WITH VA-44 AND VA-45						
14	T-19 CONNECTS TO VA-46 AND T-20						
15	T-20 CONNECTS TO VA-7 AND T-19						
16	CA-32 DISC. END VA-44						
17	CA-33 DISC. END VA-45						
18	CA-34 LINE END OF T-20						
19	CA-35 LINE END OF T-20						
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U - UNIONS
E - ELBOWS
X - CROSS

- | | |
|------------|--------------|
| (VA) VALVE | (CA) CAMLOCK |
| (E) ELBOW | (U) UNION |
| (T) TEE | (P) PUMP |



WEEKLY EQUIPMENT INSPECTION LOG AIR EMISSIONS STANDARDS , SUBPART BB

INSPECTION DATE:

PERFORMED BY: _____

PLEASE PRINT

HAZARDOUS PROCESS AREA -- DIAGRAM A

1 TAG NO.	2 EQUIPMENT TYPE / LOCATION	3 EQUIPMENT DEFICIENCIES	4 EXPECTED DATE OF REPAIR	5 ACTUAL REPAIR DATE	6 REPAIR SUCCESSFUL	7 METHOD OF REPAIR	8 REASON FOR DELAY
A TOTE TANK ZONE 1							
1 E-53	2" FLUID DRAIN						
2 E-54	2" FLUID DRAIN						
3 CA-12	2" FLUID DRAIN CONNECTOR						
4 VA-24	2" FLUID DRAIN SHUTOFF						
B TOTE TANK ZONE 1							
5 E-55	2" FLUID DRAIN						
6 E-56	2" FLUID DRAIN						
7 CA-13	2" FLUID DRAIN CONNECTOR						
8 VA-25	2" FLUID DRAIN SHUTOFF						
C TOTE TANK ZONE 1							
9 E-57	2" FLUID DRAIN						
10 E-58	2" FLUID DRAIN						
11 CA-14	2" FLUID DRAIN CONNECTOR						
12 VA-26	2" FLUID DRAIN SHUTOFF						
D TOTE TANK ZONE 1							
13 E-59	2" FLUID DRAIN						
14 E-60	2" FLUID DRAIN						
15 CA-15	2" FLUID DRAIN CONNECTOR						
16 VA-27	2" FLUID DRAIN SHUTOFF						
PLUMBING SUPPLY RUN FOR ABOVE TANKS							
1 VA-28	1.5" SHUTOFF AT SUPPLY LINE END						
2 VA-28	1.5" SHUTOFF AT PUMP DISCHARGE END						
3 E-61	90 DEG. NXT. TO VA-28 ABOVE TANKS						
4 E-62	90 DEG. TURNS LINE TOWARD PUMP						
5 E-63	90 DEG. OUTER WALL DROP TO PUMP						
6 E-64	45 DEG. AT PUMP DISCHARGE						
7 E-65	90 DEG. AT PU DISCHARGE VA-29						
8 U-40	1.5" BETWEEN E-61/E-62						
9 U-41	1.5" BETWEEN E-62/E-63						
10 CA-16	2" CONNECT DIS. LINE END BY VA-28						
11 CA-17	2" CONNECT DIS. LINE PUMP END						
12 CP-5	1.5" BETWEEN VA-28 E-61 DIS. END						
13 CP-8	1.5" BETWEEN E-62/E-63 TNGXOVER						
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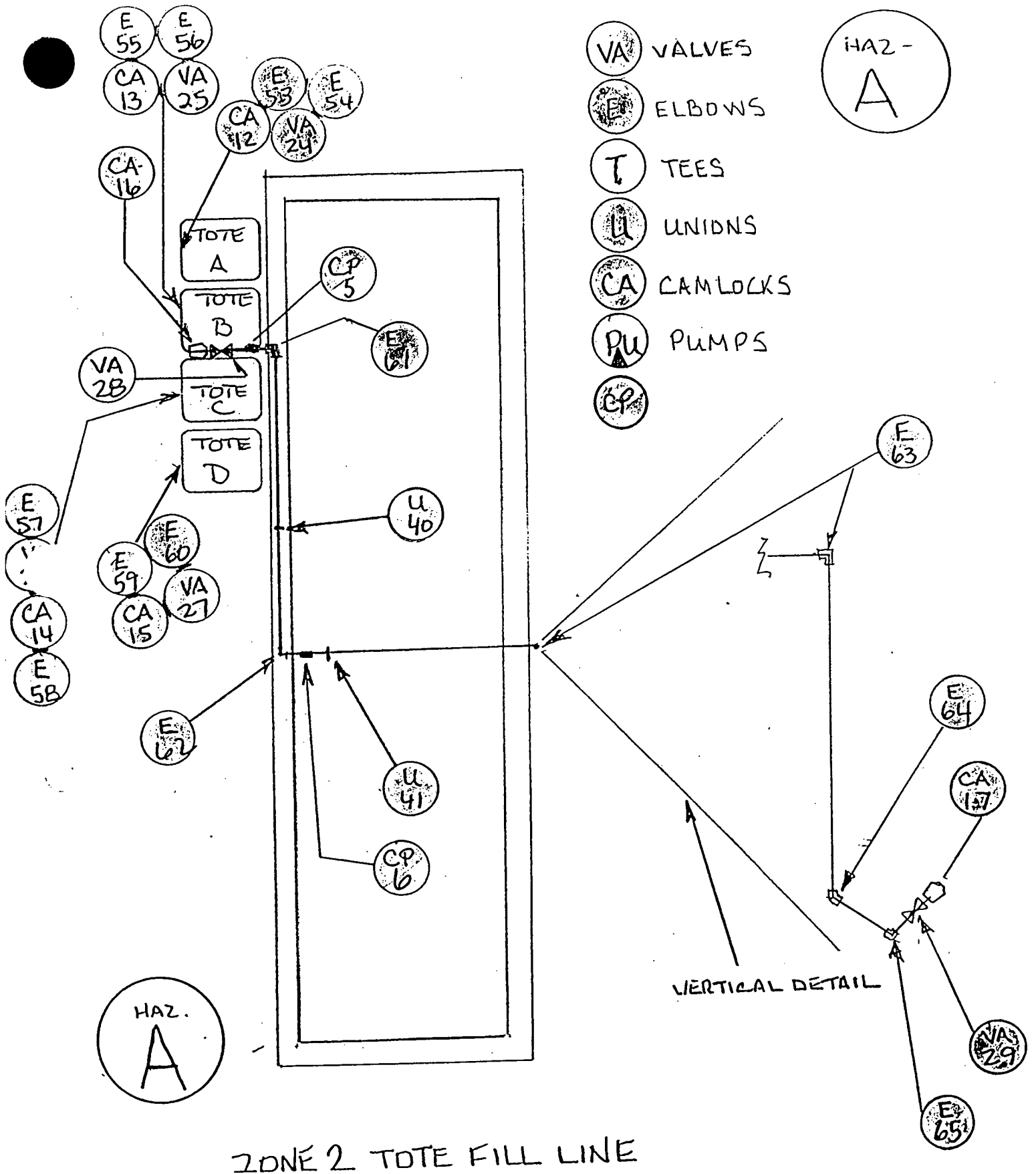
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LEGEND

