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INTERIM RCRA FACILITY ASSESSMENT  
of the  
QUADREX HPS, INC. FACILITY  
GAINESVILLE, FLORIDA

EPA I.D. NO. FLD980711071

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In response to

EPA Contract No. 68-W9-0040  
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February 22, 1990

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## I. EXECUTIVE SUMMARY

An Interim RCRA Facility Assessment (RFA), based on a preliminary review (PR) of U.S. EPA Region IV and Florida Department of Environmental Regulation (FDER) files and a visual site inspection (VSI) of the Quadrex HPS, Inc. facility located at Gainesville, Florida, was performed during August - October 1989. The focus of the Interim RFA was on the identification of solid waste management units (SWMUs) and other potential sources of environmental contamination not necessarily involving wastes (other areas of concern - AOCs), and an evaluation of the potential for the release of hazardous wastes or constituents from the respective units and areas.

Quadrex HPS, Inc. is involved in the radiological and hazardous wastes decontamination business and performs three types of waste-management-related activities on site: (1) the manufacture of specialized hazardous waste treatment equipment - primarily for PCB and/or low level radiological waste cleanup; (2) the servicing and outfitting of mobile field decontamination units; and (3) a mixed waste solvents reclamation operation, primarily involving liquid scintillation fluids (LSFs) processing, which is the major on-site activity. The Quadrex operations began in 1982 and are currently active. The mixed waste solvents reclamation operation is currently conducted under a temporary operation permit issued by FDER. Quadrex filed a RCRA Part B Permit Application in September 1989 which is currently under review by the state.

The Interim RFA resulted in the identification of 32 SWMUs and one AOC on the properties used by Quadrex at the Gainesville location.

No further action under the 1984 Hazardous and Solid Waste Amendments to RCRA was suggested for these units and therefore a RCRA Facility Investigation (RFI) is not warranted.

It is suggested that periodic integrity inspections be conducted for the LSF Pipe (SWMU 12) and the Indoor Staging and Process Area (SWMU 9).

Releases to the air, as a result of waste management practices conducted at the facility, could not be effectively evaluated during the VSI. Neither the Indoor Staging and Process Area (SWMU 9) nor the Incoming Bulk Waste Transfer Station (SWMU 5) were operating during the VSI. However, based on the operating procedures and design of these units, alcohol and solvent fumes are generated. In addition, drums that may contain small volumes of volatile fluids (alcohol, xylene, toluene) are staged at various locations through the facility. It is suggested that those releases as well as worker safety concerns be addressed in the current Part B review process.

## II. INTRODUCTION

### Objectives of the Interim RFA

The objectives of this Interim RCRA Facility Assessment (RFA) are to:

1. Identify all Solid Waste Management Units (SWMUs) and other Areas of Concern (AOCs) located at the Quadrex HPS, Inc., facility in Gainesville, Florida.
2. Perform a Preliminary Review (PR) of the information obtained from a file search and a Visual Site Inspection (VSI) to assess the potential for release of hazardous wastes or hazardous constituents from each SWMU and AOC.
3. For each SWMU and AOC, determine what further measures, if any, should be taken to safeguard human health and the environment from a release. When sampling is deemed appropriate to determine whether hazardous constituents are present in a known or suspected release, provide a site-specific suggested approach for the sampling and analysis.

### PR and VSI

The PR was performed during August-September 1989. The PR included a review of the RCRA, CERCLA, AIR and NPDES regulatory files at EPA Region IV and the Florida Department of Environmental Regulation (FDER) Jacksonville Office. A complete list of the references reviewed is provided in Chapter VI.

The PR focused on facility activities involving waste generation, treatment, storage and/or disposal and the units used to manage wastes. The PR also included a review of other activities or areas, not involving wastes, which

may exhibit a potential for polluting or contaminating the environment; (e.g., chemical feedstocks, raw materials or products storage; fuel storage and transfer areas; and spill sites). As a result of the PR, a tentative list of past and present SWMUs and AOCs were identified and used to plan the VSI. The PR was also used to identify additional information for collection during the VSI, which would enable assessment of the potential for release from the SWMUs and AOCs, and adequate characterization of the site. The tentative list of SWMUs and AOCs, and the additional information needs, as well as the objectives and plan for conducting the VSI, were provided to Quadrex prior to the visit.

The VSI was performed on October 3, 1989, by a two-person EPA contractor team (Stan Johnson and Jeff Evans - A.T.Kearney) and a FDER representative (Indar Jagnarine - Jacksonville office). Quadrex participants included: Bernhardt (Ben) Warren, VP Environmental; Dennis Fleetwood, Regulatory Compliance; Jack Flaacke, Operations Manager; and Kevin Crosson, Project Manager.

The participants met in a conference room at the facility at 8:30 a.m. to discuss preliminary matters, information needs and arrangements to visit all units and areas. The facility participants discussed the history of the site and Quadrex's three decontamination business activities in which the site is involved:

1. Assemble and test cleaning equipment which is designed and built to meet customer decontamination needs; e.g., for the decontamination of items or material contaminated due to exposure to radioactivity, or toxic materials such as PCBs;
2. Home location for three trailer-packaged field units that provide remote site cleanup services to customers; and
3. The mixed waste solvents reclamation business, which is primarily liquid scintillation fluids (LSFs) processing, and is the major on-site waste management activity.

The equipment assembled on-site, as well as the equipment used in the field units, may use freon or proprietary solvents, and is generally custom-made for a specific application. The cleaning equipment and field units undergo



functional check-out testing and servicing on-site with minimal waste generation. The mixed waste solvents reclamation activity is currently operated under Temporary Operation Permit (TOP) #HT 01-136540, issued by FDER, which is due to expire January 15, 1990. On September 1, 1989, Quadrex submitted an RCRA Part B Permit Application for continuing this activity. The application is currently under review by the state.

For conducting its businesses at Gainesville, Quadrex is using a 5.27-acre purchased site and a leased, non-contiguous Annex located approximately 1,000 feet southeast of the purchased site. Facilities located at the Annex that are involved in the management of hazardous wastes include a laboratory for waste solvents testing, a small storage building for storage of samples and an indoor area used for equipment R&D testing. Mr. Warren stated that Quadrex had plans to discontinue the lease of the Annex, and to move the laboratory and R&D testing to the purchased site by December 1, 1989.

Following the introductory meeting, the outside areas at the purchased site and the waste management areas at the Annex were visited. Photographs were taken by Jeff Evans. The weather was clear and sunny, with temperatures in the 70°F. After a lunch break, the indoor waste processing areas and the remaining outdoor areas were visited.

A close-out meeting was held in Mr. Flaacke's office. Mr. Fleetwood showed an internal memorandum reporting the results of soil sampling from the area of the 3,000-Gallon Waste Liquids Tank (SWMU 6), performed by Quadrex in September 1988. The initial report showed elevated levels of xylenes. It was suspected that the results were due to the presence of vermiculite in the sample. The area was resampled, and the tests found no traces of xylenes. The close-out meeting ended at approximately 3:30 p.m., and the VSI team departed the site.

## Facility History

The pine-forested, undeveloped 5.27-acre site was purchased by Quadrex from a land developer in 1981 (Reference 53). This site, consisting of Lots 1 and 2, is shown in Figure II-3 on page II-15. Quadrex began development of the western half in the spring of 1982. The 10,000-square-foot office building and the 15,000-square-foot manufacturing building were occupied in September 1982. Paved driveways and a parking lot were installed in 1985. The upgraded Container Storage Shed (SWMU 4), located in the northwest quadrant of the site, was built in the spring of 1989 (Reference 53). The shed was upgraded to meet the secondary containment requirements of 40 CFR 264.175 as specified by TOP # HT 01-136540, issued by FDER (Reference 5).

Laboratory operations at the Annex began in 1986 (Reference 53). Testing of mobile PCB decontamination equipment at the Annex, which makes use of freon-type solvents for the removal of PCBs from equipment items, surfaces and containers, has been conducted since 1985, on an intermittent basis, under permits issued by EPA (References 9, 18, 19, 48).

The mixed waste solvent reclamation operations began in 1983, and a history of events concerning these operations up until June 1986 are shown in Appendix A (Reference 41). Uncertainties as to the regulatory status of these operations continued until 1986, when EPA ruled that mixed radioactive and hazardous wastes are subject to RCRA regulations and FDER formally notified Quadrex to immediately file notification of hazardous waste activities with FDER and US EPA (Reference 29). Quadrex submitted a RCRA Part A Permit Application for these operations in April 1987, and signed a Consent Order with FDER which subjects Quadrex to 40 CFR Parts 260 through 266 and required the submission of a TOP application to FDER (References 26, 27). In July 1988, FDER issued TOP #HT 01-136540 providing conditions for the operation of two hazardous waste storage units: a container storage area and a 3,000 gallon aboveground storage tank (Reference 5). The TOP expires January 15, 1990 (Reference 5). In September 1989, Quadrex filed a RCRA Part B Permit Application for continuing the mixed waste solvent reclamation operations (Reference 53). The application is under review by the State at this writing.

## Process and Waste Management

There are three distinct operations conducted at the Quadrex Facility in Gainesville, Florida. These operations include specialized hazardous waste treatment equipment manufacturing; off-site field remediations management and support; and, primarily, a waste processing and liquid bulking operation for Liquid Scintillation Fluids (LSFs). In support of the LSFs bulking operations, the facility maintains a bulk storage tank and a drum storage facility. These operations are conducted at the main facility. A laboratory and research and development facility is located off-site at another building in the industrial park. This building is referred to as the Annex, and is located approximately 1,000 feet southeast of the main facility building (Reference 53).

Equipment manufacturing is conducted in the northeast section of the main facility building. These operations consist of assembling prefabricated parts, painting and equipment testing (Reference 53). As observed during the VSI, the finished product is a combination parts washer/solvent still used for decontaminating PCB-contaminated materials. These machines utilize a proprietary freon mixture. Freon is used to test each machine. After testing, the freon is collected and used to test other machines. According to facility representatives, there is no waste freon generated, although some evaporates (Reference 53). The facility maintains a paint booth and generates an estimated five to ten drums of waste paint solids, rags, masking tape, gloves, paint brushes and rollers per year (References 2, 53).

The facility is also the base operations for Quadrex's field remediation activities. Equipment used for field operations is parked on an asphalt lot immediately east of the manufacturing building. During the VSI, the team observed two tractor-trailer vans and one small step van. The tractor-trailer vans are field trailers used for equipment storage, and the step van is a portable lab. Quadrex representatives stated that the equipment and trailers are decontaminated at the remediation sites prior to their return to the facility. The trailers observed during the VSI were being outfitted for future operations. This area is the Field Trailers Service Area (SWMU 26) (Reference 53).

The waste processing and liquid bulking operation represents the majority of the waste management operations at this facility. The wastes generated are crushed vials, packing material (vermiculite), 55-gallon drums, and the hazardous wastes (flammable liquids). Wastes are transferred off-site as follows:

- Absorbents (vermiculite) - Prior to 1986, the waste was incinerated. Since 1986, the waste that is not contaminated by the solvents has been transferred off-site by Chemical Conservation Inc., for use as an aggregate in concrete (References 7, 8).
- Vials - Prior to 1986, the waste was transferred to Southwest Landfill, Alachua County. Since 1986, it has been transferred off-site by Chemical Conservation Inc., to a commercial landfill in Savannah, GA (References 7, 8).
- 55-gallon drums - Drum reconditioning at Drum Services of Florida (References 7, 8).
- Flammable liquids - Waste is transferred off-site in bulk tank trailers by Oldover, Inc., and burned at Florida Solite's kiln (References 7, 8).

The facility generates approximately 6,000 gallons of flammable liquids per month, 60 cubic yards of shredded glass or plastic vials per week and approximately 20 cubic yards of vermiculite per week (Reference 43). The source of these wastes are vials of LSFs received by the facility from off-site generators. The LSFs consist of solvents containing trace amounts of radioactive material. Toluene and xylene are the predominant solvents used. These LSFs are regulated as mixed wastes and contain carbon-14, tritium and other short-half-life isotopes. Management of these wastes involves

off-loading, testing/screening, labeling, vial/packing material separation, vial/liquid separation, vial rinsing, liquid bulking and the consolidation of wastes for off-site disposal (References 8, 43, 53). These operations, with the exception of off-loading, are conducted within a fenced area located north and west of the main facility building. This area is surrounded by a fence and consists of an asphalt lot and a Container Storage Shed (SWMU 4). The west section of this area provides access to the Indoor Staging and Process Area (SWMU 9). This unit is situated indoors in the west section of the main facility building.

Incoming shipments are received at the North Unloading Area (SWMU 1) and the South Unloading Area (SWMU 2) located in the north section of the facility. These units are immediately outside the gate leading to the LSF operations. The precise location of these areas is largely dependent on the ability of truck drivers to back up to the gate. Drums of LSF vials are unloaded from trucks via forklift and a portable ramp, then transferred to the Temporary Holding Area (SWMU 3). The scintillation vials are surrounded by vermiculite in the overpack drums. There is enough vermiculite in each drum to absorb twice the amount of fluids contained in the vials. The drums are held at this unit for labeling and sampling. Samples are analyzed at the Annex to determine the shipment's radioactive status. After this determination has been made, the drums are transferred to the adjacent Container Storage Shed (SWMU 4). At this unit, the LSF drums are stored to allow further radioactive decay or until they are processed.

When additional analyses indicates the LSFs can be processed, the drums are transferred to the Outdoor Staging Area (SWMU 8). This unit is outside and west of the Indoor Staging and Process Area (SWMU 9) (Reference 53). The Indoor Staging and Process Area (SWMU 9) consists of nine components. These components 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 Basket Trough (SWMU 9f), the Three-Chamber Rinse Tank (SWMU 9g), the Drain Table (SWMU 9h) and the LSF Holding Tanks (SWMU 9i). The Roller Conveyors (SWMU 9a) are used to transfer the drums containing the LSF vials to

the Lift (SWMU 9b). The Lift (SWMU 9b) raises the drum on top of a platform and dumps the contents of the drum into the In-Feed Hopper (SWMU 9c). From the In-Feed Hopper (SWMU 9c), the vials and vermiculite are gravity-fed into the Shaker Table (SWMU 9d) which separates the vial from the vermiculite via screens.

The vermiculite is gravity-fed into drums beneath the platform and the vials are discharged to the Crusher/Shredder (SWMU 9e). The Crusher/Shredder (SWMU 9e) liberates the liquids from the vials. The liquids drain into pipes connected to the LSF Holding Tanks (SWMU 9i). The crushed vials discharge into metal baskets at the Rinse Basket Trough (SWMU 9f) and are allowed to drain. The basket containing the vials are triple-rinsed in alcohol at the Three-Chamber Rinse Tank (SWMU 9g) and dumped on the Drain Table (SWMU 9h). The baskets are hand-carried during these operations. The vials are visually inspected to ensure they are all broken, then are loaded into drums.

Each drum has a pipe as long as the vertical length of the drum. This provides access for removing the remaining alcohol later in the process at the Crushed Vials Final Drainage Station (SWMU 16). Drums containing shredded vials are transferred to the Crushed Glass/Plastic Vials Drum Holding Area (SWMU 15) to allow the alcohol to drain. Drums containing vermiculite are transferred to the Packing Material Wastes Drum Holding Area (SWMU 13). The liquids from the process are held at the LSF Holding Tanks (SWMU 9i) until further testing indicates the liquids are no longer radioactive. The crushed vials and vermiculite are also screened for radioactivity before they are transferred to the next staging area. Generally, five individuals work at the Indoor Staging and Process Area (SWMU 9). The vapors and fumes generated at the process area are vented to the atmosphere via the Processing Area Ventilation System (SWMU 10) and the Carbon Adsorption System (SWMU 11). Protective clothing is laundered in an on-site clothes washer utilizing freon. Still bottoms from the clothes washer are collected by the Freon Distillation Waste Collection Unit (SWMU 28).

The liquids contained by the LSF Holding Tanks (SWMU 9i) are pumped to the 3,000-gallon Waste Liquids Tank (SWMU 6) via the above-ground LSF Pipe (SWMU 12). The 3,000-gallon Waste Liquids Tank (SWMU 6) is located within the Container Storage Shed (SWMU 4). Several drum staging areas are used to manage the distribution of the drums containing vermiculite, crushed vials and empty drums. Empty drums and drums of vermiculite are transferred to the Empty Drums Holding Area (SWMU 14), and the Packing Material Waste Drum Holding Area (SWMU 13), respectively. The drums of shredded vials are drained (by settling) at the Crushed Glass/Plastic Vials Drum Holding Area (SWMU 15), drained via pump at the Crushed Vials Final Drainage Station (SWMU 16) and held for further drying at the Drained Crushed Vials Holding Area (SWMU 17). The vials are then poured into the Gondolas (SWMU 18), and from there to the Dumping Trailers (SWMU 19). The vermiculite is poured into the Dumping Trailers (SWMU 19) from the drums. The routes used by the forklifts during all drum transfer operations are defined in this report as the Waste Handling Routes (SWMU 20) (References 8, 53).

The facility also receives other flammable liquids in addition to mixed wastes. These non-radioactive flammable liquids are emptied at the Incoming Bulk Waste Transfer Station (SWMU 5) located within the Container Storage Shed (SWMU 4). Fluids emptied at the station are transferred to the 3,000-gallon Waste Liquids Tank (SWMU 6) (Reference 53). The facility has a temporary operation permit (TOP #HT01-136540) issued by FDER for using the 3,000-gallon Waste Liquids Tank (SWMU 6) and the Container Storage Shed (SWMU 4), for the management of liquid flammable wastes and LSF wastes (Reference 5). Table II-1 provides a list of the hazardous wastes managed by these units under this permit.