VA - VALVES
T - TEES
CA - CAMLOCK
U - UNIONS
E - ELBOWS
X - CROSS



WEEKLY EQUIPMENT INSPECTION LOG AIR EMISSIONS STANDARDS, SUBPART BB

INSPECTION DATE: _____

PERFORMED BY: _____
PLEASE PRINT

PAGE 1

HAZARDOUS PROCESS AREA – DIAGRAM B

1	2	3	4	5	6	7	8
TAG NO.	EQUIPMENT TYPE / LOCATION	EQUIPMENT DEFICIENCIES	EXPECTED DATE OF REPAIR	ACTUAL REPAIR DATE	REPAIR SUCCESSFUL	METHOD OF REPAIR	REASON FOR DELAY
1 TOTE TANK, ZONE 2							
1 E-71	2" FLUID DRAIN						
2 E-72	2" FLUID DRAIN						
3 CA-20	2" FLUID DRAIN CONNECTOR						
4 VA-32	2" FLUID DRAIN SHUTOFF						
3 TOTE TANK, ZONE 2							
5 N/A	2" FLUID DRAIN						
6 E-73	2" FLUID DRAIN						
7 CA-21	2" FLUID DRAIN CONNECTOR						
8 VA-33	2" FLUID DRAIN SHUTOFF						
4 TOTE TANK, ZONE 2							
9 E-74	2" FLUID DRAIN						
10 E-75	2" FLUID DRAIN						
11 CA-22	2" FLUID DRAIN CONNECTOR						
12 VA-34	2" FLUID DRAIN SHUTOFF						
5 TOTE TANK, ZONE 2							
13 E-76	2" FLUID DRAIN						
14 E-77	2" FLUID DRAIN						
15 CA-23	2" FLUID DRAIN CONNECTOR						
16 VA-35	2" FLUID DRAIN SHUTOFF						
6 TOTE TANK, ZONE 2							
17 E-78	2" FLUID DRAIN						
18 E-79	2" FLUID DRAIN						
19 CA-24	2" FLUID DRAIN CONNECTOR						
20 VA-36	2" FLUID DRAIN SHUTOFF						
7 TOTE TANK, ZONE 2							
21 E-80	2" FLUID DRAIN						
22 E-81	2" FLUID DRAIN						
23 CA-25	2" FLUID DRAIN CONNECTOR						
24 VA-37	2" FLUID DRAIN SHUTOFF						
8 TOTE TANK, ZONE 2							
25 E-82	2" FLUID DRAIN						
26 E-83	2" FLUID DRAIN						
27 CA-26	2" FLUID DRAIN CONNECTOR						
28 VA-38	2" FLUID DRAIN SHUTOFF						
9 TOTE TANK, ZONE 2							
29 E-84	2" FLUID DRAIN						
30 E-85	2" FLUID DRAIN						
31 CA-27	2" FLUID DRAIN CONNECTOR						
32 VA-39	2" FLUID DRAIN SHUTOFF						
10 TOTE TANK, ZONE 2							
33 E-86	2" FLUID DRAIN						
34 E-87	2" FLUID DRAIN						
35 CA-28	2" FLUID DRAIN CONNECTOR						
36 VA-40	2" FLUID DRAIN SHUTOFF						
11 TOTE TANK, ZONE 2							
37 E-88	2" FLUID DRAIN						
38 E-89	2" FLUID DRAIN						
39 CA-29	2" FLUID DRAIN CONNECTOR						
40 VA-41	2" FLUID DRAIN SHUTOFF						

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LEGEND
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T – TEES
CA – CAMLOCK
U – UNIONS
E – ELBOWS
X – CROSS