All flammable liquids are contained in the 3,000-gallon Waste Liquids Tank (SWMU 6). This unit receives flammable liquids from the Indoor Staging and Process Area (SWMU 9), the Incoming Bulk Waste Transfer Station (SWMU 5), and the Crushed Vials Final Drainage Station (SWMU 16). The contents of the tank

Table II-1

LIST OF HAZARDOUS WASTES RECEIVED BY THE FACILITY  
(Reference 5)

Name	Hazardous Waste Code Number
1,1,1-Trichloroethane	F001/F002/U226
1,1,2-Trichloroethane	F002/U227
1,1,2-Trichlorotrifluoroethane	F002/U227
1,2-Dichlorobenzene	F002/U070
1,4-Dioxane	U108/D001
2-Ethoxyethanol (ethylene glycol monoethyl ether)	F005/U359
2-Nitropropane	F005/U171
Acetone	F003/U002
Benzene	F003/U019
Carbon Disulfide	F005/P022
Carbon Tetrachloride	F001/U211
Chlorobenzene	F002/U037
Cyclohexane	U056
Cyclohexanone	F003/U057
Ethanol	D001
Ethyl Acetate	F003/U112
Ethyl Benzene	F003
Ethyl Ether	F003/U117
Hexane	D001
Isoamyl Alcohol	DC01
Isobutyl Alcohol	F005/U140
Isooctane/2,2,4-Trimethylpentane	D001
Methanol	F003/U154
Methyl Ethyl Ketone	F005/U159
Methyl Isobutyl Ketone	F003/U161
Methyl Pyrrole	D001
Methylene Chloride	F002/U080
Naphthalene	U165
Nitrobenzene	F004/U169
Pyridine	F005/P075/U196
Tetrachloroethylene	F001/F002/U210
Toluene	F005/U220
Trichloroethylene	F001/F002/U228
Trichlorofluoromethane	F002/U121
Trichloromethane	U044/D001
m-Cresol	FC04/U052
m-Xylene	F003/U239
n-Butyl Alcohol	F003/U031
o-Cresol	F004/U052
o-Xylene	F003/U239
p-Cresol	F004/U052
p-Xylene	F003/U239



are transferred into tank trucks for hauling off-site at the Tanker/Liquid Loading Station (SWMU 7). The 3,000-gallon Waste Liquids Tank (SWMU 6), the Incoming Bulk Waste Transfer Station (SWMU 5) and the Tanker/Liquid Loading Station (SWMU 7) are all situated in the southeast section of the Container Storage Shed (SWMU 4).

Laboratory support for field operations and drum management, as well as research and development, is conducted at the Annex. Laboratory specimens are held at the Laboratory Waste Accumulation Area (SWMU 30) then hand-carried to a small metal Laboratory Specimens Storage Building (SWMU 31) located outside the laboratory. After 90 days, the wastes are transferred to the Container Storage Shed (SWMU 4) and added to the 3,000-Gallon Waste Liquids Tank (SWMU 6). The R&D activities involve utilizing solvent extraction methods to remove PCBs from transformers and PCB-contaminated items. The PCB-contaminated items may include office equipment and paper. These activities have been conducted in a room at the Annex referred to as the PCB Decontamination Test Site (SWMU 32). Wastes from these activities are contained in one-gallon glass bottles at the Laboratory Waste Accumulation Area (SWMU 30) and transferred to the PCB Drummed Waste Storage Area (SWMU 27). The PCB Drummed Waste Storage Area (SWMU 27) is located in northeast section of the main facility in the vicinity of the North and East Drainage Ditches (SWMUs 23 and 24). Pavement washings and stormwater runoff from the area are received by the unlined ditches. Area runoff is also received by the North and East Retention Ponds (SWMUs 21 and 22). In addition, overflow from the East Retention Pond (SWMU 22) discharges into the East Drainage Ditch (SWMU 24).

#### Environmental and Demographic Setting

The Quadrex facility is located approximately one-half-mile northeast of the intersection of State Route 441 and County Route 121 on the north side of Gainesville in Alachua County, Florida (Figure II-1). The property is located in a flat lightly wooded and relatively newly-developed local service industrial area as depicted in Figure II-2, with wooded agricultural land on its north and a zoned manufacturing industrial area on its south side

# ALACHUA COUNTY

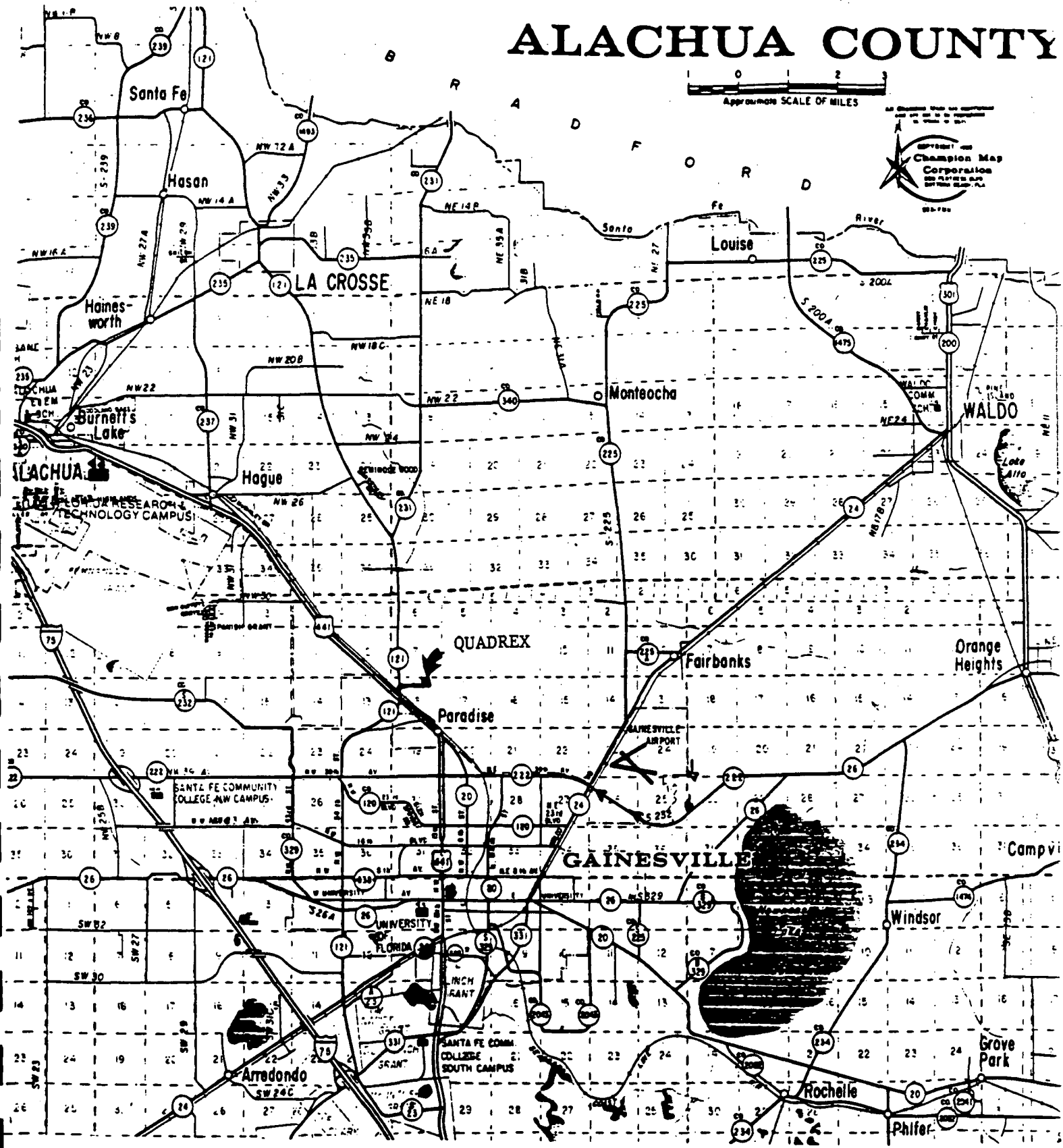


FIGURE II-1

QUADREX FACILITY LOCATION MAP  
(Reference 57)

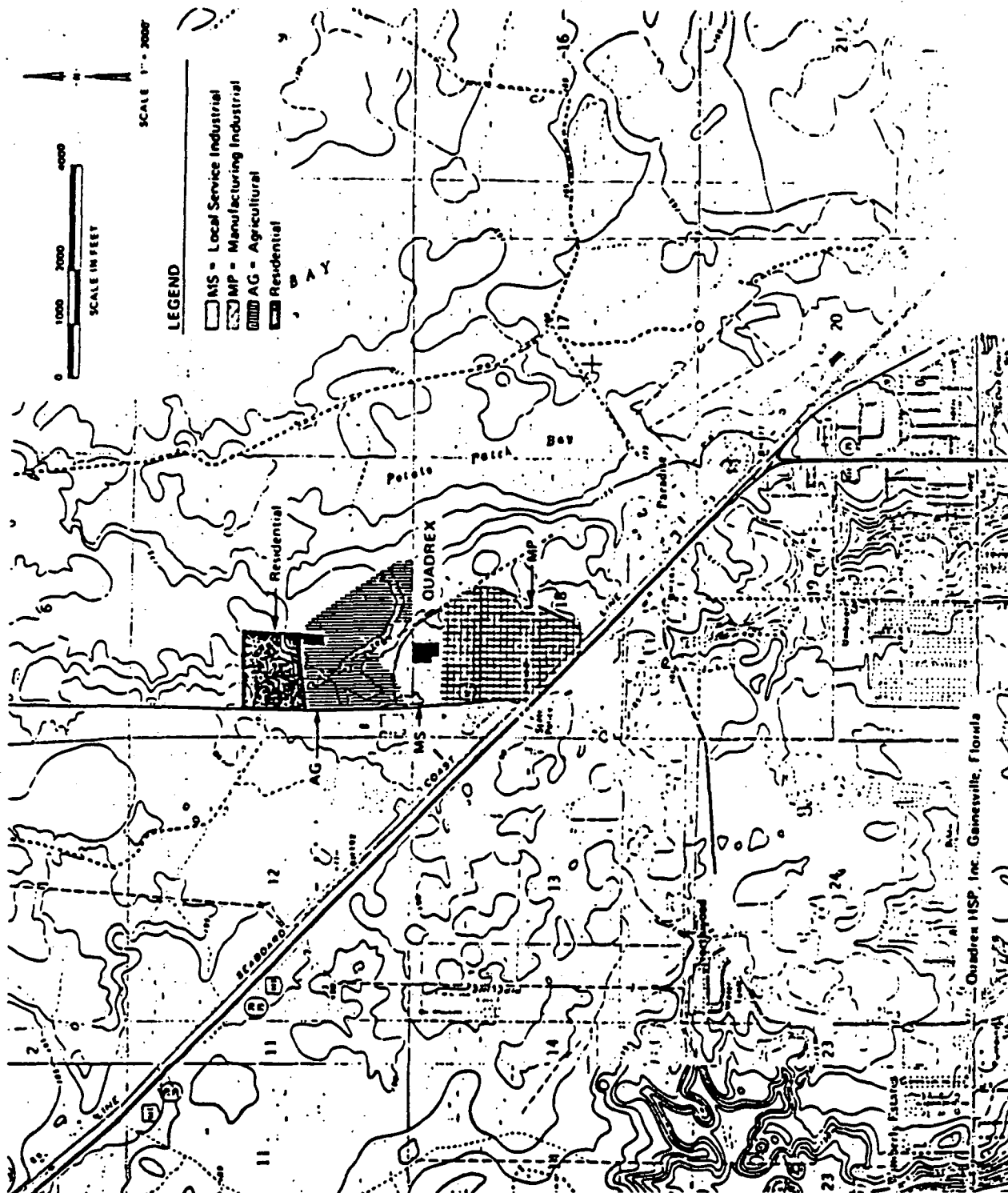


FIGURE II-2

QUADREX FACILITY SURROUNDING LAND USE MAP  
(Reference 56)

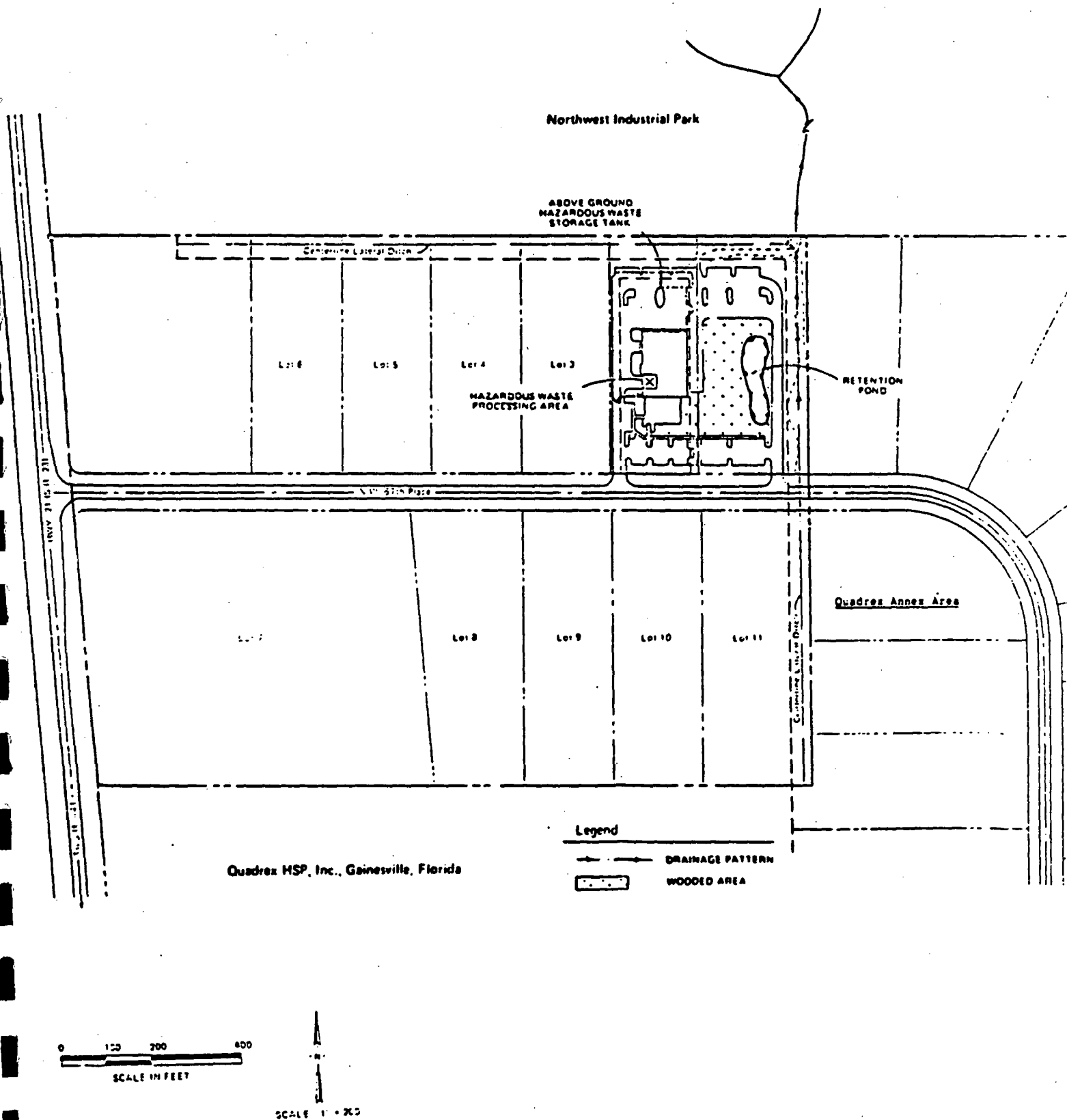
(Reference 56). The Quadrex property comprises lots 1 and 2 (5.27 acres) of the Northwest Industrial Park as shown in Figure II-3 (Reference 56).

Buildings and paved areas occupy approximately 45% of the property at the present time, and additional development is planned. The site is in Flood Zone C, an area that is outside the 100-year flood plain (Reference 56). Two retention ponds were constructed during site development and the property is drained by open ditches on its north and east sides which flow toward the northeast corner and then in a northerly direction (Figure II-3). The North and East Retention Ponds (SWMUs 21 and 22) are designed to receive runoff from the facility. The North and East Drainage Ditches (SWMUs 23 and 24) are designed to drain runoff from the industrial park within which the facility is situated. Overflow from the East Retention Pond (SWMU 21) is received by the East Drainage Ditch (SWMU 24) via an underground PVC pipe.

The facility is provided water and sanitary sewer service by the county. There are no wells, underground tanks, or industrial sewer lines or industrial waste treatment facilities on the property (Reference 53).

FIGURE II-3

**QUADREX FACILITY GENERAL SITE SETTING MAP**  
(Reference 56)



### III. SWMU AND AOC DATA SHEETS

This chapter presents data sheets for the 32 SWMUs and one AOC identified as a result of the PR and VSI.

Page 1 of 1

PHOTO NUMBER: 1.1

TYPE OF UNIT: Asphalt pad

PERIOD OF OPERATION: 1982 to present

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).

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.

**HISTORY AND/OR EVIDENCE OF RELEASE(s):**

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

**COMMENTS :**

## Page 1 of 1

PHOTO NUMBER: 2.1

TYPE OF UNIT: Asphalt pad

PERIOD OF OPERATION: 1982 to present

The unit is a section of the driveway located immediately south of the North Unloading Area (SWMU 1) in the north section of the facility. A portion of the 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).

The unit received 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 )

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

## III-3



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

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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

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.

HISTORY AND/OR EVIDENCE OF RELEASE(S):

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 ( )

**COMMENTS:**

\* 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.

## Page 1 of 1

PHOTO NUMBER: 10.1

TYPE OF UNIT: Air purifying system

PERIOD OF OPERATION: 1983 to present

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.

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 )

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

## III-13

## Page 1 of 1

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

Page 1 of 1

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:

## Page 1 of 1

PHOTO NUMBER: 14.1

TYPE OF UNIT: Staging area

PERIOD OF OPERATION: 1983 to present

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.

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 )

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 ( )

**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

Page 1 of 1

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

Page 1 of 1

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:

## Page 1 of 1

PHOTO NUMBER: 18.1, 19.1, 19.2, 20.1

TYPE OF UNIT: Asphalt lot and driveways

PERIOD OF OPERATION: 1983 to present

This unit represents the various paths traveled by folklifts 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.

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).

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

Page 1 of 1

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

Page 1 of 1

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.

Page 1 of 1

PHOTO NUMBER: 23.1, 24.1

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.

**HISTORY AND/OR EVIDENCE OF RELEASE(s):**

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

**COMMENTS :**

SWMU DATA SHEET

Page 1 of 1

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

Page 1 of 1

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.

#### IV. SUMMARY

Chapter IV consists of four tables identifying the SWMUs and AOCs identified during the PR and VSI. Table IV-1 lists all the SWMUs. Table IV-2 is a list of SWMUs requiring no further action. Table IV-3 lists the RCRA-regulated units now being operated under a temporary operation permit issued by FDER.

TABLE IV-1

List of Solid Waste Management Units (SWMUs)  
and Areas of Concern (AOCs)

<u>SWMU NUMBER</u>	<u>SWMU NAME</u>
<u>Waste Reception/Dispatch Units</u>	
1	North Unloading Area
2	South Unloading Area
3	Temporary Holding Area
4	Container Storage Shed
5	Incoming Bulk Waste Transfer Station
6	3,000-Gallon Waste Liquids Tank
7	Tanker/Liquids Loading Station
<u>Process Units</u>	
8	Outdoor Staging Area
9	Indoor Staging and Process Area
9a	Roller Conveyors
9b	Lift
9c	In-Feed Hopper
9d	Shaker Table
9e	Crusher/Shredder
9f	Rinse Basket Trough
9g	Three-Chamber Rinse Tank
9h	Drain Table
9i	LSF Holding Tanks
10	Processing Area Ventilation System
11	Carbon Adsorption System
12	LSF Pipe
13	Packing Material Wastes Drum Holding Area
14	Empty Drums Holding Area
15	Crushed Glass/Plastic Vials Drum Holding Area
16	Crushed Vials Final Drainage Station
17	Drained Crushed Vials Drum Holding Area
18	Gondolas (10)
19	Dumping Trailers
20	Waste Handling Routes

TABLE IV-1 (cont'd)

Miscellaneous Units

21	North Retention Pond
22	East Retention Pond
23	North Drainage Ditch
24	East Drainage Ditch
25	Former Glass/Plastic Shredder Unit
26	Field Trailers Service Area
27	PCB Drummed Waste Storage Area
28	Freon Distillation Waste Collection Unit
29	Sand and Grit Drum Storage Area

Quadrex Annex Area

30	Laboratory Wastes Accumulation Area
31	Laboratory Specimens Storage Building
32	PCB Decontamination Test Site

Areas of Concern

A	Spray Paint Booth Area
---	------------------------

TABLE IV-2

List of SWMUs Requiring No Further Action

<u>SWMU NUMBER</u>	<u>SWMU NAME</u>
--------------------	------------------

Waste Reception Units

1	North Unloading Area
2	South Unloading Area
3	Temporary Holding Area
4	Container Storage Shed
5	Incoming Bulk Waste Transfer Station
6	3,000-Gallon Waste Liquids Tank
7	Tanker/Liquids Loading Station

Process Units

8	Outdoor Staging Area
9	Indoor Staging and Process Area
9a	Roller Conveyors
9b	Lift
9c	In-Feed Hopper
9d	Shaker Table
9e	Crusher/Shredder
9f	Rinse Basket Trough
9g	Three-Chamber Rinse Tank
9h	Drain Table
9i	LSF Holding Tanks
10	Processing Area Ventilation System
11	Carbon Adsorption System
12	LSF Pipe
13	Packing Material Wastes Drum Holding Area
14	Empty Drums Holding Area
15	Crushed Glass/Plastic Vials Drum Holding Area
16	Crushed Vials Final Drainage Station
17	Drained Crushed Vials Drum Holding Area
18	Gondolas (10)
19	Dumping Trailers
20	Waste Handling Routes

Miscellaneous Units

21	North Retention Pond
22	East Retention Pond
23	North Drainage Ditch
24	East Drainage Ditch
25	Former Glass/Plastic Shredder Unit

TABLE IV-2  
Continued

<u>SWMU NUMBER</u>	<u>SWMU NAME</u>
26	Field Trailers Service Area
27	PCB Drummed Waste Storage Area
28	Freon Distillation Waste Collection Unit
29	Sand and Grit Drum Storage Area

Quadrex Annex Area

30	Laboratory Wastes Accumulation Area
31	Laboratory Specimens Storage Building
32	PCB Decontamination Test Site

Areas of Concern

A	Spray Paint Booth Area
---	------------------------

TABLE IV-3

List of SWMUs that are RCRA-Regulated Units

<u>SWMU NUMBER</u>	<u>SWMU NAME</u>
4	Container Storage Shed
6	3,000-Gallon Waste Liquids Tank

## V. SUGGESTED SAMPLING STRATEGY

Chapter V normally contains a suggested sampling approach for the SWMUs and AOCs listed in Table IV-4 for which sampling is recommended. However, there are no units requiring Phase II sampling at this facility.

## VI. REFERENCES

1. FDER letter to Quadrex HPS, dated July 14, 1989, forwarding copy of FDER Hazardous Waste Inspection Report of the May 31, 1989 inspection.
2. Rineco Chemical Industries Waste Material Profile Sheet, completed June 21, 1989 by Quadrex for the shipment of 5-10 drums/month of waste flammable liquids.
3. FDER letter to Quadrex HPS, dated November 14, 1988, granting approval of the design to upgrade the container storage area.
4. Darabi and Associates, Inc. letter to FDER, dated October 26, 1988, responding to FDER comments on the design to upgrade the container storage area.
5. FDER letter to Quadrex HPS, dated July 15, 1988, forwarding Temporary Operation Permit (TOP) # HT 01-136540 for the temporary operations of a container storage area and a 3,0000-gallon above-ground storage tank. Permit expiration date: January 15, 1990.
6. Handwritten notes (4 pages) with heading: Quadrex Meeting, June 29, 1988. The notes pertain to Quadrex operations and associated regulatory issues.
7. Quadrex HPS letter to Alachua County DES, dated June 10, 1988, responding to DES comments on the draft TOP # HT 01-136540.
8. FDER Hazardous Waste Inspection Report of the May 12, 1988 inspection of Quadrex HPS.
9. Quadrex HPS letter to FDER, dated April 21, 1988, providing notification of operations and a copy of the US EPA permit to operate equipment for the reclamation of PCB-contaminated solvent. The EPA permit approved operations for the period February 12, 1987 to July 5, 1988. The letter stated that operations would begin on or about May 23, 1988 and would end on or about July 23, 1988.
10. FDER letter to Quadrex HPS, dated April 5, 1988, providing guidance/comments on the upgrade of the container storage area.
11. Quadrex HPS letter to FDER, dated April 4, 1988, advising of public notifications of the intent of FDER to issue a Hazardous Waste Permit.
12. Quadrex HPS letter to FDER, dated March 22, 1988, providing additional information concerning the design of the container storage area.



13. Darabi and Associates, Inc. letter to FDER, dated February 15, 1988, certifying secondary containment capacity and structural integrity determinations for the 3,000-gallon storage tank.
14. Quadrex HPS letter to FDER, dated February 2, 1988, providing comments on the draft TOP.
15. FDER Interoffice Memo, dated December 28, 1987, requesting review comments on draft TOP for Quadrex HPS.
16. FDER Interoffice Memo, dated November 17, 1987, from Diane Hunt to Satish Kastury, pertaining to the issuance of a TOP to Quadrex HPS.
17. Florida Dept. of Health and Rehabilitation Services, Office of Radiation Control (FDHRS-ORC) letter to FDER, dated November 6, 1987 providing comments on the first NOD to be issued on the Quadrex HPS application for a TOP.
18. EPA Region IV letter to Quadrex HPS, dated October 23, 1987, granting approval for Quadrex HPS to conduct R&D activities into the cleanup of PCBs from various materials during the period October 26, 1987, through November 26, 1987.
19. Quadrex HPS letter to FDER-Tallahassee, dated October 21, 1987, providing notification of the permit issued by EPA to conduct PCB cleanup R&D activities.
20. Quadrex HPS letter to FDER, dated October 19, 1987, responding to comments on the Quadrex HPS TOP application.
21. Quadrex HPS letter to US EPA-OSWER, dated September 22, 1987, discussing issues in the regulation of mixed wastes.
22. FDER-Tallahassee (Roger Menendez) draft letter to FDER-Jacksonville (Ashwin Patel), dated September 17, 1987, providing FDHRS-ORC review comments on the Quadrex HPS, Inc. TOP application.
23. FDER letter to Quadrex HPS, dated September 4, 1987, issuing a First Notice of Deficiency (NOD) on the TOP application received July 8, 1987.
24. FDER letter to Quadrex HPS, dated August 13, 1987, forwarding a copy of the July 14, 1987 Hazardous Waste Inspection Report.
25. Quadrex HPS letter to FDER, dated April 1, 1987, reporting a spill which occurred March 27, 1987.
26. Quadrex HPS letter to US EPA Region IV, dated March 31, 1987, forwarding a RCRA Part A Permit Application dated April 1, 1987.

27. Quadrex HPS letter to FDER, dated March 30, 1987, forwarding a signed Consent Order requiring that Quadrex submit an application for a TOP.
28. FDER Meeting Documentation Form, dated February 4, 1987, pertaining to the pre-application meeting to discuss deficiencies in the draft TOP application prepared by Quadrex HPS.
29. FDER letter to Quadrex HPS, dated November 6, 1986, advising Quadrex to immediately file notification of hazardous waste activities with FDER and US EPA due to a July 3, 1986 announcement in the Federal Register that mixed hazardous and radioactive wastes are subject to RCRA regulation and will be subject to FDER hazardous waste rules.
30. FDER letter to Quadrex HPS, dated September 12, 1986, proposing that Quadrex and FDER enter into a Consent Order requiring that Quadrex submit an application for a hazardous waste storage permit.
31. FDHRS letter to Quadrex HPS, dated September 12, 1986, discussing the definition of "by-product material" as it applies to Quadrex.
32. Alachua County Department of Environmental Services (Alachua DES) letter to FDER, dated August 28, 1986, providing comments on the Quadrex HPS response to a FDER Warning Notice dated July 14, 1986.
33. FDER letter to Congressman MacKay, dated August 7, 1986, responding to Congressman MacKay's July 24, 1986 letter inquiring into possible hazardous waste dumping by Quadrex HPS into the Southwest Landfill in Alachua County.
34. Quadrex HPS letter to FDER, dated August 1, 1986, responding to the FDER Warning Notice dated July 14, 1986.
35. Alachua County Public Works Department letter to FDER, dated July 16, 1986, regarding publicity and issues involving the Alachua County Southwest Landfill.
36. FDER Interoffice Memo from Office of General Counsel to Jacksonville District, dated July 15, 1986, providing a legal opinion on the applicability of RCRA regulations to Quadrex HPS.
37. FDER letter to Quadrex HPS, dated July 15, 1986, advising Quadrex of a preliminary FDER determination that the solvents received by Quadrex are hazardous wastes.
38. Alachua DES letter to FDER, dated July 1, 1986, pertaining to the applicability of RCRA Subtitle C Regulations to Quadrex HPS. Background information also attached to the letter.
39. Quadrex HPS letter to Alachua-DES, dated June 9, 1986, responding to questions about Quadrex's EPA regulatory classification and the disposal of "by-product materials" from Quadrex's operations.

40. CH<sub>2</sub>M Hill letter to Alachua-DES, dated June 5, 1986, concerning acceptance of Quadrex HPS wastes by the Alachua County Southwest Landfill.
41. Quadrex History outline (3 pages) covering the period February 23, 1983 to June 5, 1986.
42. District's Position and Comments (undated) on questions posed by Alachua County's letter of May 21, 1985.
43. Process Descriptions - four descriptions from four documents prepared during the three years 1984, 1985 and 1986.
44. Notification of Hazardous Waste Activity as a Generator, dated May 21, 1986, filed by Quadrex HPS (EPA ID No. FLD 980711071).
45. FDER letter to US Ecology, dated April 10, 1986, responding to an inquiry as to the regulatory changes affecting Quadrex HPS.
46. FDER letter to Alachua DES, dated June 7, 1985, pertaining to Quadrex's shredded glass and plastic vials waste and its disposal in the Alachua County's landfill.
47. Quadrex Memo from John McCanless to Jim McVey, RSO, dated May 9, 1985, concerning disposal alternatives for LSV rinsewater.
48. Quadrex HPS letter to FDER, dated March 21, 1985, advising that Quadrex has submitted an application for a permit from the US EPA to operate "PCB Destruction Unit - Nonthermal Destruction/Decontamination for Mobile Use." The letter outlines Quadrex's intentions, under the permit, of temporarily storing the units at the Quadrex Gainesville Facility, of temporarily storing PCB wastes at the Gainesville Facility and of the occasional performance of R&D testing at the Gainesville Facility in the use of solvents to remove PCB contamination.
49. FDER Hazardous Waste Inspection Report for the February 19, 1985 inspection of the Quadrex HPS Facility.
50. FDER letter to Health Physics Systems (Quadrex), dated February 1984, concerning the RCRA inspection of February 17, 1984 and views on the regulations affecting the Quadrex HPS Operations.
51. FDER letter to Health Physics Systems (Quadrex), dated September 20, 1983, advising Quadrex that the liquid scintillation fluids reclamation operations performed by Quadrex are not subject to RCRA regulation under 40 CFR 261.6.

52. Quadrex HPS letter to FDER, dated April 27, 1983, describing the liquid scintillation fluids reclamation procedures used at the Gainesville facility, and the reclamation area exhaust system.
53. VSI logbooks of the visual site inspection (VSI) of the Quadrex Gainesville facility, conducted October 3, 1989.
54. Quadrex HPS letter to FDER, dated September 28, 1989, reporting a 5- to 10-gallon spill on September 28, 1989. (Letter provided by Quadrex during VSI conducted October 3, 1989)
55. MSDS for paints utilized by facility, provided by Quadrex during VSI conducted October 3, 1989.
56. Excerpts (Table of Contents and Facility Maps) from Quadrex's Part B Permit Application provided by FDER after VSI.
57. Miscellaneous maps provided by Quadrex and FDER for the VSI.
58. Post VSI telephone conversation between Jeff Evans (Kearney/Centaur) and Ben C. Warren (Quadrex).

**APPENDIX A**

**Quadrex History (Feb. 23, 83 to Jun. 5, 86 - 3 pages)  
(Reference 41)**

## QUADREX HISTORY

February 23, 1983 - Quadrex was issued EPA ID# FLD 980 711 071 as a generator of hazardous waste.

July, August, 1983- Quadrex began process of crushing vials to recover solvents.

September 20, 1983- District (Frey) informed Quadrex that scintillation fluids were D001 hazardous waste, but were exempt under 261.6 since they were being reclaimed (used as fuel).

February 17, 1984 - Inspection (Valade, Frey) conducted. Conclusions were:

1. fluids are D001 hazardous waste.
2. exempt by 261.6.
3. crushed vials are empty containers (261.7).

No violations noted.

August 13, 1984 - Name of company changed from Health Physics Systems to Quadrex HPS.

February 19, 1985 - Inspection (Kramer) conducted. Same conclusions as previous inspection. No violations noted.

March 27, 1985 - Two 2" vials discovered at landfill that had not been crushed.

May 10, 1985 - Follow-up inspection (Kramer) conducted. Documents changes in process after landfill incident. Vial rinsing process changed from rinsing with kerosene, then alcohol, then air drying to alcohol wash, water rinse, crushing, and alcohol spray. New blades installed on equipment to ensure all vials are broken. Department has no objection to vials going to Alachua County Landfill.

July 5, 1985 - EPA's January 4, 1985 final rule which eliminates 261.6 exemption becomes effective. Solvents still exempt from 266-Subpart D since they are D001 (266.36).

September 3, 1985 - Meeting with Quadrex to discuss alternatives to disposal of crushed vials in county landfill.