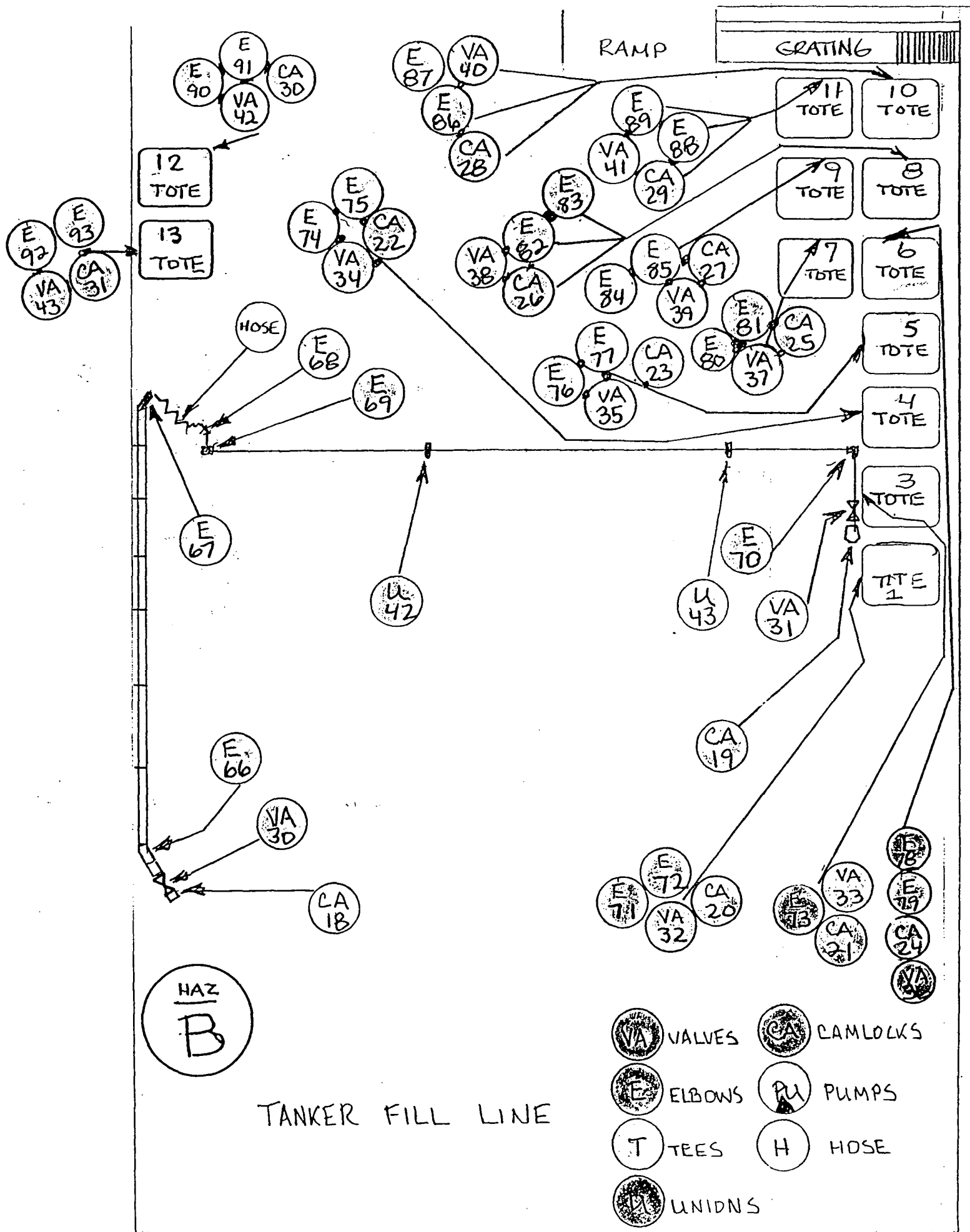
INSPECTION DATE:

PLEASE PRINT

HAZARDOUS PROCESS AREA - DIAGRAM B

INSTRUCTIONS:
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X - CROSS



WEEKLY EQUIPMENT INSPECTION LOG AIR EMISSIONS STANDARDS , SUBPART BB

INSPECTION DATE: _____

PERFORMED BY: _____

PLEASE PRINT

NON - HAZARDOUS PROCESS AREA - DIAGRAM A

1	2	3	4	5	6	7	8
TAG NO.	EQUIPMENT TYPE / LOCATION	EQUIPMENT DEFICIENCIES	EXPECTED DATE OF REPAIR	ACTUAL REPAIR DATE	REPAIR SUCCESSFUL	METHOD OF REPAIR	REASON FOR DELAY
1	VA-48 2" SHUTOFF OUTSIDE WALL DISCHARGE						
2	VA-50 2" SHUTOFF INSIDE WALL DISCHARGE						
3	VA-51 2" FLUID SHUTOFF MAIN TANK DRAIN						
4	VA-52 2" MAIN PUMP SUCTION SHUTOFF						
5	VA-53 2" MAIN PUMP DISCHARGE SHUTOFF						
6	VA-54 2" DRUM PUMP SUCTION SHUTOFF						
7	VA-55 2" DRUM PUMP DISCHARGE SHUTOFF						
8	VA-56 2" DRUM PUMP DIS. HOSE SHUTOFF						
9	VA-57 2" DRUM PUMP DIS. HOSE SHUTOFF						
10	E-101 2" 90 DEG AT MAIN TANK DRAIN						
11	E-102 2" 90 DEG. MAIN TANK DIS. LINE						
12	E-103 2" 90 DEG. MAIN TANK DIS. LINE						
13	E-104 DRUM PUMP SUCTION						
14	E-105 DRUM PUMP DISCHARGE						
15	E-106 TOP OF DRUM PUMP DIS HOSE						
16	E-107 TOP OF DRUM PUMP DIS HOSE						
17	CA-36 OUTER WALL MAIN TANKER. FILL CONN.						
18	CA-37 MAIN TANK DRAIN PUMP SUC. LINE						
19	CA-38 MAIN TANK DRAIN PUMP DIS. LINE						
20	CA-39 DRUM DRAIN PUMP SUCT. LINE						
21	CA-40 DRUM DRAIN PUMP DISC. LINE						
22	CA-41 DRUM DRAIN PUMP DISC. LINE HOSE SIDE						
23	U-44 2" AT MAIN TANK DRAIN						
24	U-45 2" MAIN TANK DIS. LINE						
25	U-46 2" MAIN TANK DIS. LINE						
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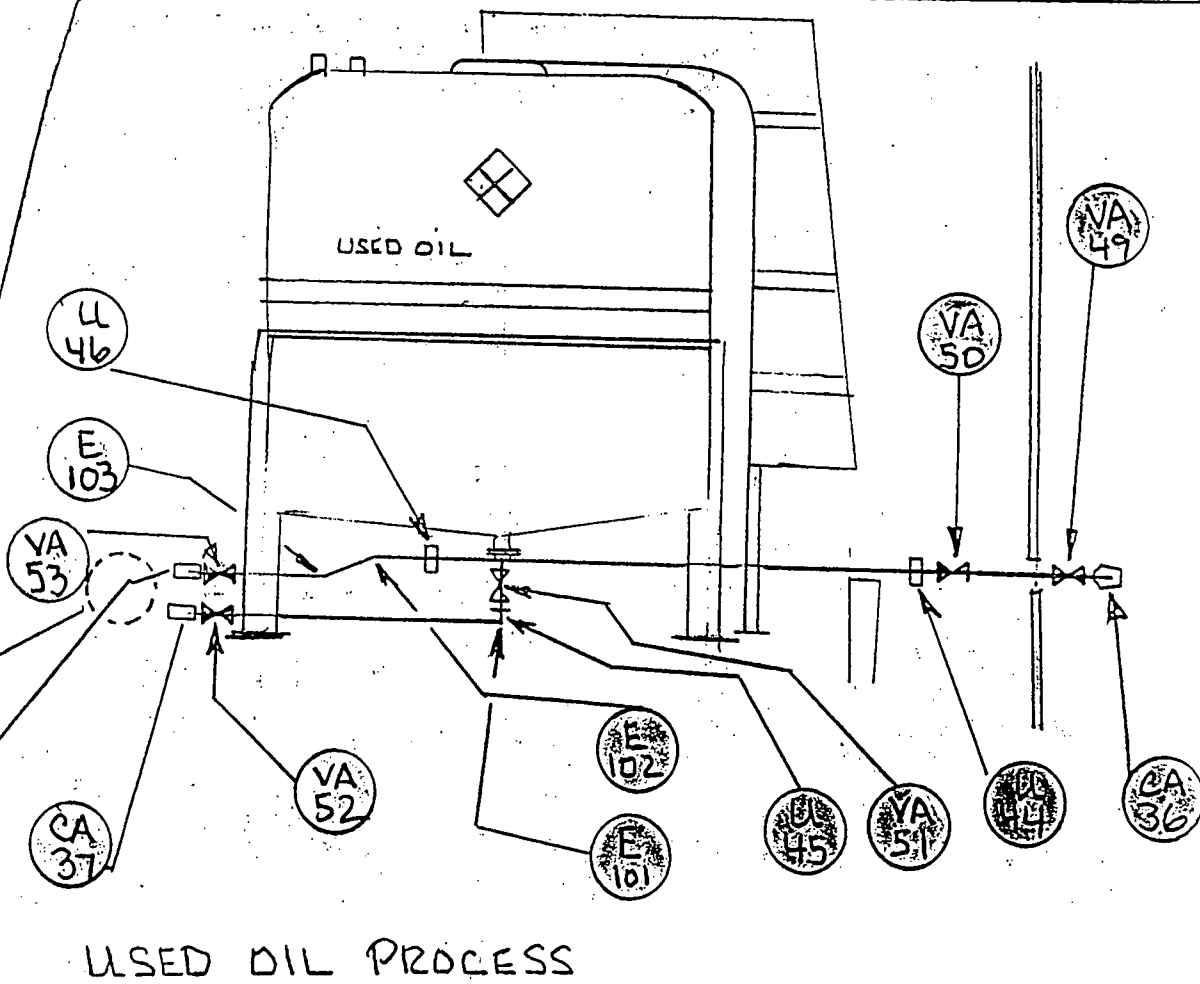
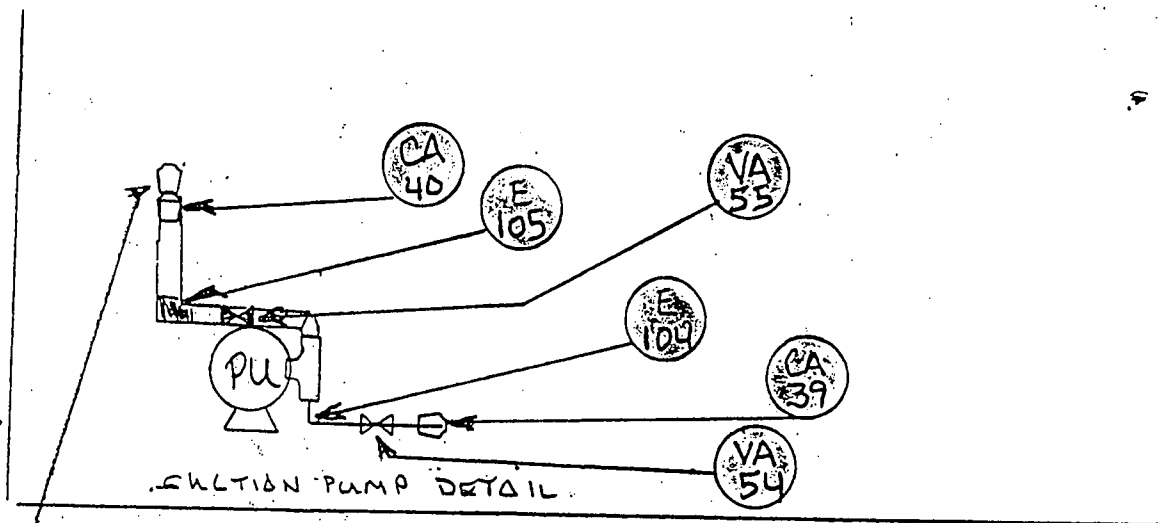
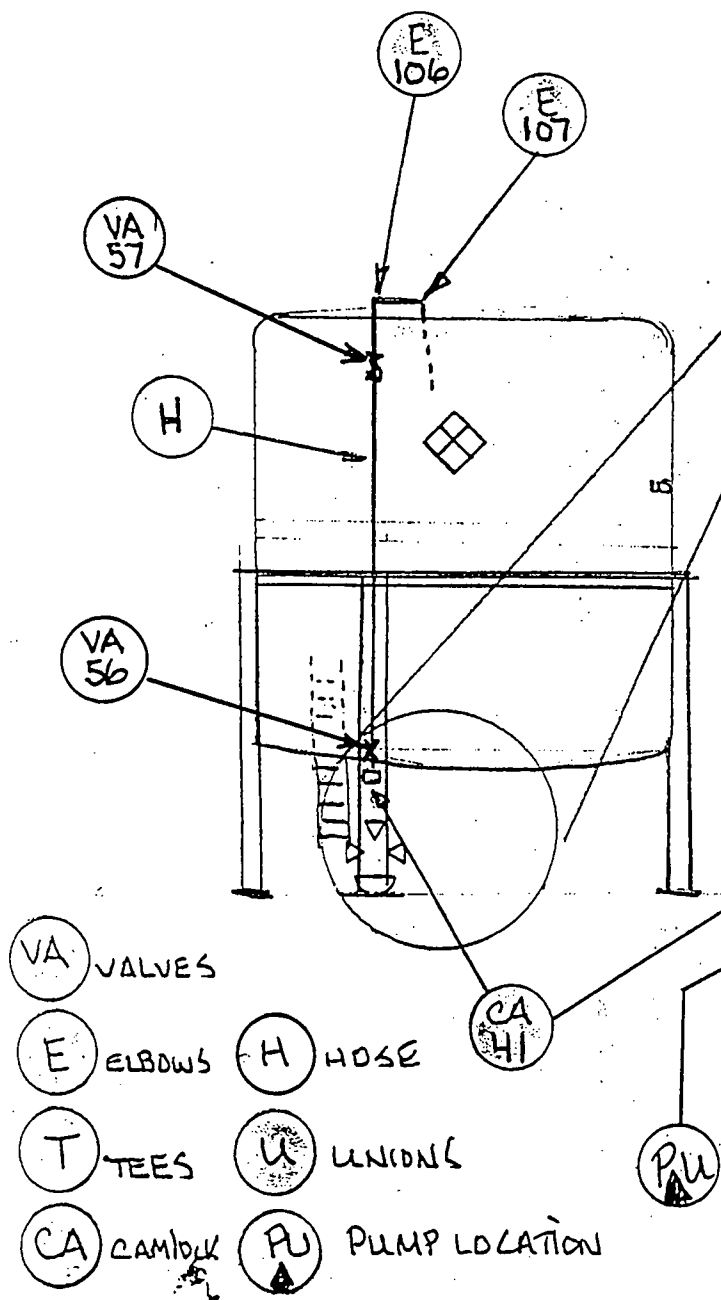
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USED OIL PROCESS