- November 29, 1985 - EPA final rule deletes 266.36 exemption for D001 hazardous waste being burned as fuel. Rule requires that notification requirements be met by January 29, 1986 and that Part A's be submitted by marketers and burners by May 29, 1986.
- January 30, 1986 - EPA's December 31, 1985 final rule concerning solvent mixtures becomes effective.
- March 25, 1986 - Letter from U.S. Ecology prompts District to re-evaluate Quadrex operation with respect to new regulations.
- April 10, 1986 - Letter (Mears) to U.S. Ecology outlines requirements for Quadrex. The District (Valade, Mears) gave incorrect interpretation of storage requirements, indicating that marketers were allowed 90 day storage without a permit. This, however, is only applicable to marketers who are also the generator of the hazardous waste fuel. The district also notified Quadrex of notification and record keeping requirements for marketers.
- April 18, 1986 - Quadrex amended notification to include status of "generator marketing to burner".
- April 24, 1986 - Vermiculite contaminated with solvents disposed of in county landfill.
- May 19, 1986 - Meeting at District to discuss landfill incident and new regulations. Quadrex indicated that they would accept only NRC regulated wastes. Quadrex would be generator of all solvents when they were determined to be not regulated by NRC, Quadrex would be generator marketing to burner, so 90 day storage would apply. Solvents are F003/F005 rather than D001. Crushed vials are empty containers. Vermiculite packing material is hazardous waste only when contaminated with solvents. Quadrex will monitor vermiculite to ensure that vermiculite with solvents is not disposed of in county landfill. Quadrex indicated that Tallahassee staff had agreed with their position that since Oldover had notified as marketer of the solvents to the burner (Florida Solite) it was redundant for Quadrex to notify a marketer also. The

District disagreed since we think that any number of marketers can handle waste before the burner.

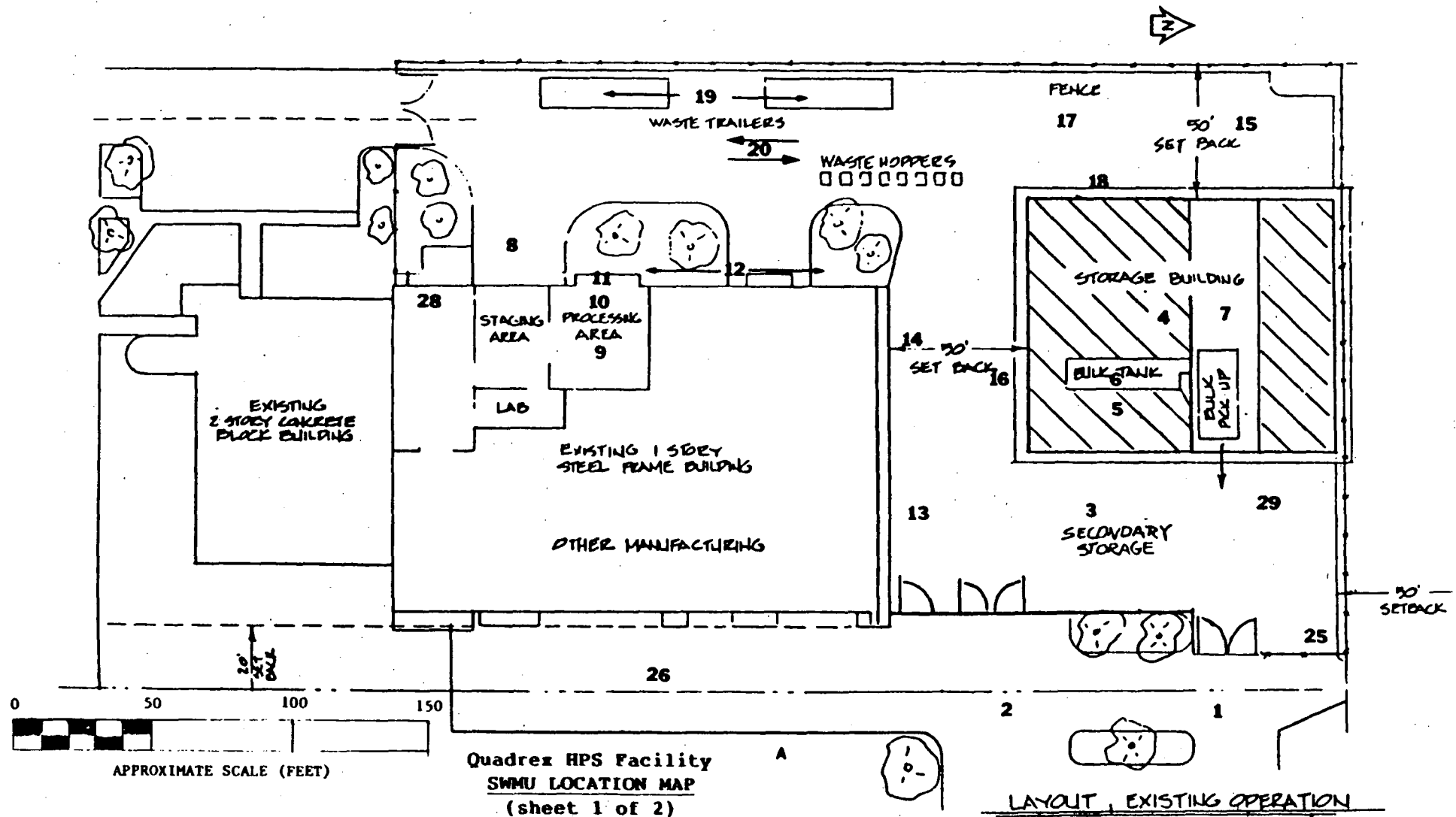
- May 21, 1986 - Quadrex amended notification to indicate that they generate F003/F005 hazardous waste. Status as generator marketing to burner was deleted. Quadrex sent letter to District stating that "mixed wastes" are received as radioactive waste. The solvents are declared as RCRA wastes when they are determined to be exempt from NRC and are placed in holding tank for shipment to Oldover.
- May 22, 1986 - District received letter from Alachua County local program (Lusk) requesting answers to twelve questions concerning the regulatory status of Quadrex. The same questions were sent by the county under separate cover letter to Lee Thomas, EPA Administrator, with copies to three EPA headquarters division directors and to Jim Scarbrough of Region IV.
- June 2, 1986 - Letter sent by District (Grathwol) to Alachua County indicating that we were seeking guidance. The letter states that crushed vials are empty containers.
- June 5, 1986 - District received second letter from U.S. Ecology concerning status of Quadrex.
- June 5, 1986 - CH2M Hill advised county to not accept Quadrex waste.



**APPENDIX B**

**SWMU Location Maps  
(2 sheets)**

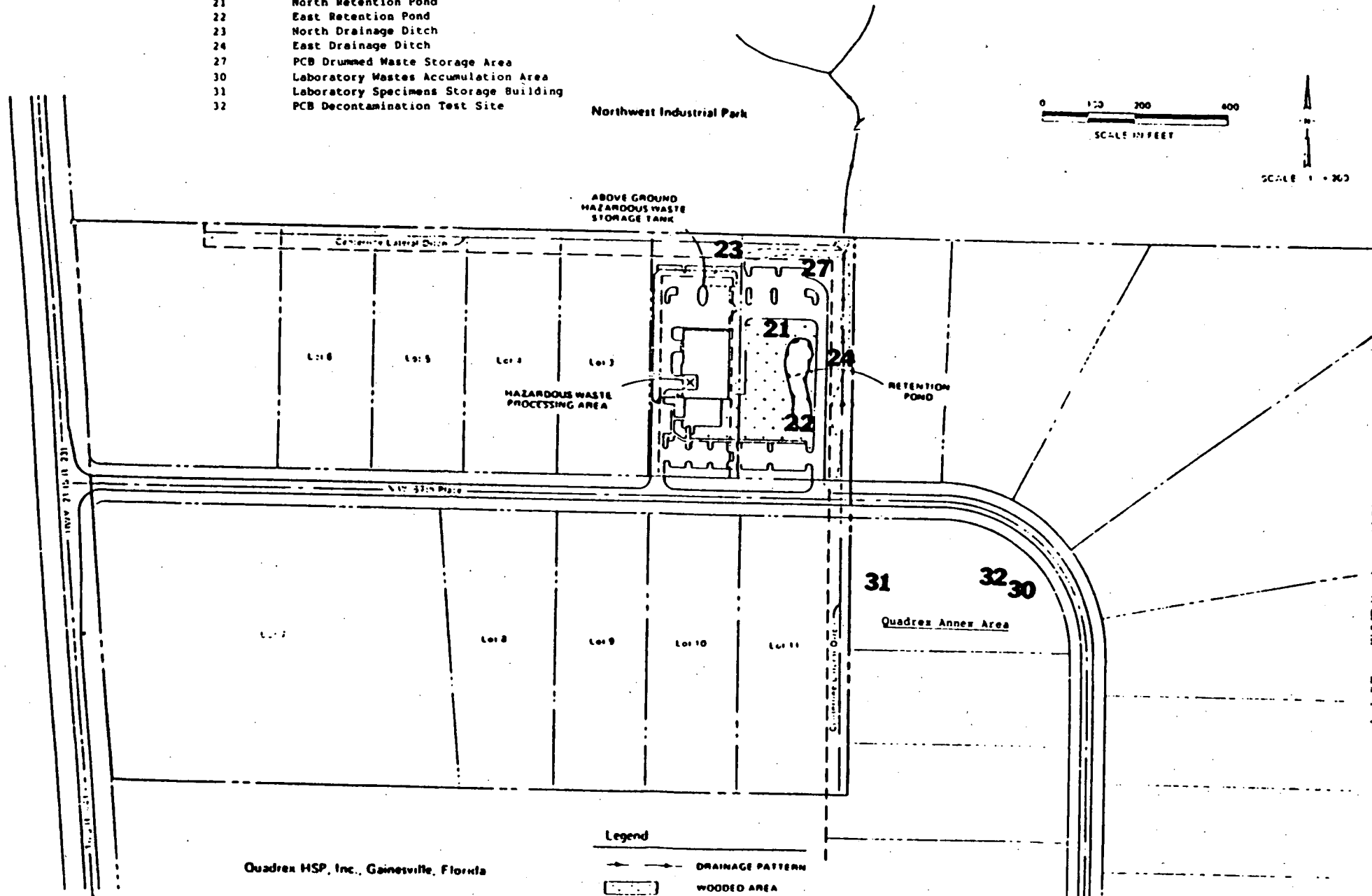
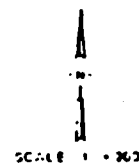
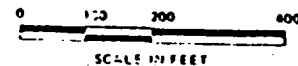
1	North Unloading Area	16	Crushed Vials Final Drainage Station
2	South Unloading Area	17	Drained Crushed Vials Drum Holding Area
3	Temporary Holding Area	18	Gondolas (10)
4	Container Storage Shed	19	Dumping Trailers
5	Incoming Bulk Waste Transfer Station	20	Waste Handling Routes
6	3,000-Gallon Waste Liquids Tank	25	Former Glass/Plastic Shredder Unit
7	Tanker/Liquids Loading Station	26	Field Trailers Service Area
8	Outdoor Staging Area	28	Freon Distillation Waste Collection Unit
9	Indoor Staging and Process Area	29	Sand and Grit Drum Storage Area
10	Processing Area Ventilation System		
11	Carbon Adsorption System		
12	LSF Pipe	A	Spray Paint Booth Area
13	Packing Material Wastes Drum Holding Area		
14	Empty Drums Holding Area		
15	Crushed Glass/Plastic Vials Drum Holding Area		



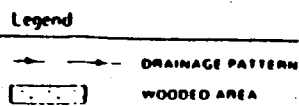
List of Solid Waste Management Units (SWMUs)

- 21 North Retention Pond
- 22 East Retention Pond
- 23 North Drainage Ditch
- 24 East Drainage Ditch
- 27 PCB Drummed Waste Storage Area
- 30 Laboratory Wastes Accumulation Area
- 31 Laboratory Specimens Storage Building
- 32 PCB Decontamination Test Site

Northwest Industrial Park



Quadrex HSP, Inc., Gainesville, Florida



Quadrex HPS Facility  
 SWMU LOCATION MAP  
 (sheet 2 of 2)

**APPENDIX C**

**VSI Photographs**



- 1.1 Overview of the North Unloading Area (SWMU 1) located in the north-central section of the facility. The yellow ramp featured in the right-center of the photograph is used during truck unloading operations. The North Drainage Ditch (SWMU 23) is situated between the ramp and the trees in the background. The photograph was taken from the South Unloading Area (SWMU 2).



- 2.1 Overview of the South Unloading Area (SWMU 2) facing east. The photograph was taken from the entrance leading to the Container Storage Shed (SWMU 4).



- 3.1 View of the northwest section of the facility facing northwest. A portion of the Temporary Holding Area (SWMU 3), indicated by the yellow lines, is featured in the center of the photograph. The structure in the background is the Container Storage Shed (SWMU 4). The photograph was taken from the South Unloading Area (SWMU 2).



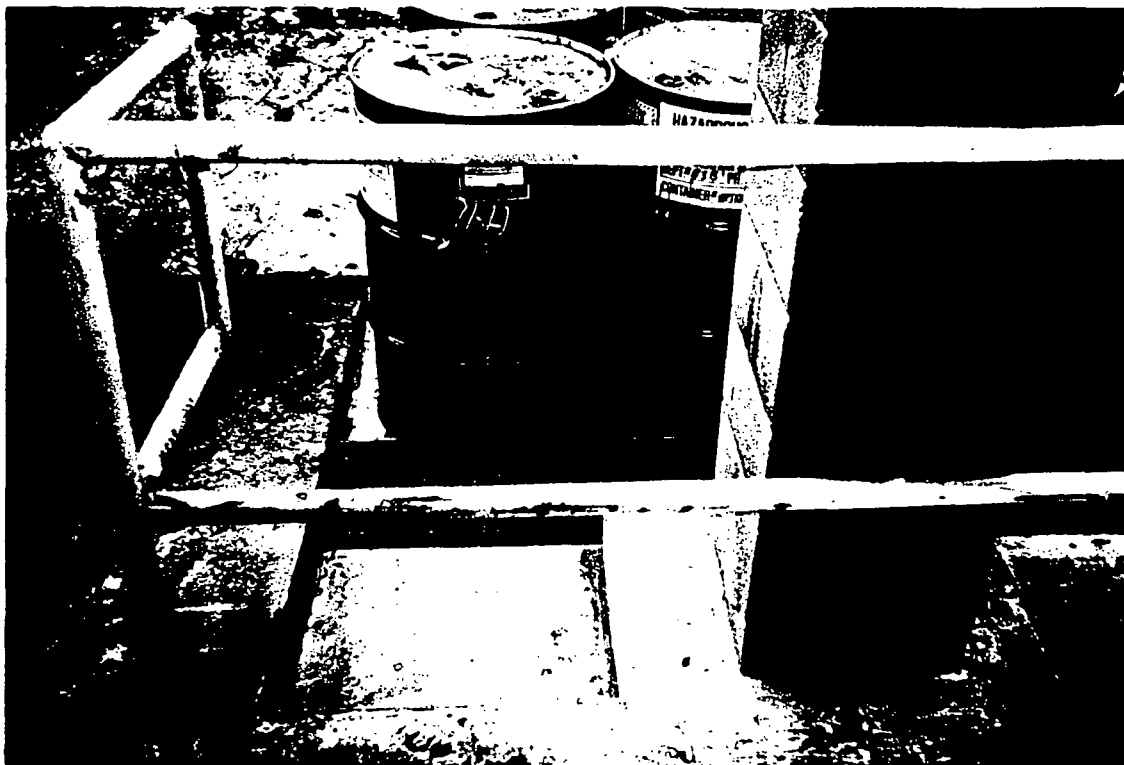
- 3.2 Close-up view of the Temporary Holding Area (SWMU 3) facing west. Drums containing hazardous and mixed wastes are held at this unit until they are labeled. Approximately 50 drums were observed at this unit during the VSI.