NORTH CENTRAL FLORIDA LOCAL EMERGENCY PLANNING COMMITTEE

2009 NW 67 Place, Suite A, Gainesville, FL 32653-1603 (352) 955-2200 lepc@afn.org FAX 955-2209

February 1, 1996

Chairman

John Hudson, PCR Inc./
Harris Specialty Chemicals

Vice-Chair, First Responders

Allen Blanton,
Madison Fire Rescue Department

Vice-Chair, Public Information

Charles Pults, PCS White Springs
(formerly Occidental Chemical Corp.)

Jim Aikman, Suwannee County
Emergency Services

Honorable Frank Albury, Columbia
County PTA and County Commission

Nonia Mae Bell,
Lafayette County Civil Defense

Arthur Bellot,
Dixie County Emergency Services

William Brideson, Gilchrist County
Emergency Management

Sandy Burgess, Progress Center -
The University of Florida Research
and Technology Park

Cliff Chapman,
Alachua County Fire-Rescue

John Davis, Hamilton County
Sheriff's Office

Jean Feingold,
Business Communicators

Jim Flanagan, Suwannee River
Management District

Jeetwood,
City of Florida

Craig Fugate, Alachua County
Emergency Management

Oscar Garner, Taylor County
Public Safety

Nelson Green,
Bradford County Emergency Services

Pegeen Hanranhan, Alachua County
Environmental Protection Department

Gracie Kennedy, Florida Department
of Environmental Protection

Paul Kremer, PCR Inc./
Harris Specialty Chemicals

James Locke, Bradford County
Emergency Management

Honorable Randy Mackay,
House of Representatives

Joey Malphurs, Union County
Emergency Services

Michael McEvoy, Gainesville
Regional Utilities

Dan Morgan, Gainesville Fire-Rescue

Cheryl Murrin, Florida
Department of Transportation

Honorable Terry Parrish,
City of Trenton Commission

Jim Pistole, Hamilton County
Disaster Preparedness

Edye Rowell,
Buckeye Florida

Della Shealy,
Alachua County Sheriff's Office

Cherry Smith, Columbia County
Emergency Management

Williams,
Fire-Rescue

Ms. Jennifer Hazard
Perma-Fix of Florida, Inc.
1940 NW 67th Place
Gainesville, FL 32653

Dear Ms. Hazard:

The North Central Florida Local Emergency Planning Committee (LEPC) has long recognized the importance of working closely with industry to increase the preparedness for hazardous materials related incidents. The following comments reflect observations made during the January 23, 1996, visit to Perma-Fix.

Sheltering in-place appears to be a viable alternative for protection from smoke resulting from a fire. This is based upon the assumption that the combustion products are relatively non-toxic and similar to those from petroleum fuels. This also assumes that there is no threat from radiation, fire or explosion to those sheltered in-place. An industrial park with only one exit does complicate matters.

However, as we discussed, the decision to shelter in-place outside of Perma-Fix will likely be made by the incident commander from Gainesville Fire-Rescue (GFR). As discussed with Dan Morgan, preplanning firefighting strategies with GFR's hazmat team is encouraged. It is also recommended that you develop an emergency notification list of nearby neighbors.

During the February 16, 1996, meeting I will ask the LEPC to authorize the creation of a work group to initiate the development of an emergency plan for the Northwest Industrial Park. Tasks should include a notification system, providing information on evacuation and sheltering in-place, preplanned alternate emergency exits, and recommendations for a future second exit from the park.

If you have any questions regarding this matter, do not hesitate to call LEPC staff contact Dwayne Mundy at the above number.

Sincerely,

John Hudson
Chairman

xc: Dan Morgan
Pegeen Hanranhan
Craig Fugate



GAINESVILLE FIRE RESCUE DEPARTMENT

Hazardous Materials Response

January 29, 1996

To: Jennifer Hazard, Coordinator
Technology & Development
Perma-Fix Environmental Services, Inc

From: Dan Morgan
Hazardous Materials Officer
Gainesville Fire Rescue
1024 NE 14th ST
Gainesville, FL 32601

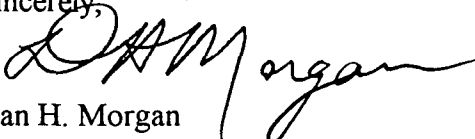
I appreciate the opportunity to visit and tour your facility on January 23, 1996. There are several suggestions I would like to make regarding your situation.

- > In the case of an emergency incident early and efficient communication with your neighbors would facilitate their safety. This type of relationship should be developed proactively.
- > Most likely the initial decisions of the responding agency would be directed toward sheltering in place, pre-education of exposed populations in this technique is vital.
- > As your area has only one exit, alternate emergency exits should be further pursued.
- > Obtaining a mobile foam generating unit for vapor suppression in the case of a release in your drum storage area is one way to address this problem.
- > Retention curbing for the tank trailer parking area.
- > Some retention system for the ethanol storage area.

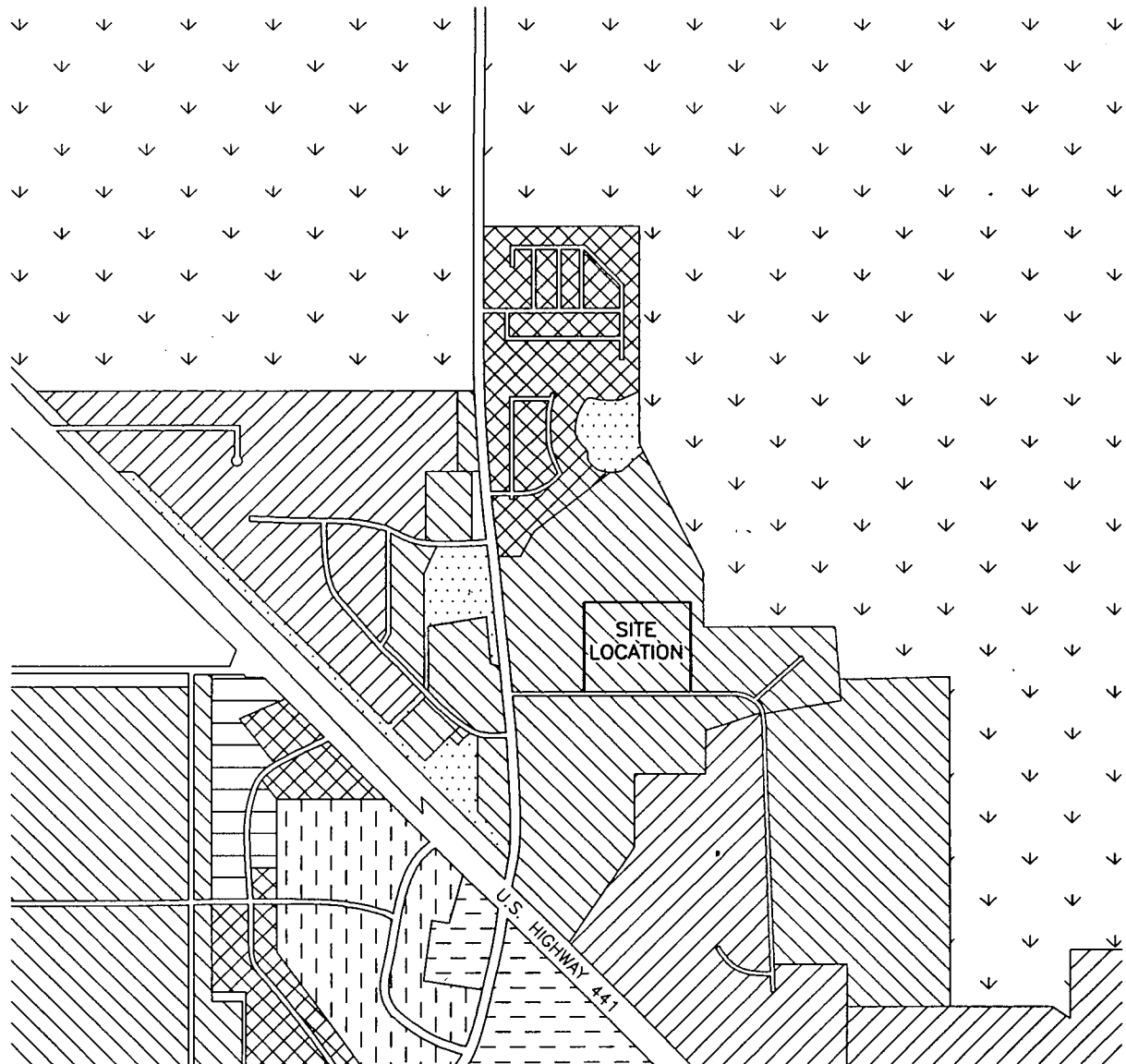
I suggest we schedule preplanning visits for our first due firefighting unit and hazardous materials response team. We require 4-6 weeks for our scheduling process.










If you have any questions, please call me at 334-5000 x5465.

Sincerely,


Dan H. Morgan

Fire Safety Management
1024 N. E. 14th Street - Gainesville, FL 32601
(904)334-2548 - Fax (904)334-2523



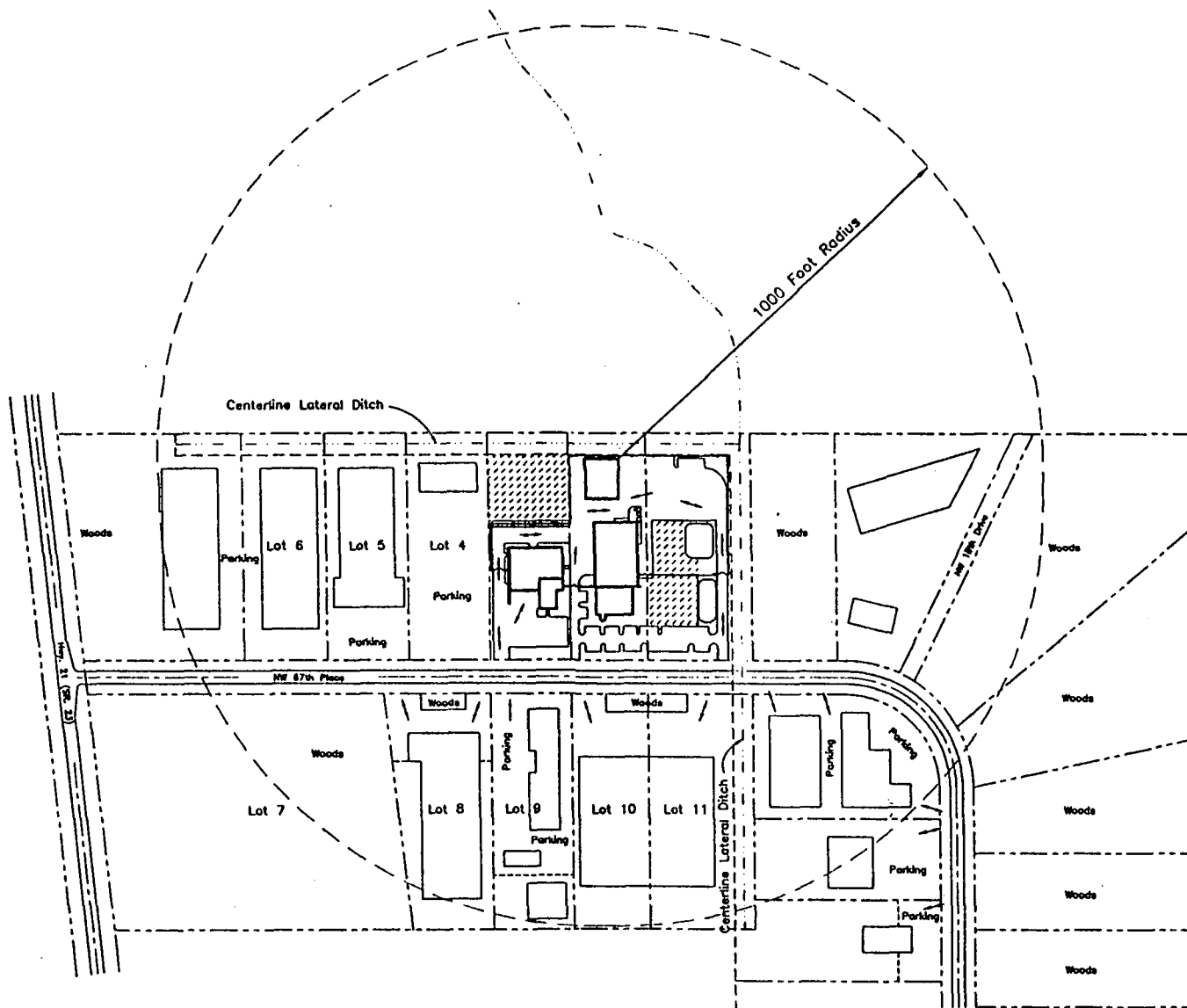
-  RESIDENTIAL SINGLE FAMILY LOW DENSITY
-  LIMITED INDUSTRIAL
-  RESIDENTIAL SINGLE FAMILY MEDIUM DENSITY
-  RESIDENTIAL MULTI-FAMILY MEDIUM DENSITY
-  MIXED USE MEDIUM DENSITY
-  AGRICULTURAL
-  CONSERVATION AREA
-  PUBLIC SERVICE
-  PLANNED DEVELOPMENT