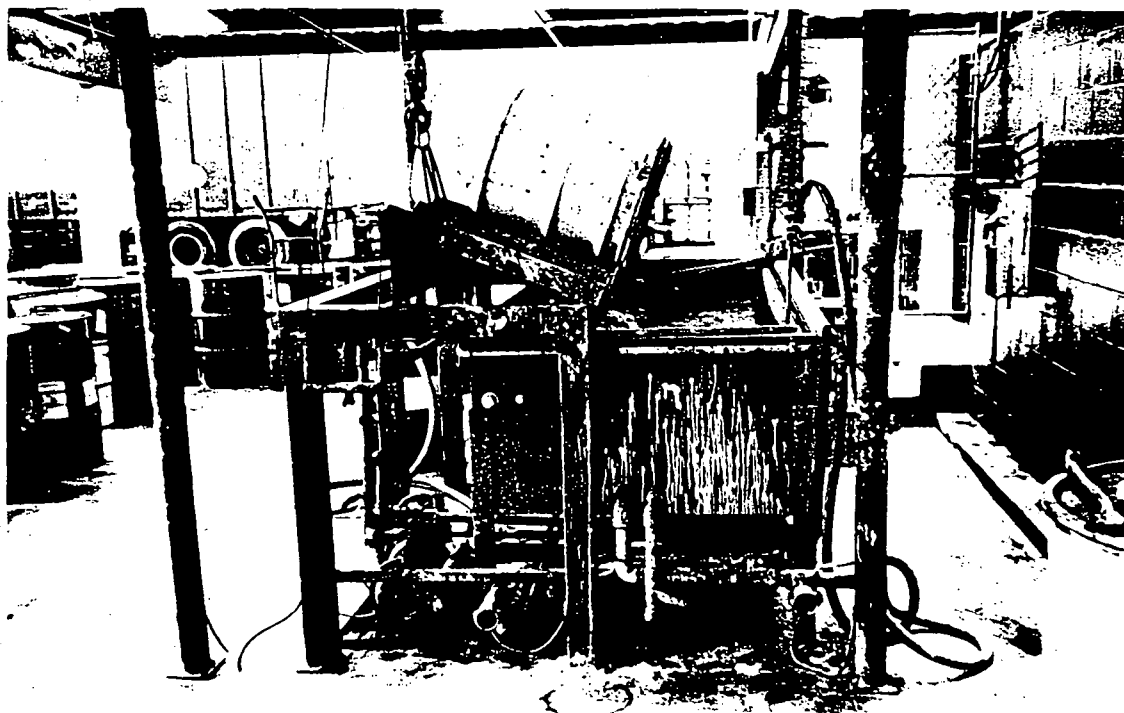
4.1 Interior view of the Container Storage Shed (SWMU 4) showing Zone 2. The view is facing northwest. The lids to the Gondolas (SWMU 18) are shown in the center left of the photograph. The drums stacked outdoors are at the Crushed Glass/Plastic Vials Drum Holding Area (SWMU 15).



4.2 Interior view of the Container Storage Shed (SWMU 4) showing Zone 3. The view is facing northeast.



4.3 Close-up view of the trench providing secondary containment for Zone 2 within the Container Storage Shed (SWMU 4).

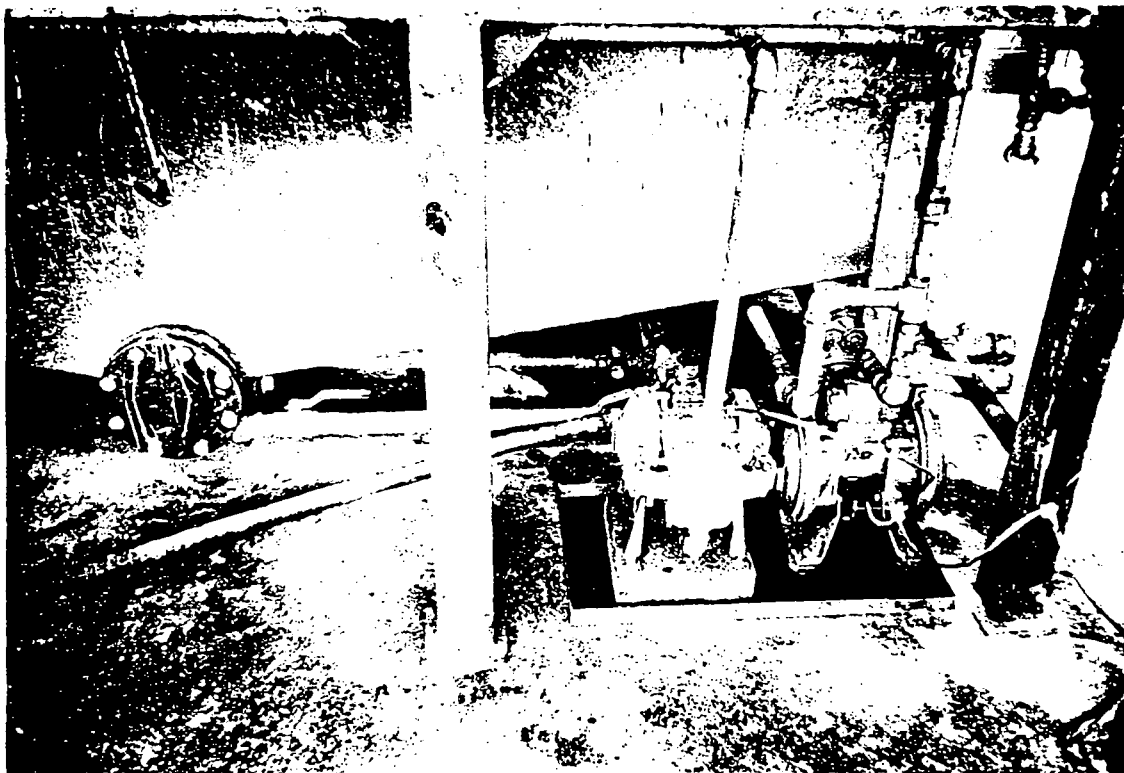


5.1 Overview of the Incoming Bulk Waste Transfer Station (SWMU 5) located in the southeast corner of the Container Storage Shed (SWMU 4). The view is facing south.

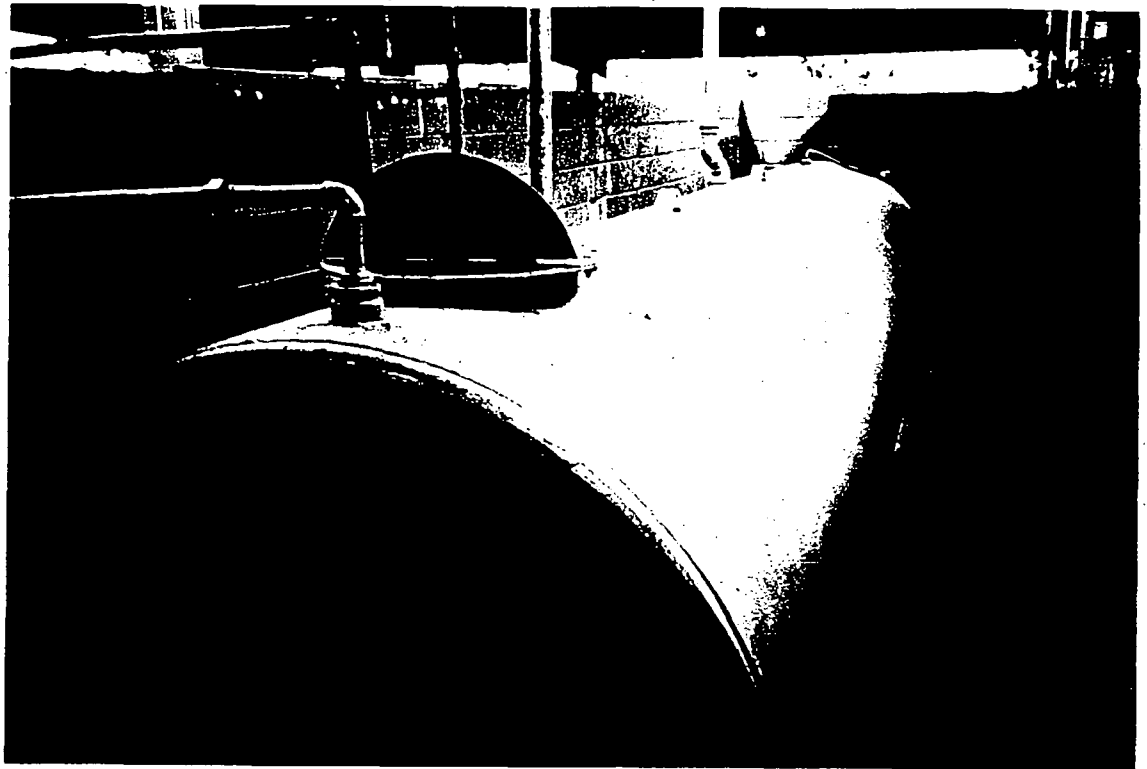




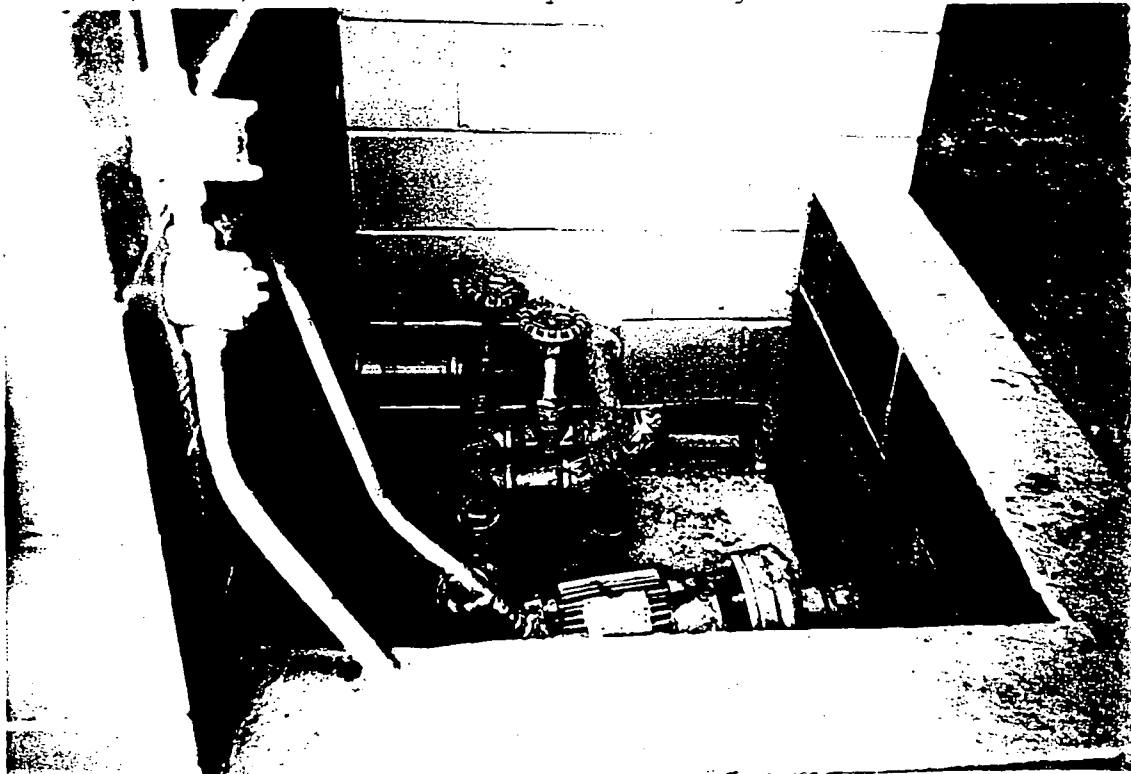
5.2 Close-up view of the screen covering the top of the Incoming Bulk Waste Transfer Station (SWMU 5).



5.3 Close-up view of the pipes and pumps which transfer the contents of the Incoming Bulk Waste Transfer Station (SWMU 5) to the 3,000-Gallon Waste Liquids Tank (SWMU 6). Note the solvents contained in the tray beneath the pumps.



- 6.1 Overview of the 3,000-Gallon Waste Liquids Tank (SWMU 6) also showing the concrete-block wall and floor providing secondary containment for the unit. The tank is located adjacent to the Incoming Bulk Waste Transfer Station (SWMU 5) and the Tanker/Liquids Loading Station (SWMU 7).



- 6.2 Close-up view of the pipes and pump for the 3,000-Gallon Waste Liquids Tank (SWMU 6) used to transfer the contents of the unit to the trucks parked at the Tanker/Liquids Loading Station (SWMU 7).



7.1 View of the Tanker/Liquids Loading Station (SWMU 7) facing east. Note the trench at the end of the pad (indicated by an arrow).



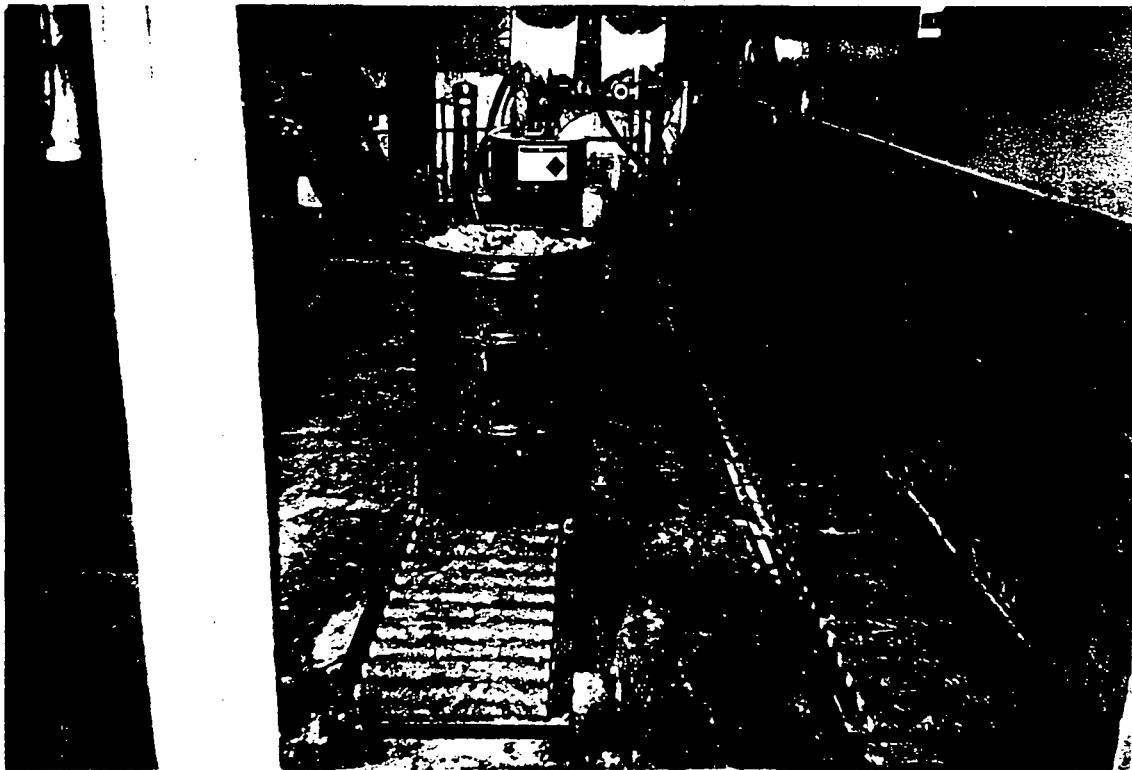
8.1 View to the east of Outdoor Staging Area (SWMU 8) where drums of LSF vials are brought from the Container Storage Shed (SWMU 4) for opening and readying for entry into the building and into the process line. The drum in the foreground contained new product material; the other drums had been emptied.



- 8.2 Close-up of opening in door and the pavement at the Outdoor Staging Area (SWMU 8). Drums are moved single-file into the Indoor Staging and Process Area (SWMU 9) through the opening in the door covered by flaps that is shown in the photo. Note stained concrete (indicated by arrows).



- 9.1 Interior view of the Indoor Staging and Process Area (SWMU 9) showing the Roller Conveyor (SWMU 9a) used to transfer drums from the Outdoor Staging Area (SWMU 8) to the indoor staging area. The process operations were shut down at the time of the VSI enabling the various components to be inspected and photographed.



9.2 Interior view of the Indoor Staging and Process Area (SWMU 9) showing the Roller Conveyors (SWMU 9a) used to transfer drums to the Lift (SWMU 9b) and to return full drums containing vials or packing material.



9.3 View of the hydraulic Lift (SWMU 9b) used to raise the drums to the In-Feed Hopper (SWMU 9c) featured in the upper-left-hand corner of the photograph.



9.4 Close-up view inside the In-Feed Hopper (SWMU 9c).



9.5 Overview of some of the components of the Indoor Staging and Process Area (SWMU 9). The blue hydraulic Lift (SWMU 9b) is featured on the right, the Shaker Table (SWMU 9d) in the top center (indicated by an arrow) and the green Crusher/Shredder (SWMU 9e).



9.6 View of the work station along the Shaker Table (SWMU 9d). Note that this unit (as well as the other SWMU 9 component units) was not operating during the VSI.