Modified from:
January 1994, City of Gainesville -
Generalized Zoning Map. Prepared by
the Department of Community Development.

TITLE: FIGURE 4 SURROUNDING LAND USE			
PREPARED FOR: PERMA-FIX OF FLORIDA, INC. 1940 NW 67th Place Gainesville, FL 32653			
SCALE: NOT TO SCALE	APPROVED BY:	DRAWN: PROOFRAFT	
DATE: 1/2/98	C. ORBAN	REVISED:	
PROJECT NUMBER:	DRAWING NUMBER:		FIG4
9003			

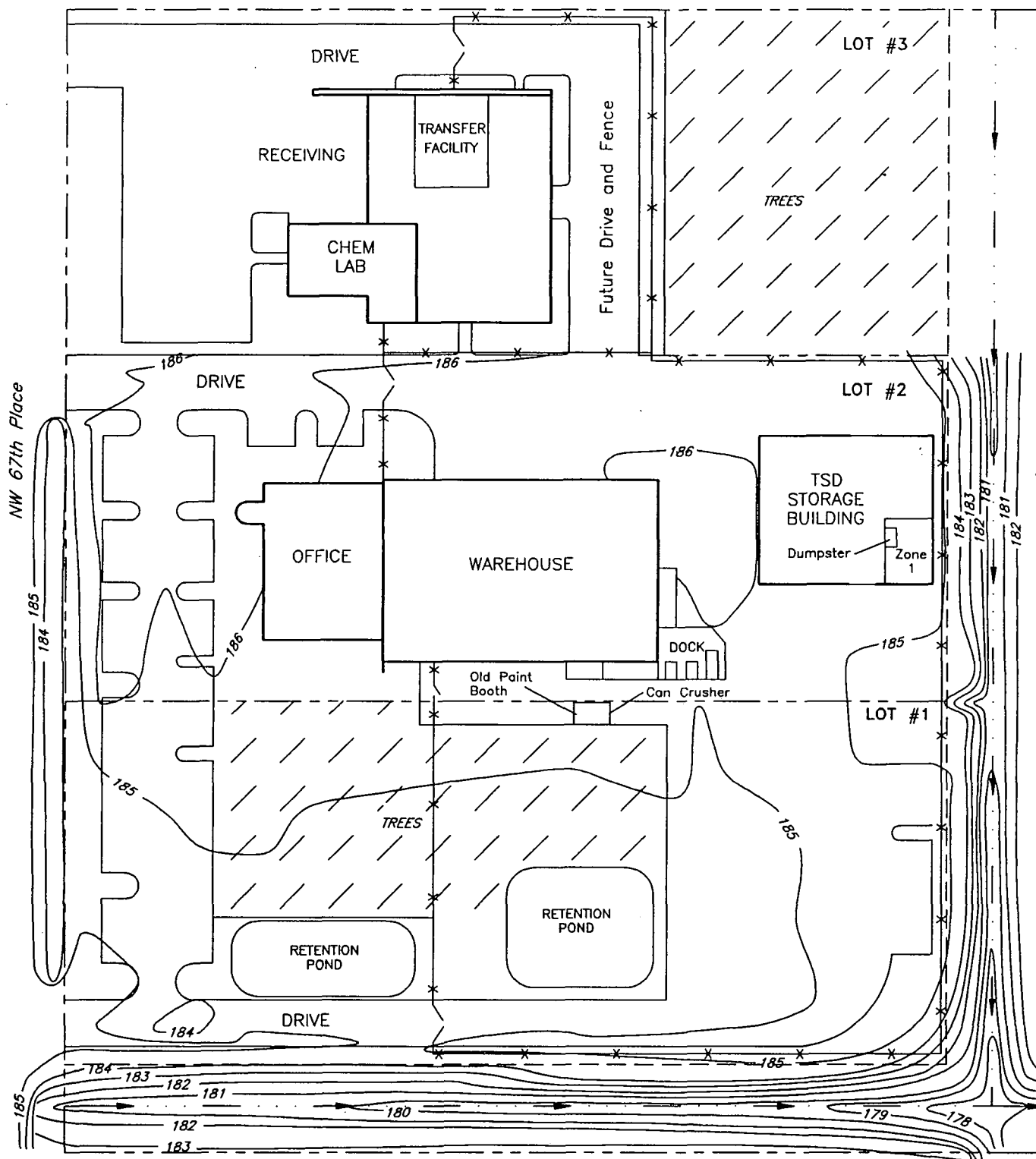
PERMA-FIX
ENVIRONMENTAL SERVICES



- PROPERTY LINE
- DRAINAGE EASEMENT
- TRAFFIC PATTERN
- WOODED AREA

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ENVIRONMENTAL SERVICES

TITLE: FIGURE 5 SITE BOUNDARIES AND TRAFFIC PATTERN		
PREPARED FOR: PERMA-FIX OF FLORIDA, INC. 1940 NW 87th Place Gainesville, FL 32653		
SCALE: 1=200	APPROVED BY: C. ORBAN	DRAWN: PRODRIFT
DATE: 2/12/98		REVISED:
PROJECT NUMBER: 9003		DRAWING NUMBER: FIG5