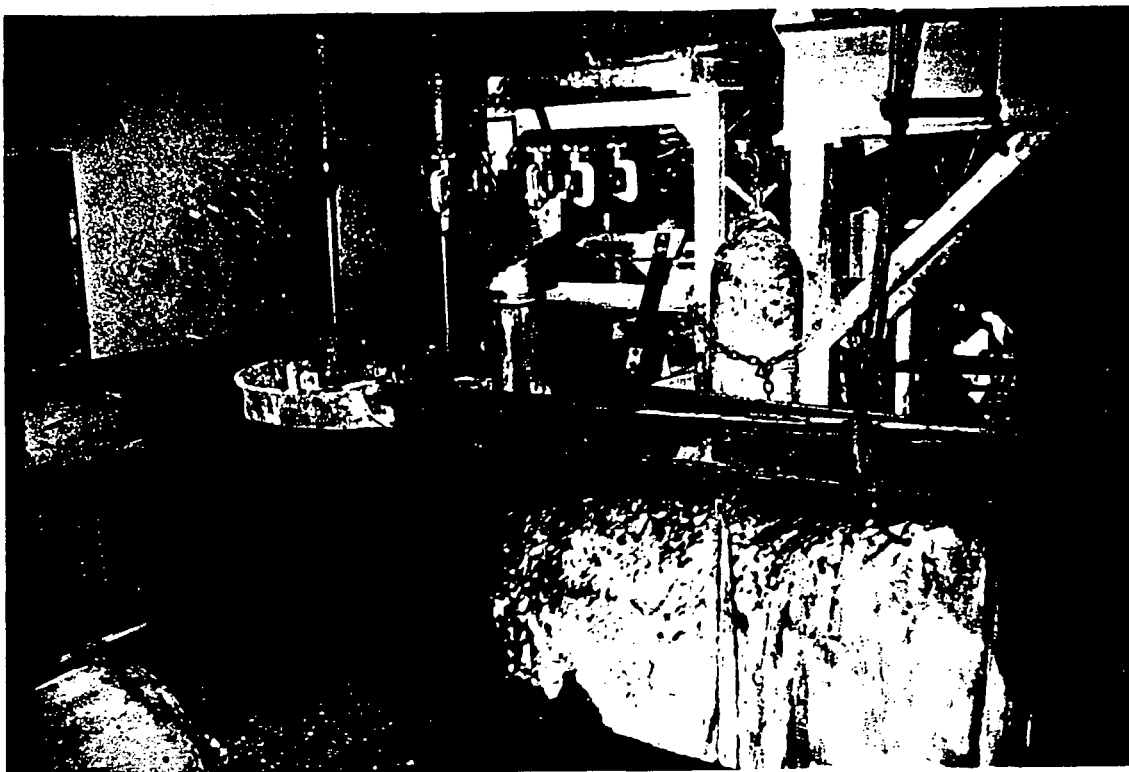




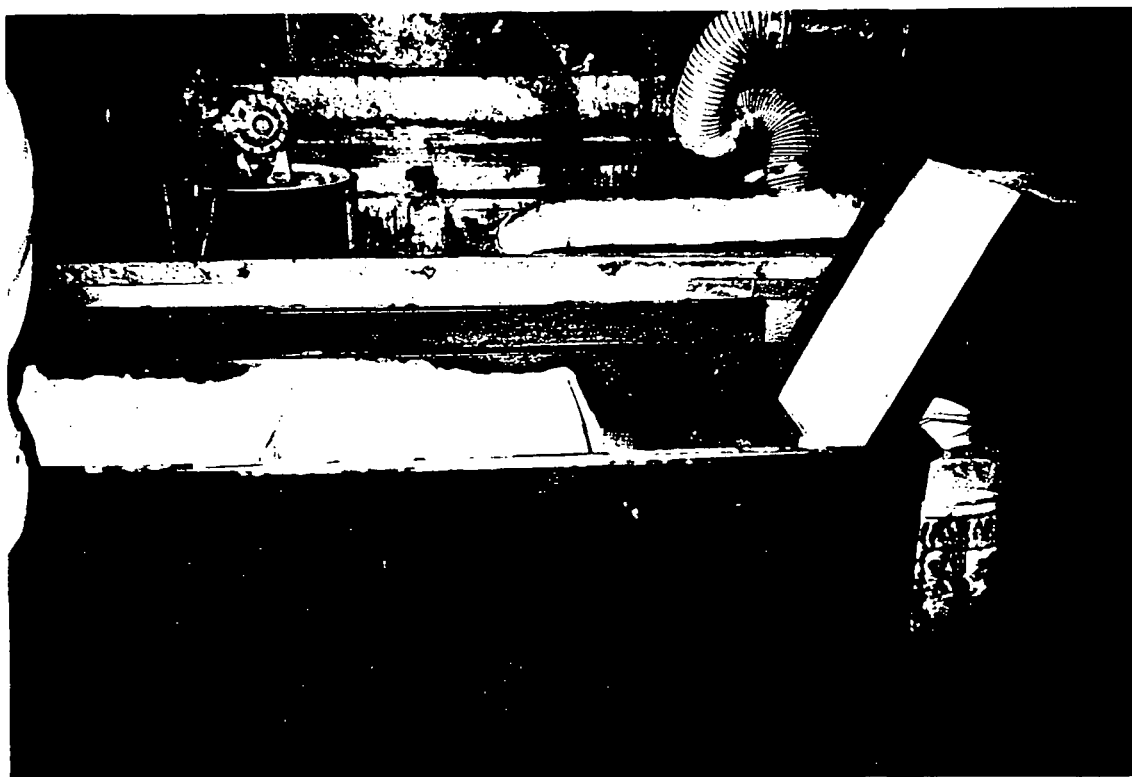
9.7 Close-up of the Shaker Table (SWMU 9d) on the left and the green Crusher/Shredder (SWMU 9e) on the right.



9.8 Bottom view of the Shaker Table (SWMU 9d) showing the cloth socks used to direct the discharge of separated vermiculite into the drums.



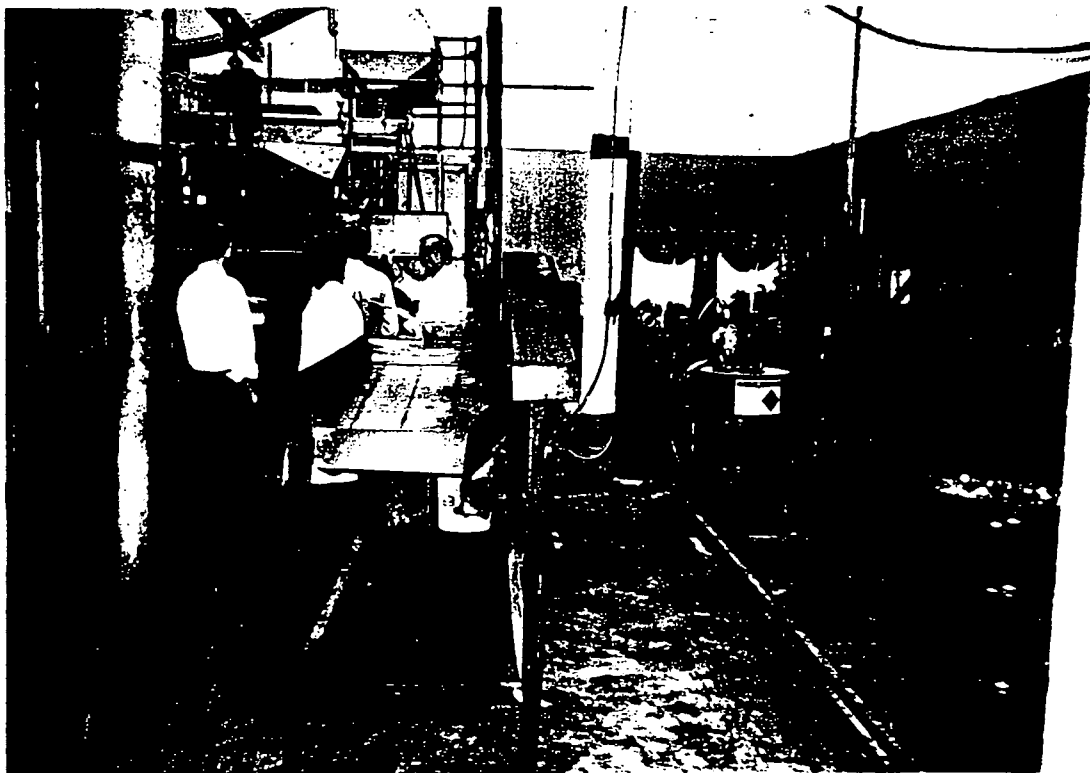
9.9 View of the Rinse Basket Trough (SWMU 9f) showing the vial discharge hopper from the Crusher/Shredder (SWMU 9e) (indicated by an arrow).



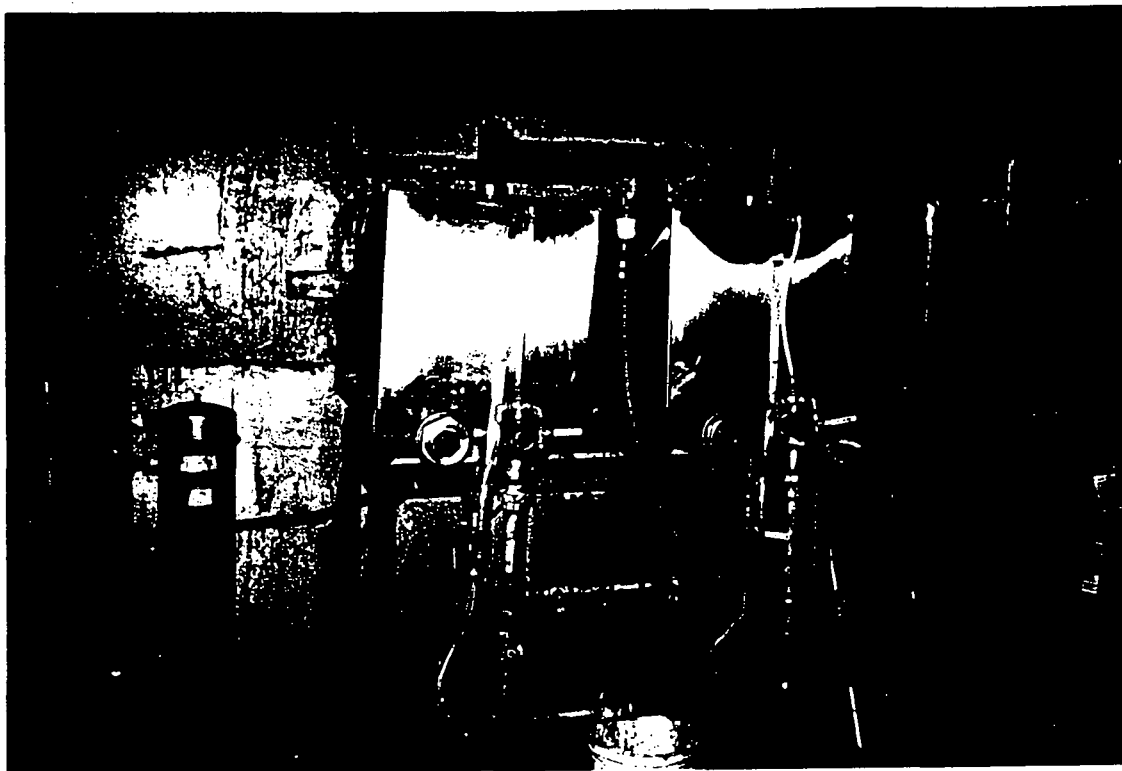
9.10 View of the Three-Chamber Rinse Tank (SWMU 9g).



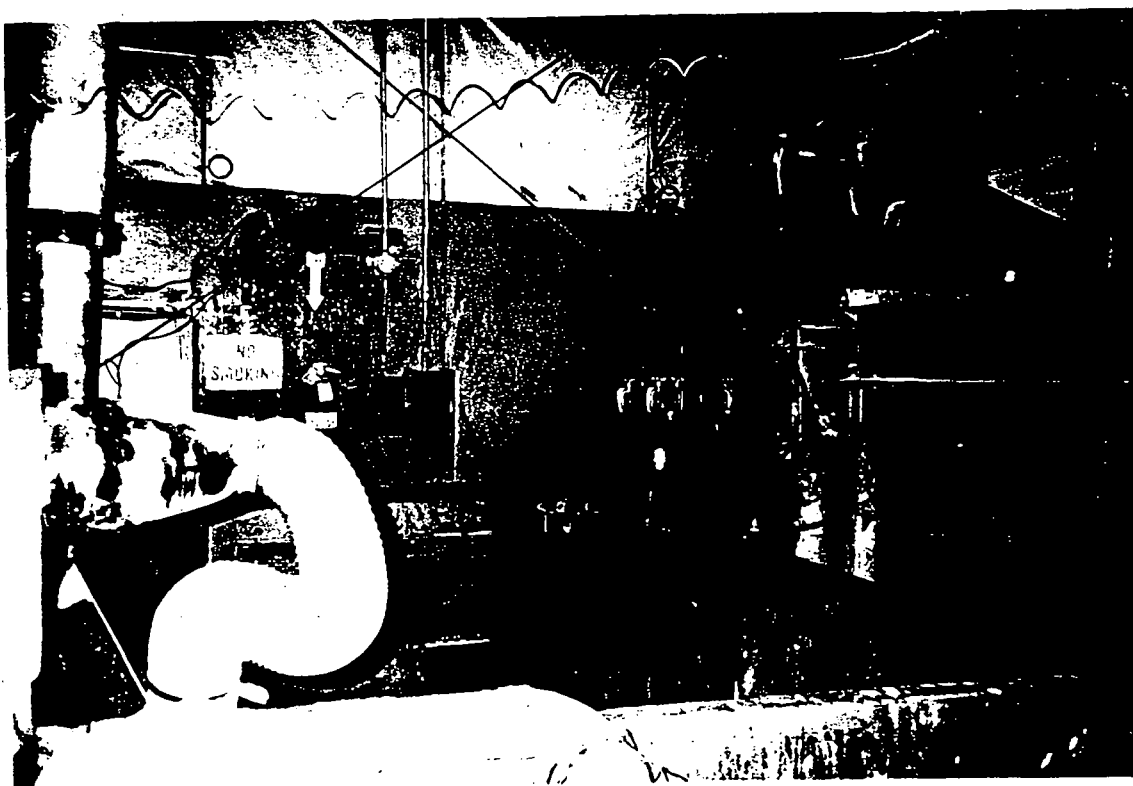
9.11 Close-up view of the Three-Chamber Rinse Tank (SWMU 9g) showing the middle chamber.



9.12 Overview of the Indoor Staging and Process Area (SWMU 9) showing the Roller Conveyors (SWMU 9a) and the Lift (SWMU 9b). The Drain Table (SWMU 9h) is featured in the foreground.



9.13 View of the LSF Holding Tanks (SWMU 9i) showing some of the pipes.



10.1 Overview of the Indoor Staging and Process Area (SWMU 9) showing some of the flexible hoses used to trap vapors and fumes from the various components. These units are part of the Processing Area Ventilation System (SWMU 10). Observe the blue filter in the lower center of the photograph.



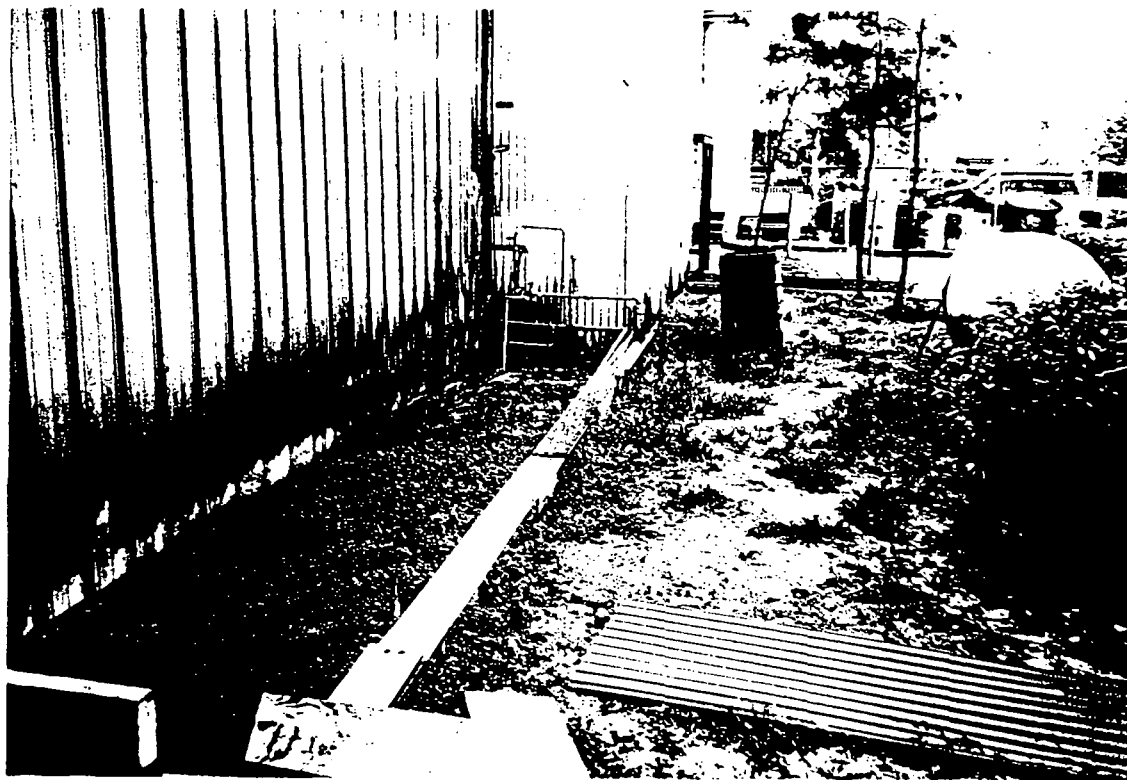
11.1 View of the west side of the manufacturing building outside the process area showing the room used to house the Carbon Adsorption System (SWMU 11).



11.2 Close-up of a steel tank and metal piping that are part of the Carbon Adsorption System (SWMU 11).



12.1 Close-up view of the area outside the Indoor Staging and Process Area (SWMU 9) showing the LSF Pipe (SWMU 12) which transfers LSF from the process area to the 3,000-Gallon Waste Liquids Tank (SWMU 6) located at the Container Storage Shed (SWMU 4).



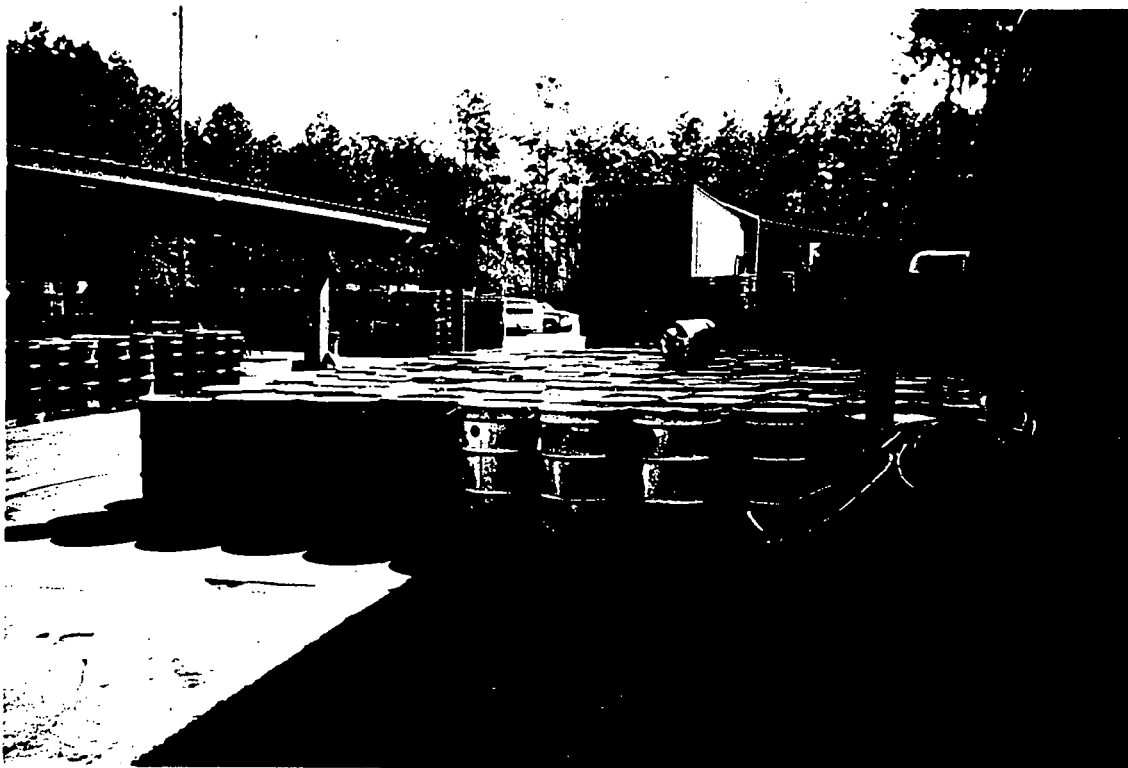
12.2 View to the south showing the covered LSF Pipe (SWMU 12) trough along the west side of the manufacturing building.



12.3 View of the north showing the covered LSF Pipe (SWMU 12) trough leading to the Container Storage Shed (SWMU 4) which is visible in the left background. The white material next to the trough is sand.



13.1 View to the east of the Packing Material Wastes Drum Holding Area (SWMU 13). Approximately 250 drums were in this area at the time of the VSI.



14.1 View to the east of the Empty Drums Holding Area (SWMU 14) located between the manufacturing building and the Container Storage Shed (SWMU 4). Approximately 150 drums were in this area at the time of the



15.1 View to northwest of the Crushed Glass/Plastic Vials Drum Holding Area (SWMU 15). Note drop inlet in pavement which conveys surface washings, rainfall runoff or any other liquids spilled or washed in this area, to the North Drainage Ditch (SWMU 23). Drums containing the freshly-crushed and rinsed vials are brought from the Process Area (SWMU 9) to this area where the liquids on the material inside the drums drain, and the drums await their turn for movement to the Crushed Vials Final Drainage Station (SWMU 16) where the liquids are pumped out.

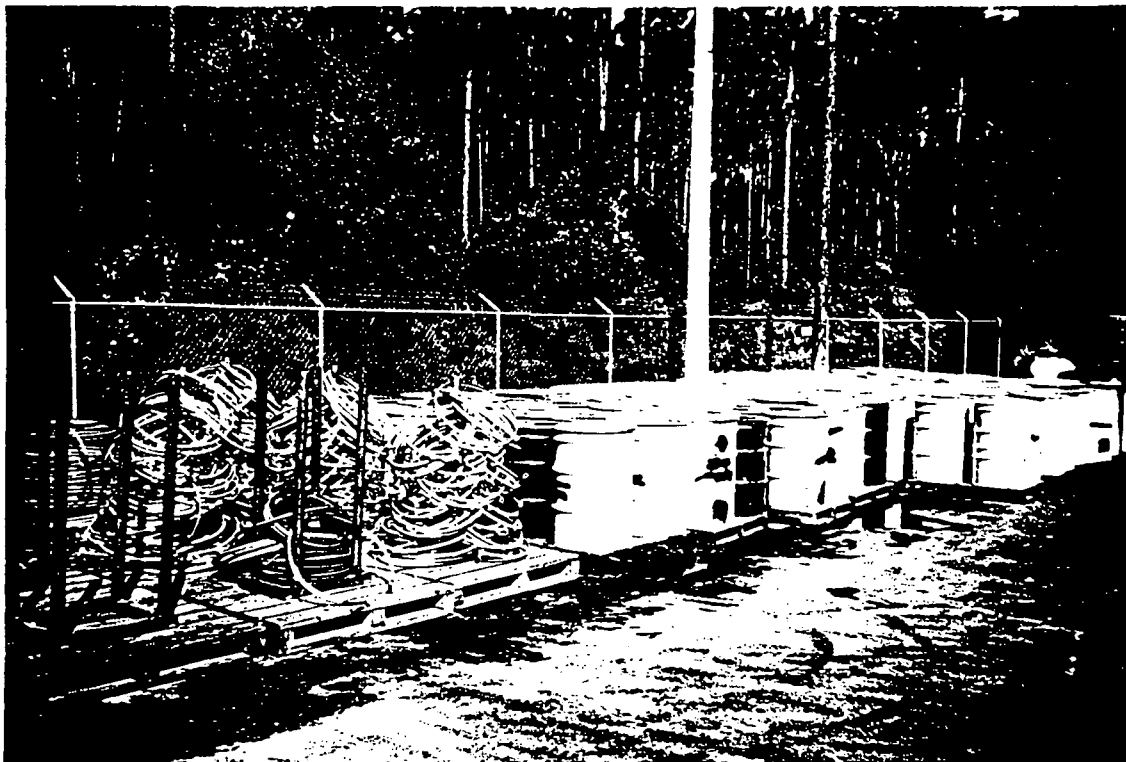




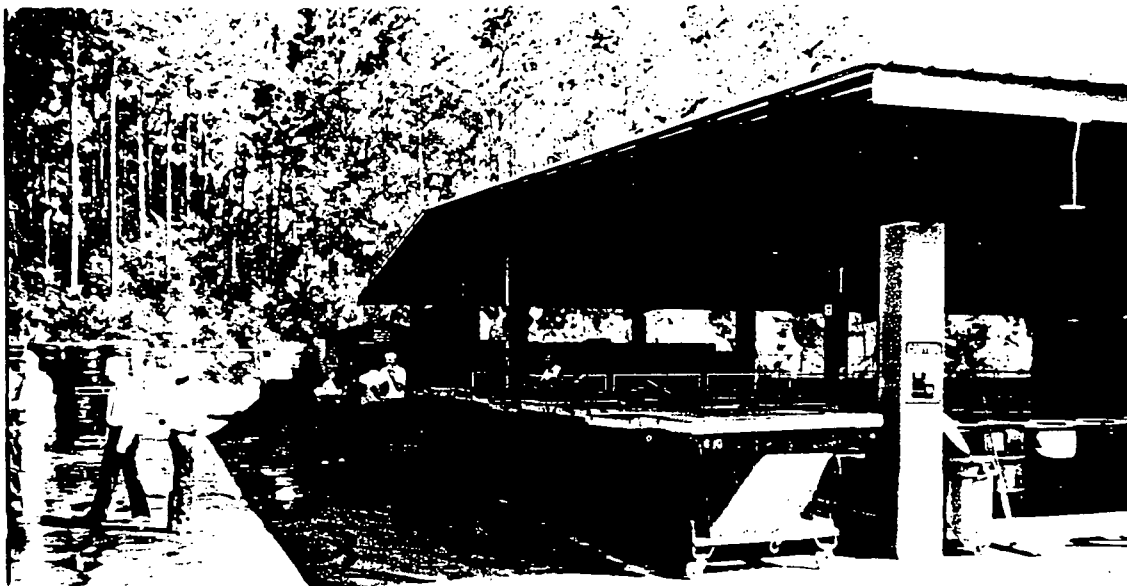
- 16.1 View to the west-northwest of the approximately 28 drums at the Crushed Vials Final Drainage Station (SWMU 16). The drums in this area are within the reach of the green hose shown on the right, which is used to pump any liquids from the bottoms of the drums into the 3,000-Gallon Waste Liquids Tank (SWMU 6). The southwest compartment (Zone 2) of the Container Storage Shed (SWMU 4) is visible in the background.



- 16.2 Close-up view of processed plastic vials in drums located at the Crushed Vials Final Drainage Station (SWMU 16). Note the pipe inserted into the drum to suck up and pump any liquids draining from the rinsed processed material from the drum into the 3,000-Gallon Waste Liquids Tank (SWMU 6).



- 17.1 View to the northwest of the Drained Crushed Vials Drum Holding Area (SWMU 17) located immediately south of the Crushed Glass/Plastic Vials Drum Holding Area (SWMU 15). From this area, the drums of drained crushed material are emptied into Gondolas (SWMU 18) which are then used to load the Dumping Trailers (SWMU 19) for off-site shipment to an authorized disposal facility.



- 18.1 View to the north of the ten Gondolas (SWMU 18) which are used to transfer the drained crushed glass/plastic vials.



19.1 View of one of the Dumping Trailers (SWMU 19) facing southwest. These trailers are parked in the west section of the facility and are also shown in photograph 20.1.



19.2 View of one of the Dumping Trailers (SWMU 19) during loading operations featuring one of the Gondolas (SWMU 18).



- 20.1 View to the north showing the Waste Handling Route (SWMU 20) used by the forklift trucks to bring pallets of drums from the Container Storage Shed (SWMU 4), shown in the background, to the Outdoor Staging Area (SWMU 8) which is the point from which this photograph was taken. Note surface drainage is to the north in this area. Photographs 15.1, 17.1, 18.1, 19.1 and 19.2, as well as this photograph, show surface water on the pavement during the VSI. The individual in the background of this photograph is pushing water with a broom into the drop inlet at the Crushed Glass/Plastic Vials Drum Holding Area (SWMU 15).



- 21.1 View of the North Retention Pond (SWMU 21) facing east. The photograph was taken from the Field Trailers Service Area (SWMU 26).



22.1 View of the East Retention Pond (SWMU 22) facing northwest.



23.1 View of the north section of the facility facing north. The North Drainage Ditch (SWMU 23) is located beyond the concrete swale featured in the right-center of the photograph.



24.1 View of the East Drainage Ditch (SWMU 24) in the vicinity of the North Drainage Ditch (SWMU 23). The view is facing northeast.



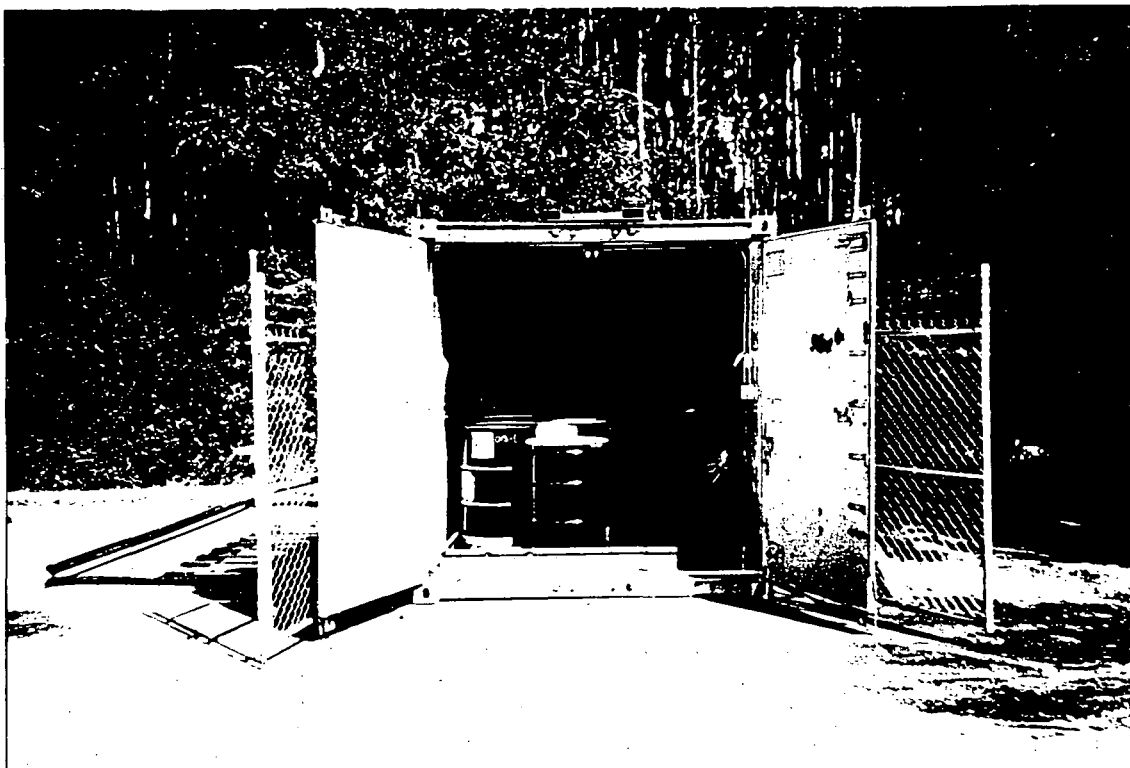
25.1 View of the Former Glass/Plastic Shredder Unit (SWMU 25) presently stored in the north section of the facility. This unit was removed from service during 1988. The view is facing north.



26.1 View of the Field Trailers Service Area (SWMU 26) facing northwest. The small white trailer is a portable laboratory.



26.2 View of the Field Trailers Service Area (SWMU 26) facing south. The white portable laboratory on the right is the same one shown in Photograph 26.1.



27.1 View of the PCB Drummed Waste Storage Area (SWMU 27) facing north.



27.2 Close-up view of the interior of the PCB Drummed Waste Storage Area (SWMU 27) showing drums containing PCB material.

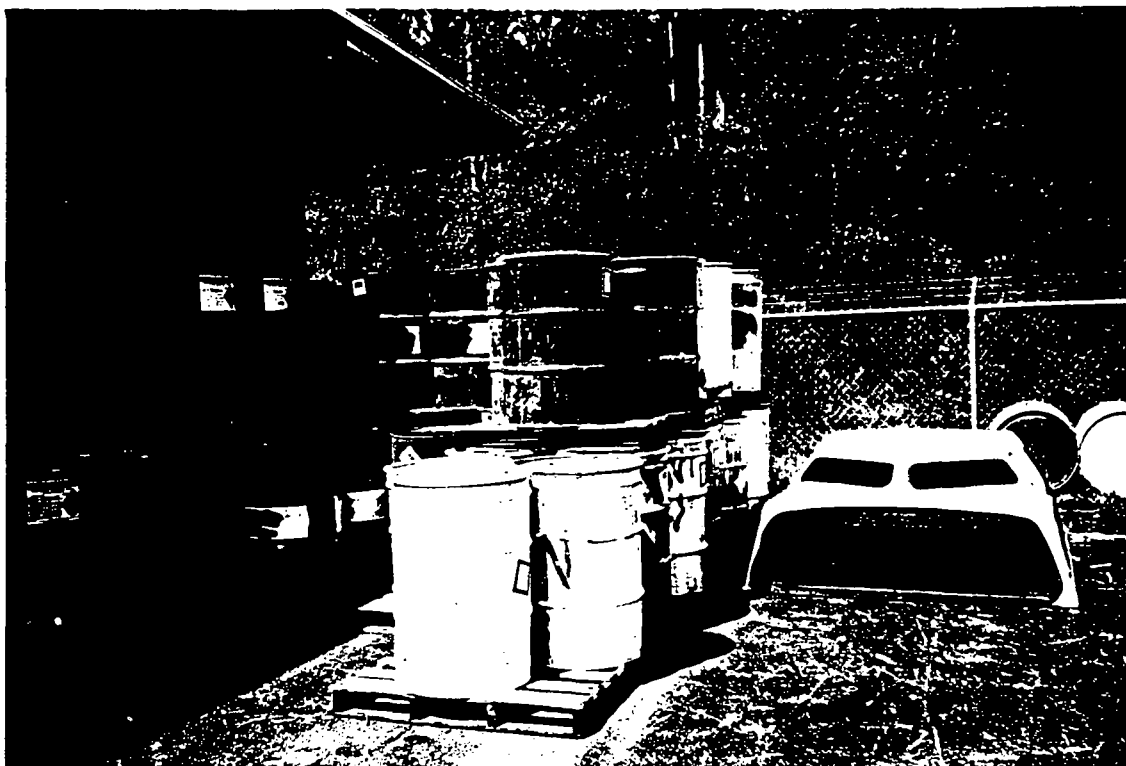




27.3 Overview of the north section of the facility facing west. The container in the foreground is the PCB Drummed Waste Storage Area (SWMU 27) and the structure in the background is the Container Storage Shed (SWMU 4). The photograph is taken from the northeast corner of the site.