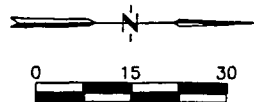
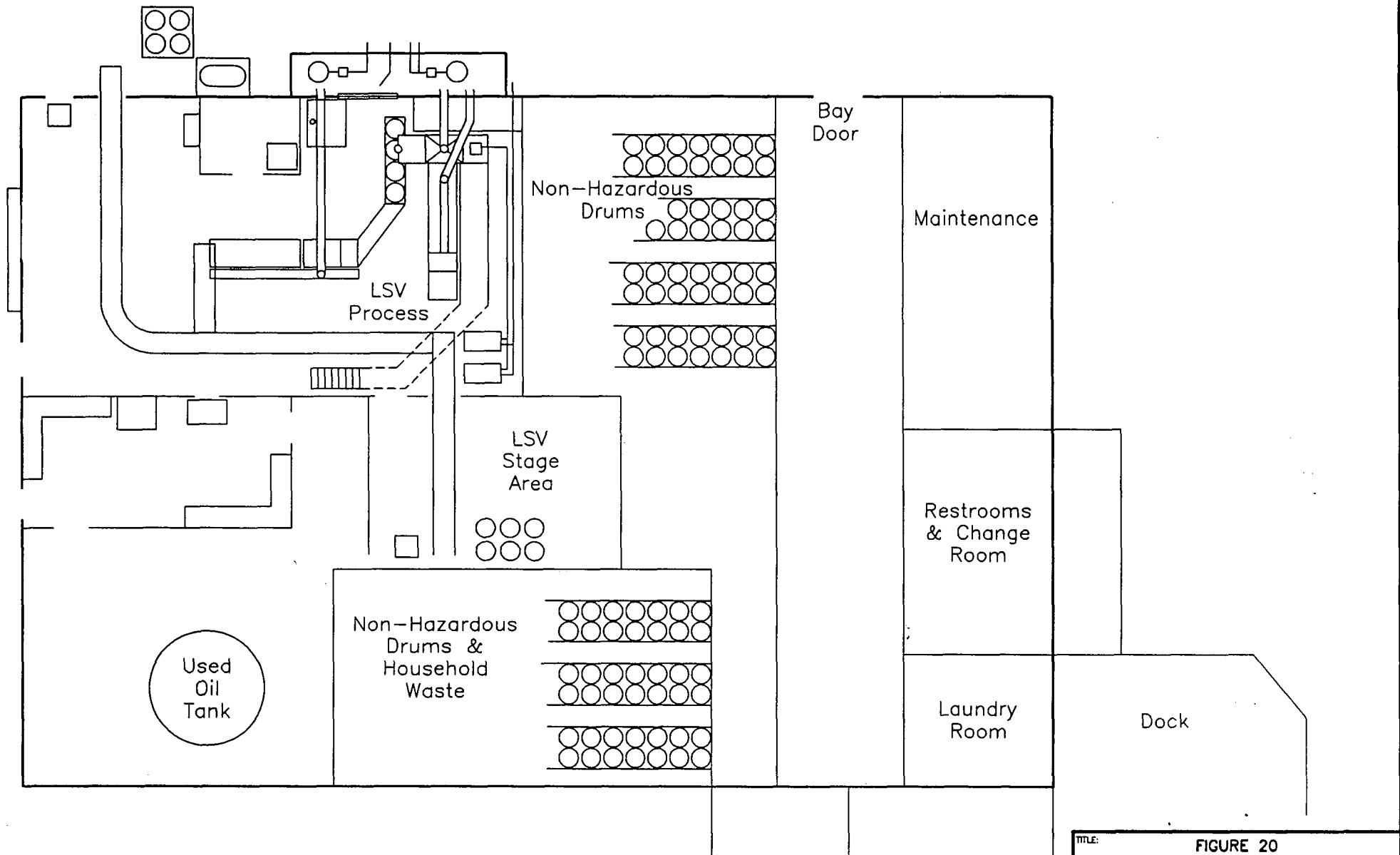


————— Property Line
 - - - - - Drainage Easement



TITLE: FIGURE 19 SITE SURVEY			
PREPARED FOR: PERMA-FIX OF FLORIDA, INC. 1940 NW 67th Place Gainesville, FL 32653			
SCALE: 1"=80'	APPROVED BY:	DRAWN: PRODRIFT	
DATE: 2/12/88	C. ORBAN	REVISED:	
PROJECT NUMBER:	9003		DRAWING NUMBER: FIG19

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TITLE: FIGURE 20 LSF PROCESSING and WAREHOUSE AREA		
PREPARED FOR: PERMA-FIX OF FLORIDA, INC. 1940 NW 67th Place Gainesville, FL 32653		
SCALE: 1"=30'	APPROVED BY: C. ORBAN	DRAWN: PRODRIFT
DATE: 2/12/88		REVISED:
PROJECT NUMBER: 9003		DRAWING NUMBER: FIG20



PERMA-FIX OF FLORIDA, INC.
Appendix B/NOD Response, Item 15
Non-Hazardous Waste

PFF may store the following non-hazardous waste storage area:

- radiator coolant
- petroleum contaminated water
- petroleum contaminated soil
- hydrocarbon contaminated media/debris
- industrial waste
- absorbent material
- oil filters
- oily rags
- oily water
- solvents
- tank bottoms
- photo solutions
- waste fuel
- waste oil
- leachate
- paint waste, paint filters and paint solids
- inks and pigments
- all other forms of compatible non-hazardous and non-regulated waste.