28.1 Interior view of the protective-clothing room showing the Freon Distillation Waste Collection Unit (SWMU 28).



29.1 View of the Sand and Grit Drum Storage Area (SWMU 29) facing north.



30.1 View of the laboratory that provides support to the hazardous waste field activities and tests the contents of the drums at the Container Storage Shed (SWMU 4). The Laboratory Wastes Accumulation Area (SWMU 30) is located in this room. Note the bottles of PCB waste located on the shelf.



30.2 View of drum used to accumulate wastes in the laboratory - Laboratory Wastes Accumulation Area (SWMU 30).



31.1 View to the north of the Laboratory Specimens Storage Building (SWMU 31) located approximately 200 feet west of the laboratory in the Annex.



31.2 Interior view of the Laboratory Specimens Storage Building (SWMU 31) showing the specimen bottles stored on shelves.



A.1 Overview of the Field Trailers Service Area (SWMU 26) showing the Spray Paint Booth Area (AOC A) (small grey building) in the right center of the photograph. View is facing north.



A.2 View facing northeast showing the paint stripping pan utilized by the facility at the Spray Paint Booth Area (AOC A).

APPENDIX D

VSI Log Books

## INDEX

Quadrex HPS, Inc.  
Gainesville, FL 32606  
1940 NW 67<sup>th</sup> Place  
Alachua County

Property of EPA Contract No. 68-W9-0040

Contractor: A. T. Keweenaw, Inc.

Address 225 Reinekers Lane  
Alexandria, VA 22314

Telephone 703/834-6210  
(Stan Johnson)

VSE Date: Oct 3, 1989  
Work Assign. No. R04-01-14  
Contract No. EPA 68-W9-0040

This Book is manufactured of a High Grade  
50% Rag Paper having a Water Resisting Surface,  
and is sewed with Nylon Waterproof Thread.

153  
1022



**QUADREX ENVIRONMENTAL**

**BERNHARDT (BEN) C. WARREN**



**DENNIS L. FLETWOOD**



**QUADREX ENVIRONMENTAL**

**JACK FLAACK**



**KEVIN P. CROSSON**



**INDAR JAGNARINE**  
ENGINEER  
NORTHEAST DISTRICT

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION  
3426 BILLS ROAD  
JACKSONVILLE, FLORIDA 32207

(904) 798-4200  
SUNCOM 828-4200

et

polymer

logistics

me

part 2



Quadrey HPS VSI

Oct 3, 1984 0815 - Arrived on site  
Jeff Evans  
Sten Johnson

Clear - Temp = 70°F. Sunny.

0830 - Ben Warren = Quadrey  
Kevin Crosson = " FID  
Orris Flatwood = " SVCS  
Junk Flounder = Myr  
Ender Jaquarim - FDER  
Jeff Evans ATU  
Sten Johnson

5.07 plots in 1981

2 Lots (1 & 2)

Spring 82 developed Lot 2

- 10,000 sq ft off

15,000 sq ft

Blky completed Spring 82

0886 - Partial develop  
Shelby Hwy

Lot in SE of site = 1000 feet  
leased site.

Recovery Blky off site also

Decontam. Business = 100 Employees

1. Assemble Equip for the  
cleaning PCB Decontamination or Radiological,  
chemicals or other decontamination.

2. Field Ops = Decontamination  
= 15 people on a remote site = trailers  
Radiological - PCB - Haz

3. Saint Albans Log Flume = main part of  
Waste Management Bureau

1 & 2 = may use sorbents:  
Fibers  
TEE 111 Tricloroethylene  
Perchloroethylene

Equipment customizing..  
to customer needs

Facility has been for Part B  
Sep 1, 1989 - Need to get copy

Prior to 1981 owned by  
developper - M M Parish  
was developper, Paine traces  
only timber development.

Laboratory to be moved to Bldg.

Lab services both the  
On-site Waste Mgmt as well  
as Field Office

Primary support services

No GW testing

Soil Four locations clean  
xylene  
toluene

New bulk tank  
3 around perimeter of site.

Class/plastic = Fendish Landfill  
Bryson Fall 86 = Clifton Landfill  
Garden City, GA.

~~1987~~ 5/86

1030 Begin tour - for circled number  
see map.

① Process Area.

② Outside  
Storage Area (SW side 4/ SW side MFG Bldg  
30 x 30 EST

③ Exhaust System SW side MFG Bldg  
SW side 19.

④ Pipe to 3000 gal tank for Process  
Area - Sum 1983 Center Street  
1 1/2 mi. 34 PUC in trough.

⑤ Empty Drum Storage Area  
(SW side 20) 10 x 15 = 150 drums

⑥ Packing Heat Waste Drump  
SW side 21 a.  
= 250 drums May

⑦ SW side 14 = Under 4/P Drum  
Storage Area. 6' x 30' Area (approx)  
14 x 2 = 28 drums

⑧ SW side 14 a Drum Storage Area  
25 x 50' Storage prior to  
draining in SW side 14.  
100 lbs waste in 3 dips in  
collected. (20 drums per week)  
average

⑨ SW side 14 to a Storage of drained  
drums. 25 x 50'. (x 150 drums)  
28 drums to fill tanks  
From 8 → 7 → 9-10.

⑩ Gondolas (SW side 17) 10 hoppers  
11 in yard 9 → 10 → ⑤  
→ ⑪

⑫ SW side 22 = ⑪  
Hydraulic dumping tracks for  
drum plant. / also  
4 to 5 trucks per month.

(12) 2 Swann 6 = contained storage  
Bldg. (Skid) since Spring 89  
Bldg needed spring 83

(13) 2 Swann 122 since 1983

(14) 2 Swann 5

(15) Bulk liquid unloading Area  
store drums of bulk  
liquids  
~ 84 drums capacity (90?)  
Part of Swann 6.

(16) Temporary Holding Area  
5 Rows x 80 drums = 400 drums  
Can double stock vials but not  
bulk liquids

(17) Swann 1 = Off. Load Area.

(18) Swann 24 Field Transfer

(19) Plant Booth 12' x 12' x 16' high

(20) Swann for PCBs storage  
Swann 30  
From RAD to Lab

20' x 10' x 7' high.  
Capacity ~ 24 drums

(21) 2 Drums Bldg NE Corner  
Swann 28

(22) Annex Bldg (Quarantine)  
Has (1) Lab  
(2) RAD Area

As of Dec 1 → move up  
to Refry Bldg.

(23) Storage Bldg at Annex by  
Hwy Wastes received for  
chem analysis.  
Aug 88 to date =

(24) From Drums Empty Drums

1210 Lunch

1310 Meet re Paint Booths

(25) Surveys 34 From Washer adj to  
Process Area in Bldg

(26) Process Area (5 min operation)

- Drums handling into a Chem  
Storage Room
- to lift
- up to hopper into crusher
- 

No Air Permit - inspection by  
DES Alachua County

(27) old Surveys 15

(28) 2 Non Hwy Wash drum  
25 sand & grit.  
Also product storage drum  
25 alcohol

(29) Overflow Bulb Tank  
in 1989 - (Sep. 28, 1989)  
5-10 gal

First Sample Sep 10, 1988

## Soil Test Results

### Internal Memo:

9-10-80 = fr: Charles Sore to Susan McCoy

Bulk Tank Test: Dylux = 129

for " = 298

P- " = 72

Suggested resample bulk tank area  
because contaminated in sample

Analyzed i.a.w. DER's Meth 3810  
Head Space Analysis

10-27-80 Ft. Under Sore to Jack Flacher  
resampler area of bulk tank  
and found no trace of  
dylux

Obtained other info from Quindry

INDEX 10/3/89

Property of A.T. Kearney  
(J. EVANS)  
 Address 225 Reinickers La  
Alexandria VA 22313  
 Telephone 703/548-4700

This Book is manufactured of a High Grade  
 50% Rag Paper having a Water Resisting Surface,  
 and is sewed with Nylon Waterproof Thread.

Kick-off Meeting  
~~Dennis Flatt~~ 12  
 Bernhardt C Warren Quarter  
 Indar Jagarime FDER  
 Kevin P. Cassan (P.D. 100) Quarter  
 Jack Flatt 12 (Operations) Quarter  
 Flauke  
 Dennis Flatt 12 Quarter  
 Steve Johnson ATK  
 Jeff Evans ATK (KE)  
 S. H. BROWN By  
 Describing R. N. Process et.

53  
 282

①

Mr. Fleetwood

stated there was an annex  
in the vicinity of the industrial  
park. all the annex is a  
lab which also generates waste.

Jack Flaack provided maps.

Plough Property 5.27 Acres in  
1981. consists of two lots  
of property.

Spring 1982 developed lot 2  
which was half property  
constructed factory & office  
10000 office  
15000 factory  
occupied in Sept 1982

1985 Develop lot one and install  
parking lot and driveways to  
provide a circular drive around  
the facility.

Spring 1989 added storage bldg in  
NW sector of facility

Drainage Ditch south to north  
west to east



(2)

Lab is in leased place across street approximately 1200 ft away from facility. SE of facility.

Lab conducts profile sampling of wastes received.

Lab began summer 1986

Parts receiving building is also off-site

Quader has 3 businesses  
Mr. Warren  
is a decommissioning business

- ① assemble equipment for handling hazardous waste including PCBs mostly pre-fab / Assembly outfit
- ② field operator - at waste generator site bring around equipment
- ③ waste mgt TSD facility permitted for drum & tank

LS Business - also brings solvents (3)  
Fast-5 and D type material

Equipment may use solvents  
freon 1,1,1 trichloroethane  
perchloroethane -  
which is stored on site

Equipment is custom and made  
site specific.

moving towards aqueous based solvents  
for field operations

Equipment is tested on site,  
plus maintenance

Waste generation from  
field operations is hauled to the  
site generator.

Small units may be fed in  
pumps.

## Information Needs

(4)

- (1) Facility process map
- (2) County Sewer System (sanitary)  
owned by City of Garrettsville  
3. Flowchart indicated on map  
location of SS system  
did not know which POTW  
was treatment plant  
(Garrettsville Regional SS)  
Liners & Trenches for  
industrial wastes.

(3)  $\frac{1}{2}$  Storm water from south hill  
drains to ditches

$\frac{1}{2}$  New lots discharge to retention  
ponds in southeast section of  
Facility A + B

plan to move lab on-site.

Terminal TSP waiting for  
Part B which is also dependent on  
RFA

No Storage brought facility into compliance

Can they go to Part B pond.  
Sept 1, 1981 filed for Part B

Drainage off site is to north  
heavy stones overflow from  
retention ponds to Ditch.

(3) NO LISTS

(4) Prior 1981 pine trees.  
mm Pond was developed  
some logging trails may have  
been timber development.

Shampoo for lab and site.  
Am hand carried on off site.  
lab for in-house work and  
field apparatus support.

(5) Soil sample analyzed for  
leachates of site  
tested for xylene & benzene  
and on site possible  
contaminants. Results of  
tests indicate no presence  
of haz waste.  
on sample bottle of tank.

(5)

sample sent also per meter  
in (Drainage Ditch)

Steve asked for copy of  
locations & results - Dukes

(6)

(6)

no air permits  
some filters no being  
mostly, ventilation exhaust.  
vibes the ground surface  
during the morning fill lift.

(7)

Swims 1 same unloading area  
2

75 x 75'

3

Small stage - real loss thru 1 day  
prior to start.

4/4 stage area outside process area.

Glass & Plastic go to  
since <sup>2nd</sup> ~~1st~~ <sup>2nd</sup> ~~1st~~ landfill Gardnerville GA  
prior work is local landfill

6 buildy drum storage

(8)

Sum 15 is restorative  
Optional process  
was chipped (like local chips)  
stopped @ early 1988.

Sum 16 is in two areas

Sum 17 1 cyl glands.  
Stored under machinery  
- machine with carbony sucked out w/ alcohol -  
drums go to trailer  
110 to trailer

Gravel goes plastic from crushing  
vision magnets  
classified empty by Reg. 10 and  
FDR - 1ST good - Recycle

(Gravel plastic) 5 to 2 (vacuum)

Carboys 5 - 5 gal. chipped up to  
plastic trailer,  
IF metal will go  
to drum recalcitrant  
(2000 w/ alcohol)

S. L. 111 on paper.

(7)

PCBs At 100 Annex  
a.1. Remnants for EPA  
PCB Storage site 61200000  
700000000 (TSCN)  
Storage area No side ally  
some PCB - 000000

- (1) products + ground sample  
already is sent to ground
- (2) Overhead of storage area show rolling  
fence east
- (3) Close up of zoller sampling
- (4) North view of 1000000000
- (5) South view of 1000000000
- (6) North view of 1000000000

(7) NE View of empty drum hold 2-

(8) NE View of vacuum slaggy  
 into from empty drum  
 @ 200 / water / no  
 glass + plastic 4-5 washed

• Glass + plastic in drum

(9) Section 14. close up of drum  
 w/ crushed vials pipe to  
 suck out remaining  
 draining slaggy area

(10) Section 14  
 around of slag area  
 showing pump inside  
 DSA next to tank containing  
 DCA



(11)

North view stage in front of 14  
from process after cleaning  
stage for about 1 day  
then go to process area

3 days in alcohol before it is used  
20 hrs in alcohol / week

12. more work out stage is also  
two forklifts at front of each  
go to gondola  
make forklifts gondola  
trailers

13. gondolas for glass / plastic  
seen in 17. 1 cycle

14. west view of hydraulic  
dumper trailers

end Roll (1)

Roll 2

(12)  
11 AM 10/3/69

2-1 ginse/picnic trailer

2-2 interior view of zone 2  
in DSA

each zone is boxed  
and has its own  
stamp

2-3 interior view of zone 3.  
showing partitions

2-4 close up of zone 2  
showing stamp

2-5 truck unloads gear for  
jack

2-6 close up of jack stamp

2-7 close up of jack

2-8 across land face N

2-9 Bulk in  
Transfer Station  
bound to tank  
has bulk waste po  
in location  
go to tank can also  
read pipes  
has sensor, 500 gal tank

2-10 close up of Bulk in Trans  
Station showing sensor

2-11 close up of pipes  
see check in pump  
on wheel

2-12 number assigned area  
staging area for  
number assignment, face E

2-13 same as 2-12 face NW

(2-14) NE view of camp showing  
a possible vehicle parking area

(2-15) E view of parking area showing  
a possible vehicle parking area

(2-16) 2 of 4 side trailers  
one south  
while trailer is portable  
lab

(2-17) North view of side trailer  
area

(2-18) North view of side trailer  
area showing partial booth

(2-19) From partial parking  
for parking (May) from  
partial

(K)

(2-20)

enjoy view  
prep line

(2-21)

Back Retreat Area east

(2-22)

North view of PCB  
1000 ft

(2-23)

close up of PCB floor  
Wood 100 ft

(2-24)

Over view of DSA  
PCB storage N-  
tall from DSA  
Ditch

(2-25)

junction of road to  
Drain to Lake  
Hobbs Lake

(2-26) NW view of front  
Remains of sand showing  
left side and over low ridge

2-27, view of Lab  
white accumulation

2-28 view of 2.0 mm sand

(2-29) (look up) of hard sand shell

2-30 view of hard sand shell  
face north

Back to house 12:30 PM  
Returned from lunch  
1:37 PM

Roy Thomas expert <sup>by</sup> testimony

- epoxy paint  
units go to USA incl. 100000  
units stored  
filled during 1-22 on 10  
dumpsites
- metal pipe L/ anodized paint  
and water based stopper  
surface on phosphoric acid

Approved by county permit

1.20 container for rubbers

2-31 Waste Still

2-32 Waste Roller

2-33 J. W. Row

2-34 LIFT

(18)

(2-35)

in feed hopper  
w/ tanks

(2-36)

Shaker table

(2-37)

Shake table liged  
slugs, large

(2-38)

test tanks

Roll 3

(3-1)

test tanks

(2-6)

shaker

(3-7)

trial wash

Rise station

(3-8)

trial wash

cars @ 10%

1000 dump / mo

4000 dump / mo



(3-9)

funny looking face  
ed. looks very much

(19)

(3-10-12)

character from face <sup>de</sup> ~~re~~

(3-13)

full gaudy looking

(3-14)

The old chapter  
was for glass industry  
old system  
SEMI-DRUMS  
large & old

(3-15)

Now has glass  
face with

DRUM RECYCLE  
DRUM SECOND A FLORIDA

(3-16)

View of North Park

(3-17)

view of assembly area

Clos. out meeting 2:25

Classified  $\frac{1}{2}$  case and distill. in  
part of  $\frac{1}{2}$  inches quantity  $\frac{1}{2}$  inch

2000 1 - 2 - 3 Double stock 1  
2000 1 - 2 - 3 Double stock 1

hail, 1000 1000 1000  
US 1 72 down

2000 3

C. G. 1000 1000 1000

1000 1000 1000 1000 1000  
1000 1000 1000 1000 1000

one 25 - 200 gallons spill from  
container of DSA

SAI Samples Apr 10, 1960

Analysis of samples with vicinity  
of the Bulk tank indicated

O-xylene 1200 ppm

m-xylene 290 ppm

p-xylene 72 ppm

The samples may have been contaminated  
w/ toluene - 500 ppm Sample of 1000  
did not detect any xylene

(21)

end close and crew

3.25 pm

A 